

## Pleistocene birds of the Palearctic

This site is intended as a supplement to my book *Pleistocene birds of the Palearctic: a catalogue* (Publications of the Nuttall Ornithological Club No. 27, Cambridge, Mass. 1998, ix + 720 pp.) which contains data on more than 1,400 sites with Pleistocene avifaunas throughout the Palearctic region. The book may be purchased from The Nuttall Ornithological Club.

Paleornithology is however a very dynamic field at present, and new information is accumulating at a high rate. Therefore this site, which contains data which has become available since the manuscript was frozen in late 1996 as well as a number of older records which I had overlooked.

The format of the data is as close to that of the book as the limitations of HTML will permit and conventions and abbreviations are also the same. The site list is divided into two parts. **Revised Sites** which comprises sites included in my book but for which additional information has become available, and **New Sites** which are exactly what the name says. The current version contains 177 and 322 sites respectively in these categories. There is also a list of references at the end.

Among the more notable records may be noted the first Pleistocene avifaunas to be reported from South Korea and Turkmenistan, the first certain fossil records of the Siberian Jay *Perisoreus infaustus* (from Strashnaya cave, Altai, Tonnelnaya and Nedostupnaya caves, Yenisey valley and Sesselfels in Bavaria), the first fossil record of *Leucosticte arctoa* from Denisova cave in the same area, of *Cettia cetti* (from Bulgaria (Cave No 16)) and of *Polysticta stelleri* (from Spain (Santa Catalina)), the first West Palearctic fossil records of *Cyanopica cyanus* (Vanguard and Gorham's caves, Gibraltar), a new species of owl *Athene angelis* from Corsica, a new Magpie, *Pica moureri*, from the Balearics and the first Middle Pleistocene record of the Great Auk *Pinguinus impennis*, from Boxgrove in Sussex.

I am updating this site as new data becomes available and I am therefore grateful for any corrections and additional information.

If You would like to be informed by email when this site is updated, send a message to the address below.

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Last updated February 24, 2008.

### Revised Sites

#### ARMENIA

##### AR 1 Jerevan

Type: c

Sources: Burchak-Abramovich 1974,1975, Burchak-Abramovich & Burchak 1982, (Erincjan 1970, Mezhlumyan 1972)

Date: LP Mousterian

Fauna: *Tetrao mlokosiewiczii*, *Columba* sp., *Larus* sp.,

Det.: Burchak-Abramovich

##### AR 2 Jerevan

Type: c

Sources: Baryshnikov & Potapova 1988, Burchak-Abramovich & Burchak 1982, (Burchak-Abramovich & Mezhlumyan 1975)

Fauna: *Tetrao mlokosiewiczii*, *Anas platyrhynchos*, *Corvus corone*

Det: Burchak-Abramovich

## AUSTRIA

### AU 2 Deutsch-Altenburg (Niederösterreich)

Alt: 210-312 Type: c

Sources: Anon 1998, Döppes & Rabeder 1997, Jánossy 1981b, Mlíkovský 1998a

Layer: Loc. 2C1

Date: EP Older Biharium

Fauna: *Tetrao tetrix*, *Palaeocryptonyx donnezani*, *Aegolius funereus*, *Hirundo rustica*, *Turdus* sp.

Layer: Loc 2D-E

Date: EP

Fauna: *Pinicola* cf *enucleator*

Layer: Loc. 4B

Date: EP Older Biharium MNQ 19

Fauna: *Falco tinnunculus atavus*, *Perdix perdix*, *Glaucidium* cf *passerinum*, *Picus viridis*, *Dendrocopos major*, *Hirundo rustica*, *Luscinia* sp., *Turdus* spp., *Garrulus glandarius*, *Coccothraustes coccothraustes*, *Emberiza* sp.

Det.: Jánossy

Layer: Loc 12

Date EP Older Biharium

Fauna: cf *Serinus* sp.

Layer: Loc 26

Date: MP

Fauna: *Francolinus capeki*

Stored: Inst. Paläont. Univ. Wien

### AU 3 Drachenhöhle bei Mixnitz (Steiermark)

Alt: 949 Type: c

Sources: Döppes & Rabeder 1997, Fladerer 2000, Lambrecht 1933, Wolf 1938-41 (Abel & Kyrle 1931)

Layer: Obere Schichte

Date: LP "Mittelwürm" Aurignacien 14C=25,040±270 BP

Fauna: *Accipiter nisus*, *Monticola saxatilis*, *Parus caeruleus*, *Lanius* sp., *Corvus monedula*, *Garrulus glandarius*, *Nucifraga caryocatactes*, *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: Unstratified

Fauna: *Dendrocopos leucotos*

Det.: Lambrecht

Stored: Inst. Paläont. Univ. Wien, Landesmuseum Joanneum Graz, Naturhist. Mus. Wien

### AU 5 Grosse Badlhöhle (Steiermark)

Alt: 495 Type: c

Sources: Döppes & Rabeder 1997, Fladerer & Reiner 1996, Fladerer 1993, Mottl 1953, 1975, Musil 1980b

Layer: Bärenhalle 3 (=3\*)

Date: LP "Mittelwürminterstadial", UP

Fauna: *Lagopus lagopus*

Det.: Mottl?

Layer: Unterer Eingang 4, "Kleinsäugerschicht"

Date: LP LG Bölling/Dryas 2 14C=12430±95 BP

Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Coturnix coturnix*, *Asio flammeus*, *Prunella collaris*

Det.: Mlíkovský

Stored: Landesmuseum Joanneum

Notes: A. k. a. Badlhöhle, Badelhöhle

### AU 6 Gudenushöhle (Niederösterreich)

Alt: 496 Type: c

Sources: Döppes & Rabeder 1997, Lambrecht 1933, Mlíkovský in pr., Woldrich 1893 (Menghin 1919)

Date: LP (Mousterien and Magdalenien)

Fauna: *Anas querquedula*, *Falco tinnunculus*, *Falco peregrinus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Perdix perdix*, *Crex crex*, *Nyctea scandiaca*, *Alauda arvensis*, *Turdus* spp., *Corvus monedula*, *Coccothraustes coccothraustes*, *Emberiza* spp.

Det.: Woldrich, Mlíkovský Stored: Naturhistorisches Museum Wien

Notes: A. k. a. Fuchsloch, Fuchsenlucken, Fuchshöhle, Hartensteinhöhle

#### AU 7 Hundsheim (Niederösterreich)

Alt: 270 Type: c

Sources: Döppes & Rabeder 1997, Jánossy 1972a,1974c,1976c,1977a,1980,1981a, Lambrecht 1933, Mlíkovský 1998b, 2002 (Ehrenberg 1914)

Date: MP "Early MP" MNQ 22

Fauna: *Tetrao praeurogallus*, *Falco tinnunculus atavus*, *Glaucidium* cf *passerinum*, *Strix intermedia*, *Aegypius monachus*, *Gyps fulvus*, *Otis tarda*, *Apus apus*, *Merops* cf *apiaster*, *Upupa phoeniculoides*, *Dendrocopos submajor*, *Dendrocopos praemedius*, *Turdus* aff *viscivorus*, *Turdus* cf *philomelos*, *Phylloscopus* sp., *Regulus* sp., *Muscicapa* cf *striata*, *Anthus* cf *cervinus*, *Pinicola* sp., *Aquila* cf *heliaca*, *Tetrao tetrix*, *Perdix* cf *perdix*, *Coturnix* cf *coturnix*, *Scolopax* cf *rusticola*, *Columba* cf *palumbus*, *Alauda* cf *arvensis*, *Hirundo* cf *rustica*, *Motacilla* sp., *Phoenicurus* cf *phoenicurus*, *Oenanthe* cf *oenanthe*, *Parus* cf *major*, *Parus* cf *palustris*, *Garrulus glandarius*, *Pyrrhonorax graculus*

Det.: Jánossy, Mlíkovský

Notes: A. k. a. Hundsheimer Spalte, Knochenspalte

#### AU 8 Hundssteig bei Krems (Niederösterreich)

Alt: 250

Type: o

Sources: Fladerer 2002, Fladerer & Salcher 2003, Lambrecht 1933, Wiegers 1912

Date: LP Probably Aurignacian c. 27, 000 – 35,000 BP

Fauna: *Lagopus lagopus*, *Tetrao urogallus*, *Branta* cf *bernicla*, *Turdus* cf *philomelos*

Det: Maska, Rabeder

Notes: A. k. a. Krems-Hundssteig.

#### AU 9 Luegloch (Steiermark)

Alt: 550 Type: c

Sources: Döppes & Rabeder 1997, Fladerer & Rainer 1996, Mottl 1953,1975, Musil 1980b, Spahni 1954

Layer: 4

Date: LP, LG?

Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Tetrastes bonasia*, *Strix uralensis*, *Asio flammeus*, *Pyrrhonorax graculus*

Notes: Gelbbrauner Lehm

Layer: 3

Date: LP, Late Würmian Pleniglacial?

Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Nyctea scandiaca*, *Pyrrhonorax graculus*

Notes: Nagerschicht, Lössartiges hellgelbes sediment

Layer: 2

Date: LP UP (Gravettian?) Mid-Würmian?

Fauna: *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Aegolius funereus*, *Pyrrhonorax graculus*

Notes: Grauer sand

Layer: 1

Date: LP Mid-Würmian?

Fauna: *Aythya ferina*?, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Strix uralensis*, cf *Asio otus*, cf *Turdus* sp., *Pyrrhonorax graculus*

Notes: Rostroter Lehm

Det.: Mottl?

Notes: A. k. a. Oxenloch.

### **AU 11 Repolusthöhle (Steiermark)**

Alt: 525           Type: c  
Sources: Döppes & Rabeder 1997, Fladerer 1993,2000, Jánossy 1976c, 1978, 1989a, Mlíkovský 1998b, Mottl 1951,1975, Musil 1980b  
Layer: 4 (Grauer Sand - Obere Kulturschicht)  
Date: MP Late MP IS 6-7, Ca 130-250 KA BP  
Fauna: *Aegypius monachus*, *Aquila* sp.  
Layer: 5 (Rostbrauner Phosphaterde - Untere Kulturschicht) Date: MP Late MP, IS 6-7, ca 130-250 KA BP  
Fauna: *Aegypius monachus*, *Aquila* sp., *Tetrao tetrix*  
Notes:  
Det.: Mottl, Jánossy                    Stored: Landesmuseum Joanneum, Graz

### **AU 12 Salzofenhöhle (Steiermark)**

Alt: 2005           Type: c  
Sources: Döppes & Rabeder 1997, Ehrenberg 1959  
Date: LP 14C=31,200±1,100, 34,000±3,000, >44,500, >54,000 BP  
Fauna: *Pyrrhocorax pyrrhocorax*, *Fringilla montifringilla*, *Emberiza citrinella*  
Stored: Bad Auserer Kammerhofmuseum, Naturhist. Mus. Wien, Inst. Paläont. Univ. Wien

### **AU 13 Schlenkendurchgangshöhle (Salzburg)**

Alt: 1590           Type: c  
Sources: Döppes & Rabeder 1997, Ehrenberg & Mais 1969,1977  
Date: LP LG?  
Fauna: *Pyrrhocorax graculus*?  
Det.: Frey & Rokitansky  
Notes: A. k. a. Schlenkenhöhle

### **AU 14 Schreiberwandhöhle (Oberösterreich)**

Alt: 2250           Type: c  
Sources: Döppes & Rabeder 1997, Ehrenberg & Sickenberg 1929, Lambrecht 1933, Musil 1980b, Wolf 1938-41  
Layer: Phosphaterde  
Date: LP Mid-Würmian Interstadial?  
Fauna: *Turdus philomelos*, *Turdus viscivorus*, *Corvus monedula*, *Carduelis cannabina*, *Lanius excubitor*  
Det.: Lambrecht  
Stored: Inst. Paläont. Univ. Wien  
Notes: A. k. a. Bärenhöhle am Dachstein, Adamek-Höhle.

### **AU 22 Grosse Ofenbergerhöhle (Steiermark)**

Alt: 766            Type: c  
Sources: Bochenski & Tomek 1994, Döppes & Rabeder 1997, Fladerer 2000, Fladerer & Reiner 1996  
Date: LP Mid-Late Würmian 14C = 13,690 ± 100 BP  
Fauna: *Anser erythropus*, *Anas platyrhynchos*, *Falco tinnunculus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Bonasa bonasia*, *Gallus gallus*, cf *Gallinula chloropus*, *Scolopax rusticola*, *Gallinago media*, *Lymnocyptes minimus*, *Tringa* sp., *Nyctea scandiaca*, *Asio flammeus*, *Eremophila alpestris*, *Hirundo rustica*, *Delichon urbica*, *Cinclus cinclus*, *Phoenicurus ochruros*, cf *Oenanthe oenanthe*, *Acrocephalus arundinaceus*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Emberiza* sp., *Montifringilla nivalis*  
Det: Bochenski & Tomek  
Stored: Steiermärkischen Landesmuseum, Inst. für Geol. u. Pal. der Univ. Graz, Naturhist. Mus. Wien  
Note: A. k. a. Of(f)enbergerhöhle 1, Of(f)enberger Südosthöhle

### **AU 24 Knochenhöhle (Steiermark)**

Alt: 860            Type: c  
Sources: Bochenski & Tomek 1994, Döppes & Rabeder 1997, Fladerer 2000, Fladerer & Reiner 1996

Date: LP 14C=14,070±100 BP

Fauna: *Lagopus lagopus*, *Lagopus mutus*, cf *Gallinula chloropus*, *Crex crex*, *Nyctea scandiaca*, *Pyrrhonorax graculus*

Det: Bochenski & Tomek

Note: A. k. a. Knochenhöhle bei Kapellen

#### AU 25 Nixloch (Oberösterreich)

Alt: 770 Type: c

Sources: Döppes & Rabeder 1997, Mlíkovský 1992a, Bochenski & Tomek 1994

Layer: B

Date: "Hochglazial" 14C=18,510±580 BP

Fauna: *Falco tinnunculus*, *Lagopus lagopus*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: A (part)

Date: LG 14C=10,550±150 BP

Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrastes bonasia*, *Charadrius morinellus*, *Gallinago media*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Turdus* sp., *Pinicola enucleator*

Layer: A (part)

Date: LG-Early Holocene

Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Turdus* sp

Layer: A (Disturbed)

Date: LG-Holocene

Fauna: *Falco tinnunculus*, *Bonasa bonasia*, *Lagopus lagopus*, *Lagopus mutus*, *Gallinula chloropus*, *Charadrius morinellus*, *Philomachus pugnax*, *Gallinago media*, *Surnia ulula*, *Aegolius funereus*, cf *Bubo/Nyctea* sp., *Picus canus*, *Hirundo daurica/rustica*, *Prunella collaris*, *Erithacus rubecula*, *Turdus iliacus*, *Turdus* spp., *Lanius excubitor*, *Garrulus glandarius*, *Nucifraga caryocatactes*, *Pyrrhonorax graculus*, *Pyrrhonorax pyrrhonorax*, *Pinicola enucleator*

Det: Mlíkovský

Stored: Institut für Paläontologie der Universität Wien

Notes: A. k. a. Nixhöhle, Nixlucke, Nixgrotte

#### AU 26 Tropfsteinhöhle (Steiermark)

Alt: 478

Type: c

Sources: Döppes & Rabeder 1997, Fladerer 1993 (Mottl 1975)

Layer: 20-25

Date: MP/LP (redeposition) 14C=24,200±900, 27,000+4,500-2,900 BP

Fauna: *Falco subbuteo*, *Lagopus* sp., *Montifringilla nivalis*

Layer: 18-19

Date: LP "Hochglazial - frühem Spätglazial"

Fauna: *Pyrrhonorax graculus*, *Pyrrhonorax pyrrhonorax*.

Layer: 17

Date: MP/LP (redeposition)

Fauna: *Pyrrhonorax pyrrhonorax*

Layer: Mottl 0-1,3 m

Date: MP/LP (redeposition)

Fauna: *Tetrao urogallus*, *Pyrrhonorax graculus*

Layer: Unstratified

Date: MP/LP (redeposition)

Fauna: *Aegyptius monachus*, *Falco* cf *peregrinus*, *Tetrao urogallus*, *Garrulus glandarius*, *Pyrrhonorax graculus*

Stored: Inst. Paläont. Univ. Wien, Landesmuseum Joanneum, Graz

Notes: A k a Kugelsteinhöhle II, Bärenhöhle II am Kugelstein, Tropfsteinhöhle bei Kugelwand.

#### AU 27 Tunnelhöhle (Steiermark)

Alt: 485

Type: c

Sources: Döppes & Rabeder 1997, Fladerer 1993, (Mottl 1975)

Layer: 24

Date: LP Glacial Maximum 14C=18,080±140 BP

Fauna: *Lagopus* sp.

Layer: Roter Lehm

Date: LP Mid-Würmian?

Fauna: *Pyrrhonorax pyrrhonorax*

Layer: Gelbbr. Sand

Date: LP

Fauna: *Pyrrhonorax graculus*

Layer: Grauer Sand

Date: LP

Fauna: *Aegypius monachus*, *Falco peregrinus*, *Lagopus* sp., *Pyrrhonorax graculus*

Layer: Unstratified

Date: LP

Fauna: *Aegypius monachus*, *Falco peregrinus*, *Lagopus* sp., *Pyrrhonorax graculus*

Stored: Inst. Paläont. Univ. Wien, Landesmuseum Joanneum, Graz Notes: A k a Kugelsteinhöhle III,

Bärenhöhle 3 am Kugelstein, Friedrichshöhle

## AZERBAIJAN

### AZ 1 Azykh (Nagorno Karabakh)

Type: c

Sources: Baryshnikov & Potapova 1988, Burchak-Abramovich 1991, Burchak-Abramovich & Aliev 1989, 1990, Burchak-Abramovich & Burchak 1982, Ganja & Burchak-Abramovich 1992, Potapova 2000

Layer: Cultural Layer V

Date: MP Middle Acheulean, MNQ 22

Fauna: *Anas acuta*, *Aquila* sp., *Aquila chrysaetos*, *Buteo buteo*, *Haliaeetus albicilla*, *Aegypius monachus*, *Gypaetus osseticus*, *Falco biarmicus*, *Falco vespertinus*, *Falco naumanni*, *Falco tinnunculus*, *Perdix perdix*, *Alectoris graeca mediterranea*, *Columba livia*, *Columba oenas*, *Columba palumbus*, *Bubo bubo*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, Passeriformes sp.

Layer: Cultural Layer VI

Date: MP Early Acheulean, MNQ 21

Fauna: *Falco vespertinus*

Det: Burchak-Abramovich, Potapova

Notes: A. k. a. Asikhskaya, Asychskaya. The dating of this site is controversial, some sources consider it older than the Brunhes/Matuyama boundary which would put it in EP (MNQ 20), however this probably only applies to layers VII-X..

### AZ 2 Binagady

Type: o

Sources: Burchak-Abramovich 1962,1965c,1966a,1968a,b,1975, Panteleyev & Burchak-Abramovich 2000a,b

Date: MP/LP ca 95-120 KA BP?

Fauna: *Podiceps auritus*, *Phalacrocorax carbo*, *Pelecanus crispus palaeocrispus*, *Platalea leucorodia*, *Ciconia nigra*, *Plegadis falcinellus*, *Ardea cinerea*, *Ardea purpurea*, *Egretta alba*, *Egretta garzetta*, *Bubulcus ibis*, *Nycticorax nycticorax*, *Ixobrychus minutus*, *Botaurus stellaris*, *Cygnus olor*, *Anser azerbaijanicus*, *Anser anser*, *Anser albifrons*, *Branta ruficollis*, *Tadorna ferruginea*, *Tadorna tadorna*, *Anas acuta*, *Anas crecca*, *Anas strepera*, *Anas platyrhynchos palaeoboschas*, *Anas penelope*, *Anas querquedula*, *Anas clypeata*, *Netta rufina*, *Aythya ferina*, *Aythya nyroca*, *Aythya marila asphaltica*, *Melanitta fusca*, *Clangula hyemalis*, *Bucephala clangula*, *Mergus albellus*, *Falco peregrinus*, *Falco tinnunculus*, *Accipiter gentilis*, *Circus cyaneus*, *Circus macrourus*, *Circus aeruginosus*, *Milvus* sp., *Haliaeetus albicilla*, *Neophron percnopterus*, *Gyps fulvus*, *Aegypius monachus*, *Aquila chrysaetos*, *Aquila heliaca*, *Aquila rapax*, *Aquila clanga*, *Aquila pomarina*, *Hieraaetus pennatus*, *Buteo rufinus*, *Perdix perdix*, *Alectoris graeca*, *Columba livia*, *Pterocles orientalis*, *Fulica atra*, *Porzana* sp., *Grus leucogeranus*, *Grus bogatschevi*, *Grus grus*, *Anthropoides virgo*, *Otis tarda*, *Tetrax tetrax*, *Burhinus oedicephalus*, *Pluvialis squatarola*, *Pluvialis fulva*, *Charadrius morinellus*, *Vanellus vanellus*, *Calidris* sp., *Philomachus pugnax*, *Philomachus binagadensis*, *Tringa erythropus*, *Tringa totanus*, *Tringa nebularia*, *Tringa ochropus*, *Tringa glareola*, *Actitis hypoleucos*, *Xenus cinereus*, *Limosa limosa?*, *Limosa lapponica*,

*Numenius arquata*, *Numenius tenuirostris*, *Numenius phaeopus*, *Gallinago gallinago*, *Larus argentatus*, *Larus hyperboreus?*, *Nyctea scandiaca*, *Bubo bubo*, *Bubo binagadensis*, *Asio flammeus*, *Asio otus*, *Otus scops?*, *Athene noctua*, *Aegolius funereus*, *Calandrella rufescens*, *Melanocorypha bimaculata*, *Turdus merula*, *Turdus iliacus*, *Garrulus glandarius assiduus*, *Corvus corax*, *Corvis ruficollis*, *Corvus corone*, *Corvus frugilegus*, *Corvus monedula*, *Pica pica*

Det.: Serebrovskii, Burchak-Abramovich, Panteleyev

## BELGIUM

### BE 2 Goyet (Namur)

Alt: 140 Type: c

Sources: Friant 1950, 1952, Mlíkovský 2000a

Date: LP Early Aurignacian - Mousterian

Fauna: *Aegypius monachus*

Det.: Friant, Mlíkovský                      Stored: Musée Royal d'Histoire Naturelle de Belgique Bruxelles

### BE 11 Trou de Chaleux (Namur)

Type: c

Sources: Charles 1998, Dupont 1872, Lambrecht 1933, Wolf 1938-41

Date: LP LG Magdalenian Bölling 14C=12370-12990 BP

Fauna: *Anser fabalis*, *Anas* sp., *Haliaeetus albicilla*, *Falco tinnunculus*, *Lagopus lagopus*, *Tetrao tetrrix*, *Tetrao urogallus*, *Nyctea scandiaca?*, *Bubo bubo*, *Asio otus*, *Turdus pilaris*, *Garrulus glandarius*, *Corvus corax*

Det.: Dupont, Harrison                      Stored: IRScNB

Notes: A. k. a. Trou du Chaleux.

### BE 15 Trou des Nutons (Namur)

Type: c

Sources: Charles 1998, Dupont 1872, Lambrecht 1933, Wolf 1938-41

Date: LP LG Magdalenian 14C=12,630±140 BP

Fauna: *Anser* sp., *Anas platyrhynchos*, *Haliaeetus albicilla*, *Perdix perdix*, *Lagopus lagopus*, *Tetrao tetrrix*, *Tetrao urogallus*, *Columba palumbus*, *Turdus pilaris*, *Turdus viscivorus*, *Corvus frugilegus*, *Pica pica*

Det.: Dupont                                      Stored: IRScNB

## BULGARIA

### BU 2 Cave N:o 16

Alt: 200                      Type: c

Sources: Boev 1992,1993,1995,1997,1998a,1998e,1999a,1999b,2001a

Date: LP ca 18-50 KA BP

Fauna: *Accipiter nisus*, *Accipiter* sp., *Falco tinnunculus* *Falco vespertinus*, *Falco* sp., *Coturnix coturnix*, *Perdix perdix*, *Perdix* cf *paleoperdix*, *Perdix/Alectoris* sp., *Phasianus colchicus*, *Lagopus* sp., *Tetrao tetrrix*, *Tetrastes bonasia*, *Rallus aquaticus*, *Crex crex*, *Porzana parva/pusilla*, *Gallinula chloropus*, *Larus* cf *ridibundus*, *Columba livia*, *Columba livia/oenas*, *Otus scops*, *Strix aluco*, *Asio otus*, *Apus melba*, *Apus apus*, *Dendrocopos minor*, *Alauda arvensis*, *Alaudidae* sp. *Delichon urbica*, *Anthus trivialis*, *Bombycilla garrulus*, *Erithacus rubecula*, *Cettia cetti*, *Turdus merula*, *Turdus pilaris*, *Turdus philomelos*, *Turdus torquatus*, *Turdus* sp., *Monticola* cf *saxatilis*, *Sitta europaea*, *Lanius collurio*, *Sturnus vulgaris*, *Garrulus glandarius*, *Pyrrhocorax graculus*, *Pica pica*, *Nucifraga caryocatactes*, *Corvus monedula*, *Corvus frugilegus*, *Corvus corax*, *Carduelis cannabina*, *Pyrrhula pyrrhula*, *Loxia curvirostra*, *Passer montanus*, *Passer* sp., *Fringilla coelebs*, *Fringilla* sp.  
Det.: Boev

### BU 3 Morovitsa cave

Alt 690                      Type: c

Sources: Boev 1992,1993,1995,1999a,2001a,2006c

Date: MP MNQ 23, ca 180-350 KA BP

Fauna: *Coturnix coturnix*, *Alectoris graeca*, *Perdix perdix*, *Alauda arvensis*, *Pyrrhocorax graculus*,  
Passeriformes sp.

Det.: Boev

#### BU 4 Temnata Cave

Alt: 200           Type: c

Sources: Boev 1994, 1998,1999a,2001a,2002.2006c

Layer: 1a

Date: LP

Fauna: *Buteo* sp., Galliformes, *Lullula arborea*, *Riparia* cf *riparia*, *Turdus viscivorus*, *Corvus monedula*

Layer: 3a

Date: LP 14C=13600±200, 13920±480 BP

Fauna: *Falco tinnunculus*, *Falco subbuteo*, *Perdix perdix*, *Coturnix coturnix*, *Tetrao* sp., *Strix aluco*, *Asio otus*,  
*Aegolius funereus*, *Apus apus*, *Dendrocopos minor*, *Turdus viscivorus*, *Pyrrhula pyrrhula*, *Sturnus vulgaris*,  
*Pyrrhocorax graculus*, *Corvus monedula*, *Corvus* sp.

Layer: 3c

Date: LP

Fauna: Anatidae, *Alauda* cf *arvensis*, *Oenanthe oenanthe*, *Sturnus vulgaris*, *Corvus monedula*

Layer: 3d

Date: LP 14C=28900±1100, 29700±1600 BP

Fauna: *Aquila pomarina*, *Aegypius monachus*, *Circus cyaneus*, *Falco tinnunculus*, *Falco* sp., *Alectoris graeca*,  
*Alectoris* sp.?, *Perdix perdix*, *Streptopelia turtur*, *Columba oenas*, *Bubo bubo*, *Alauda arvensis*, *Pica pica*,  
*Nucifraga caryocatactes*, *Corvus monedula*

Layer: 3a/d

Date: LP

Fauna: *Turdus merula*

Layer: 3c/d

Date: LP

Fauna: *Falco vespertinus*, *Crex crex*

Layer: 3g

Date: LP ca 30 Ka BP

Fauna: *Crex crex*, *Pica pica*

Layer: 3

Date: LP

Fauna: *Falco* sp., *Perdix perdix*, *Lanius collurio*, *Corvus monedula*

Layer: 3/4

Date: LP 14C=31900±1600 BP (top of layer 4), 45000±7000, 46000±8000 BP (layer 4)

Fauna: *Aquila chrysaetos*, *Falco tinnunculus*, *Corvus monedula*

Layer: IV           Date: EP, ca 1.6 Ma BP

Fauna: *Buteo* sp., *Coturnix coturnix*, *Alectoris graeca*, *Alauda arvensis*, *Lullula arborea*, cf *Riparia riparia*,  
*Luscinia* cf *megarhynchos*, *Turdus viscivorus*, *Corvus monedula*, *Pyrrhocorax graculus*

Det.: Boev           Stored: National Museum of Natural History Sofia

Notes: A. k. a. Temnata Doubka, Temnata Doupka and Temnata Dupka.

#### BU 6 Slivnitsa

Type: c

Sources: Boev 1995,1996,1998c,1999a,2000a,d.

Date: LPI/EP first half of MN 18a

Fauna: Botaurinae sp., *Geronticus balcanicus*, *Anas* sp., cf *Aquila* sp., *Falco* cf *tinnunculus*, *Chauvireria*  
*bulgarica*, *Lullula* sp., *Turdus* cf *philomelos*, Turdidae sp., *Pyrrhocorax* sp., *Corvus* cf *monedula*, *Corvus* sp.,  
*Corvus* cf *praecorax*, *Coccothraustes balcanicus*, *Emberiza* sp.

Det: Boev                                       Stored: NMNHS

Notes: A. k. a. Slivnica



## CZECHIA

### CZ 33 Prezletice (Bohemia)

Type: o

Sources: Jánossy 1983a, Mlíkovský 2002

Date: MP Early MP "younger Cromerian" c. 590-660 KA BP, MNQ 21

Fauna: *Podiceps* cf *cristatus*, *Podiceps* aff *grisegena*, *Podiceps* cf *nigricollis*, *Phalacrocorax carbo*, *Egretta* cf *garzetta*, *Platalea* cf *leucorodia*, *Cygnus olor*, *Cygnus bewickii*, *Anser subanser*, *Tadorna tadorna*, *Anas platyrhynchos*, *Anas crecca*, *Aythya nyroca* *Bucephala clangula*, *Oxyura leucocephala*, *Haliaeetus angustipes*, *Falco tinnunculus atavus*, *Fulica* aff *atra*, *Gallinula* aff *chloropus*, *Limosa* aff *limosa*, *Porzana* cf *parva*, *Gallinago* cf *gallinago*, *Phalaropus* aff *fulicarius*, *Larus* cf *ridibundus*, *Sturnus* cf *vulgaris*

Det.: Jánossy, Mlíkovský

### CZ 41 Stránská Skála (Moravia)

Alt: 310 Type: c

Sources: Capek 1925, Jánossy 1972a, Lambrecht 1933, Mlíkovský 1996, 2002a,b, Musil 1965c, 1968, Skutil & Stehlik 1939

Layer: "Capek 1-3" (Fissure 1-3).

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas* cf *querquedula*, *Mergus connectens*, *Falco* sp., *Lagopus lagopus*, *Tetrao praeurogallus*, *Perdix* aff *perdix*, *Vanellus* cf *vanellus*, *Strix intermedia*, *Apus* aff *apus*, *Corvus* cf *monedula*, *Pyrrhocorax* aff *graculus*, *Carduelis* aff *carduelis*?

Notes: Musil (1968) gives a slightly different faunal list.

Layer: "Capek 4a" (Fissure 4a)

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Lagopus lagopus*, *Tetrao* cf *partium*, *Crex* cf *crex*, *Corvus* cf *monedula*, *Pyrrhocorax* aff *graculus*, cf *Prunella collaris*

Notes: Musil (1968) gives a slightly different faunal list.

Layer: "Capek 4c" (Fissure 4c).

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas* cf *querquedula*, cf *Anas clypeata*, cf *Aythya nyroca*, *Falco tinnunculus atavus*, *Lagopus lagopus*, *Tetrao* cf *partium*, *Tetrao praeurogallus*, *Apus* aff *apus*, *Corvus* cf *monedula*, *Sturnus* cf *vulgaris*

Notes: Musil (1968) gives a slightly different faunal list.

Layer: "Capek 5a oben".

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Podiceps* aff *grisegena*, *Anas* cf *platyrhynchos*, *Anas* cf *querquedula*, *Anas* cf *penelope*, *Anas* cf *acuta*, cf *Anas clypeata*, *Aythya* cf *fuligula*, *Falco tinnunculus atavus*, *Lagopus lagopus*, *Tetrao* cf *partium*, *Tetrao praeurogallus*, *Perdix* aff *perdix*, *Coturnix* cf *coturnix*, *Porzana* cf *porzana*, *Otis kalmani*, *Gallinago* cf *gallinago*, *Limosa* aff *limosa*, *Strix* aff *nebulosa*, *Asio flammeus*, *Apus* aff *apus*, *Dendrocopos* cf *major*, cf *Prunella collaris*, *Turdus* cf *viscivorus*, *Corvus* cf *corax*, *Corvus corone*, *Corvus* cf *monedula*, *Garrulus* aff *glandarius*, *Pyrrhocorax* aff *graculus*

Notes: Musil (1968) gives a slightly different faunal list.

Layer: "Capek 5a unten".

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas* cf *platyrhynchos*, *Anas* cf *querquedula*, *Bucephala clangula*, *Accipiter* cf *nisus*, *Lagopus lagopus*, *Tetrao* cf *partium*, *Tetrao praeurogallus*, *Perdix* aff *perdix*, *Coturnix* cf *coturnix*, *Otis kalmani*, *Vanellus* cf *vanellus*, *Charadrius* aff *morinellus*, aff *Pluvialis squatarola*, *Gallinago* cf *media*, *Scolopax* cf *rusticola*, *Limosa* aff *limosa*, *Tringa* aff *ochropus*, *Tringa* aff *totanus*, *Philomachus* aff *pugnax?*, aff *Chlidonias niger*, *Strix intermedia*, *Strix* aff *nebulosa*, *Asio* aff *flammeus*, *Turdus* cf *pilaris*, *Pyrrhocorax* aff *graculus*, cf *Loxia curvirostra?*, *Emberiza* cf *citrinella*

Notes: Musil (1968) gives a slightly different faunal list.

Layer: "Capek 5a ober der Schicht mit Desmana".

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Falco tinnunculus atavus*, *Tetrao* cf *partium*, *Corvus corone*

Notes: Musil (1968) gives a slightly different faunal list.

Layer: "Capek 5b".

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas cf platyrhynchos*, *Anas cf querquedula*, *Falco tinnunculus atavus*, *Lagopus lagopus*

Notes: Musil (1968) gives a slightly different faunal list.

Layer: "Capek 7"

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Asio aff flammeus*

Layer: "Capek 8"

Date: MP MNQ 22 "Upper Biharian"

Fauna: *Falco tinnunculus atavus*, *Perdix aff perdix*

Layer: "Capek 9a-höhle".

Date: MP/LP (probably mixed material)

Fauna: *Tadorna tadorna*, *Anas cf platyrhynchos*, *Anas cf querquedula*, *Anas cf strepera*, *cf Aythya nyroca*, *Pernis cf apivorus*, *Haliaeetus aff albicilla*, *Falco cf vespertinus*, *Falco tinnunculus atavus*, *Falco peregrinus*, *Lagopus lagopus*, *Tetrao cf partium*, *Tetrao praeurogallus*, *Perdix aff perdix*, *Coturnix cf coturnix*, *Crex cf crex*, *Vanellus cf vanellus*, *Scolopax cf rusticola*, *Tringa aff erythropus*, *Calidris aff alpina*, *Larus aff canus*, *Columba aff palumbus*, *Cuculus aff canorus*, *Surnia caepki*, *Aegolius aff funereus*, *Caprimulgus caepki*, *Apus aff apus*, *Apus submelba*, *Picus cf canus*, *Dendrocopos cf major*, *Alauda cf arvensis*, *Anthus aff trivialis*, *Hirundo cf rustica*, *Turdus cf viscivorus*, *Luscinia cf svecica*, *Oenanthe aff oenanthe*, *Turdus cf pilaris*, *Turdus cf merula*, *Parus cf caeruleus*, *Sitta cf europaea*, *Sturnus cf vulgaris*, *Corvus cf corax*, *Corvus corone*, *Corvus cf monedula*, *Coccothraustes cf coccothraustes*, *Carduelis aff carduelis?*, *Pyrrhula aff pyrrhula*, *Emberiza cf citrinella*

Notes: Musil (1968) gives a slightly different faunal list.

Layer: "Capek 9b"

Date: LP?

Fauna: *Anas cf penelope*, *Falco tinnunculus atavus*, *Tetrao cf partium*, *Perdix aff perdix*, *Coturnix cf coturnix*, *Dendrocopos cf major*, *Alauda cf arvensis*, *Turdus cf pilaris*, *Parus cf major*, *Sitta cf europaea*, *Corvus cf monedula*,

Notes: Musil (1968) gives a slightly different faunal list.

Layer: "Absolon, II Höhle/Absolon's Cave"

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Tadorna tadorna*, *Anas querquedula*, *Mergus connectens*, *Accipiter gentilis*, *Falco vespertinus*, *Falco subbuteo*, *Falco cf peregrinus*, *Lagopus lagopus*, *Tetrao tetrix*, *Perdix perdix*, *Palaeocryptonyx donnezani*, *Coturnix coturnix*, *Charadrius morinellus*, *cf Vanellus vanellus*, *Gallinago media*, *cf Tringa sp.*, *Columba palumbus*, *Strix nebulosa*, *Glaucidium passerinum*, *Asio otus*, *Apus apus*, *Nucifraga caryocatactes*, *Corvus monedula*, *Pyrrhocorax graculus*

Layer: "Sammlung Knies"

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Mergus connectens*

Layer: "Sammlung Musil, Nová Velká jeskyne"

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anser aff anser*, *Tetrao praeurogallus*, *Perdix aff perdix*, *Turdus cf viscivorus*, *Corvus cf monedula*

Layer: Unstratified, "ohne Fundstelle"

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anser aff albifrons*, *Tadorna sp.*, *Anas cf platyrhynchos*, *Mergus connectens*, *Aquila aff rapax*, *Falco cf vespertinus*, *Falco tinnunculus atavus*, *Lagopus lagopus*, *Tetrao cf partium*, *Perdix aff perdix*, *Francoelinus caepki*, *Coturnix cf coturnix*, *aff Pluvialis squatarola*, *Scolopax cf rusticola*, *aff Sterna hirundo*, *Columba aff palumbus*, *Upupa sp.*, *Delichon cf urbica*, *Oenanthe aff oenanthe*, *Corvus cf corax*, *Corvus corone*, *Corvus cf monedula*

Det.: Jánossy

Layer: M. F. 3

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Pluvialis squatarola*, *Limosa spp.*, *Apus apus*, *Motacilla sp.*, *Corvus monedula*

Layer: M. F. 4

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas strepera*, *Anas querquedula*, *Anas clypeata*, *Falco tinnunculus*, *Falco peregrinus*, *Tetrao tetrix*, *Coturnix coturnix*, *Fulica atra*, *Vanellus vanellus*, *Philomachus pugnax*, *Gallinago gallinago*, *Scolopax rusticola*, *Tringa spp.*, *Asio flammeus*, *Apus apus*, *Corvus monedula*

Layer: M. F. 5

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas strepera*, *Anas querquedula*, *Anas clypeata*, *Falco tinnunculus*, *Falco subbuteo*, *Tetrao tetrrix*, *Perdix perdix*, *Fulica atra*, *Himantopus himantopus*, *Pluvialis squatarola*, *Vanellus vanellus*, *Philomachus pugnax*, *Gallinago gallinago*, *Gallinago media*, *Scolopax rusticola*, *Limosa* spp., *Numenius phaeopus*, *Tringa* spp., *Larus canus*, *Athene noctua*, *Asio flammeus*, *Acrocephalus* sp., *Corvus* cf *corone*

Layer: M. F. 6

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas strepera*, *Anas querquedula*, *Anas clypeata*, *Falco tinnunculus*, *Falco subbuteo*, *Tetrao tetrrix*, *Perdix perdix*, *Coturnix coturnix*, *Francolinus minor*, *Charadrius* sp., *Vanellus vanellus*, *Philomachus pugnax*, *Gallinago gallinago*, *Gallinago media*, *Scolopax rusticola*, *Limosa* spp., *Numenius phaeopus*, *Tringa* spp., *Cuculus canorus*, *Apus apus*, *Delichon urbica*, *Anthus* sp.

Layer: M. F. 7

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas clypeata*, *Tetrao tetrrix*, *Vanellus vanellus*, *Calidris* sp., *Lymnocyrtus minimus*

Layer: M. F. 8

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas strepera*, *Anas querquedula*, *Anas clypeata*, *Falco peregrinus*, *Bonasa bonasia*, *Tetrao tetrrix*, *Coturnix coturnix*, *Francolinus minor*, *Rallus aquaticus*, *Crex crex*, *Pluvialis squatarola*, *Vanellus vanellus*, *Philomachus pugnax*, *Scolopax rusticola*, *Limosa* spp., *Numenius phaeopus*, *Tringa* spp., *Asio flammeus*, *Riparia riparia*, *Delichon urbica*, *Pica pica*, *Corvus monedula*

Layer: M. F. 9

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas querquedula*, *Anas clypeata*, *Bonasa bonasia*, *Coturnix coturnix*, *Tringa* spp., *Delichon urbica*

Layer: M. F. 10

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas querquedula*, *Anas clypeata*, *Tetrao tetrrix*, *Coturnix coturnix*, *Francolinus subfrancolinus*, *Gallinula gigantea*, *Fulica atra*, *Vanellus vanellus*, *Scolopax rusticola*, *Limosa* spp., *Strix aluco*, *Hirundo rustica*, *Delichon urbica*, *Corvus monedula*, *Coccothraustes coccothraustes*

Layer: M. F. 11

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas querquedula*, *Anas clypeata*, *Bucephala clangula*, *Falco peregrinus*, *Tetrao urogallus*, *Tetrao tetrrix*, *Coturnix coturnix*, *Francolinus minor*, *Crex crex*, *Gallinula gigantea*, *Vanellus vanellus*, *Philomachus pugnax*, *Scolopax rusticola*, *Limosa* spp., *Numenius phaeopus*, *Pica pica*

Layer: M. F. 12

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas querquedula*, *Anas clypeata*, *Asio flammeus*

Layer: M. F. 13

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Podiceps grisegena*, *Anser* sp., *Anas strepera*, *Anas querquedula*, *Anas clypeata*, *Bucephala clangula*, *Mergus serrator*, *Mergus connectens*, *Accipiter nisus*, *Falco tinnunculus*, *Falco subbuteo*, *Falco peregrinus*, *Bonasa bonasia*, *Tetrao urogallus*, *Tetrao tetrrix*, *Coturnix coturnix*, *Francolinus minor*, *Francolinus capeki*, *Francolinus subfrancolinus*, *Crex crex*, *Gallinula gigantea*, *Fulica atra*, *Tetrax tetrax*, *Charadrius* sp., *Pluvialis squatarola*, *Vanellus vanellus*, *Gallinago gallinago*, *Gallinago media*, *Scolopax rusticola*, *Limosa* spp., *Numenius phaeopus*, *Athene noctua*, *Strix aluco*, *Asio flammeus*, *Apus apus*, *Picus canus*, *Dendrocopos major*, *Hirundo rustica*, *Delichon urbica*, *Anthus* sp., *Turdus* spp., *Garrulus glandarius*, *Pica pica*, *Nucifraga caryocatactes*, *Corvus pliocaenus*, *Corvus* cf *corone*, *Corvus monedula*

Layer: M. F. 14

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas strepera*, *Anas querquedula*, *Anas clypeata*, *Falco subbuteo*, *Falco peregrinus*, *Tetrao tetrrix*, *Coturnix coturnix*, *Lymnocyrtus minimus*, *Gallinago gallinago*, *Gallinago media*, *Tringa* spp., *Delichon urbica*

Layer: M. F. 15

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas strepera*, *Anas querquedula*, *Anas clypeata*, *Bucephala clangula*, *Mergus merganser*, *Mergus serrator*, *Falco tinnunculus*, *Tetrao tetrrix*, *Coturnix coturnix*, *Porzana* sp., *Fulica atra*, *Lymnocyrtus minimus*, *Gallinago media*, *Scolopax rusticola*, *Numenius phaeopus*, *Columba palumbus*, *Athene noctua*, *Dendrocopos major*, *Delichon urbica*, *Pica pica*, *Corvus pliocaenus*, *Corvus* cf *corone*, *Corvus monedula*

Layer: M. F. 16

Date: MP MNQ 21 "Upper Biharian"

Fauna: *Anas strepera*, *Anas querquedula*, *Anas clypeata*, *Falco tinnunculus*, *Coturnix coturnix*, *Francolinus subfrancolinus*

Det: Mlíkovský

Stored: Moravské Museum, Brno

Notes: M. F. 3/16 is short for "Musil's Talus Fan" layers 3-16. A. k. a. Lateiner-Berg-Grotten

## GERMANY

### BRD 15 Breitenfurter Höhle (Bayern)

Type: c

Sources: Heller 1956

Layer: C

Date: Early Würm II to Late Würm III

Fauna: *Lagopus lagopus*, *Corvus monedula*

Layer: C/D

Date: Würm I/II Interstadial to Late Würm III

Fauna: *Lagopus lagopus*

Layer: D

Date: Würm I/II Interstadial and Early Würm II, Mousterian

Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Corvus monedula*, *Nucifraga cayocatactes*

### BRD 40 Geissenklösterle (Baden-Württemberg)

Alt: 590 Type: c

Sources: Hahn & Münzel 1995, Müller-Beck et al. 1985, Münzel 2003, Weniger 1982

Layer: AH IIab

Date: LP Aurignacian 14C = 30,6-36,8 KA BP, TL =36,8 KA BP

Fauna: *Cygnus cf cygnus*

Layer: Aurignacian

Fauna: *Garrulus glandarius*, *Coccothraustes coccothraustes*

Date: LP Gravettian

Fauna: *Aquila sp.*

Date: LP Magdalenian

Fauna: *Lagopus sp.*

Layer: AH Io

Date: LP Early Magdalenian, c. 13,000 BP

Fauna: *Anas platyrhynchos*, *Tetrao tetrix*, *Lagopus mutus*, *Lagopus lagopus*, *Perdix perdix*, *Rallus aquaticus*, *Glaucidium passerinum*, *Hirundo rustica*, *Cinclus cinclus*, *Turdus viscivorus*

Det.: Krönneck, Mourer-Chauviré

### BRD 90 Meiendorf (Schleswig-Holstein)

Type: o

Sources: Andree 1939, Bratlund 1996, Burdukiewicz 1986, Heinrich 1977 (Krause 1937, Krause & Kollau 1943)

Date: LP LG Hamburgian 14C=12,360±110, 12,460±60 BP Late Bölling

Fauna: *Cygnus cygnus*, *Anser cf anser*, *Anser sp.*, *Branta leucopsis*, *Anas sp.*, *Lagopus lagopus*, *Porzana porzana*, *Grus grus*, *Larus marinus/hyperboreus*

Det.: Krause, Kollau

### BRD 91 Mertloch (Rheinland-Pfalz)

Type: o

Sources: Baales & von Berg 1997, von Berg 1994

Date: LP Alleröd 11,030 BP

Fauna: *Tetrao urogallus*, *Tetrao tetrix*

Det.: Joachim, Rheinwald & Spittler

Notes: Footprints in ash from the Laacher-See caldera eruption.

**BRD 93 Miesenheim 2 (Rheinland-Pfalz)**

Type: o

Sources: Street in litt and 1993.

Date: LP LG Late Alleröd 14C=10820-11460 BP

Fauna: *Lagopus* sp.?, *Tetrao tetrix*?

Det.: Street

### **BRD116 Salzgitter-Lebenstedt (Niedersachsen)**

Alt: 76 Type: o

Sources: Kleinschmidt 1953a,b, Mlíkovský 1998b

Date: LP Early Weichselian 14C=36,000±550, 39300±800, 55600±900 BP

Fauna: *Cygnus* sp., *Anas* sp., *Aegypius monachus*

Det: Kleinschmidt, Mlíkovský

Stored: Landesmuseum Braunschweig

Notes: 14C minimum age only. Dating doubtful, might well be from the penultimate glaciation.

### **BRD124 Seveckenberg bei Quedlinburg (Sachsen-Anhalt)**

Type: c

Sources: Nehring 1880,1905, Mlíkovský 2002 (Giebel 1850)

Date: LP

Fauna: *Anser* sp., *Anas* cf *platyrhynchos*, *Anas crecca*, *Milvus milvus*, *Lagopus* sp., *Otis tarda*, *Hirundo rustica*, *Corvus corax*, Passeriformes sp.

Det.: Giebel, Nehring, Mlíkovský

Notes: A. k. a. Quenickenberg. The determinations by Giebel are questionable. *Hystrix* is present which may indicate early Würmian age.

### **BRD131 Stellmoor (Schleswig-Holstein)**

Type: o

Sources: Bratlund 1999, Burdukiewicz 1986, Heinrich 1977 (Krause & Kollau 1943)

Date: LP LG Hamburgian 14C=12180±130, 12190±125 BP (Bölling)

Fauna: *Cygnus* sp., *Anser* sp., Anatidarum, *Lagopus lagopus*, *Calidris alpina*

Date: LP LG Ahrensburgian (late Dryas 3) 14C= 9810-10140 BP

Fauna: *Gavia stellata*, *Cygnus cygnus*, *Anser* sp., Anatinae sp., *Mergus* sp.?, *Aquila chrysaetos*?, *Lagopus lagopus*, *Tringa nebularia*, *Larus argentatus*, *Larus marinus*, Laridae sp., Strigidae sp.?, Alaudidae sp.?, *Corvus* sp.

Det.: Krause, Kollau, Bratlund

Stored: Archäologisches Landesmuseum, Schloss Gottorp

### **BRD141 Untermassfeld (Thüringen)**

Type: o

Sources: Jánossy 1988, Mlíkovský 2002, Mourer-Chauviré 1993 (Jánossy 1997)

Date: EP Lowest Biharian, "Allophaiomys-Zone" MNQ 20, Jaramillo, ca 1.0-1.1 Ma BP, MIS 31

Fauna: *Cygnus* cf *olor*, *Anser* aff *subanser*, *Haliaeetus* aff *angustipes*, *Francolinus capeki*, *Turdus* aff *philomelos*, *Corvus* aff *jánossyi*, *Garrulus* aff *glandarius*

Det.: Jánossy

### **BRD142 Untertürkheim, Biedermanscher Steinbruch (Baden-Württemberg)**

Alt: 230

Type: o

Sources: Adam, Bloos & Ziegler 1987, Andree 1939, Wagner 1991, Wenzel 1998 (Berckhemer 1935)

Layer: Unterer Travertin

Date: LP Eem (IS 5e) TL Travertine = 105±4, 105±8, 106±6, 133±19 KA

Fauna: *Cygnus* sp., *Anser anser*, *Anser* sp., *Anas platyrhynchos*, *Perdix perdix*?, *Rallus aquaticus*? *Porzana* cf *parva*, *Tyto alba*?, *Eremophila* cf *alpestris*, *Hirundo/Riparia* sp., *Anthus pratensis*, *Anthus* sp., *Motacilla* sp., *Prunella* sp., *Erithacus rubecula*?, *Luscinia* sp., *Oenanthe* sp., *Turdus* cf *iliacus*, *Sylvia* sp., *Fringilla montifringilla*, *Fringilla coelebs*, *Loxia* cf *curvirostra*, *Pyrrhula pyrrhula*, *Coccothraustes coccothraustes*, *Montifringilla nivalis*, *Carduelis chloris*, Fringillidae sp., *Emberiza* cf *citrinella*

Layer: Steppennagerschicht

Date: LP Probably IS 5d

Fauna: *Cygnus* sp., *Anser* sp., *Anas platyrhynchos*?, *Mergus merganser*, *Mergus merganser/serrator*, *Falco* cf *columbarius*, *Falco tinnunculus*, *Perdix perdix*, *Hirundo/Riparia* sp., *Phoenicurus* sp.?, *Oenanthe* sp.?, *Turdus* sp., *Fringilla coelebs*, *Carduelis chloris*?, *Pyrrhula pyrrhula*, *Montifringilla nivalis*

Det.: Soergel, Götz, Mörke  
Notes: A. k. a. Stuttgart-Untertürkheim.

#### **BRD147 Weimar-Ehringsdorf (Thüringen)**

Alt: 240 Type: o  
Sources: Grimm 1970, Heinrich & Jánossy 1978b, Jánossy 1975a, Schmidt 1964, Stephan 1975a,b  
Layer: Obere Travertin.  
Date: MP Late IS 7, TL=100-130 KA BP, ESR=200-220 KA BP  
Fauna: *Anas aff acuta*, *Tetrao tetrax*  
Det.: Jánossy  
Date: MP?  
Fauna: *Gavia* sp.?, *Bubulcus ibis*?/*Egretta garzetta*?, *Anser anser*?, *Anas platyrhynchos*, *Anas clypeata*?, *Aythya nyroca*?, *Calidris alpina*?, *Caprimulgus* sp.?  
Det.: Stephan  
Notes: Eggshells, identifications very doubtful  
Fauna: *Tetrao tetrax*  
Det.: Jánossy  
Layer: MP "Pre-Würm", IS 7  
Fauna: *Cygnus cf olor*  
Det: Schmidt  
Notes: Eggshell

### **CHINA**

#### **CI 28 Jing Niu Shan (Liaoning)**

Type: c  
Alt: 30  
Sources: Hou 1989, Zhang et al. 1993  
Date: Late MP ca 280 KA BP  
Fauna: *Ciconia* sp., *Aythya* sp., *Accipiter* sp., *Aquila chrysaetos*, *Falco* sp., *Francolinus pintadeanus*, *Coturnix coturnix*, *Bambusicola* sp., *Phasianus* sp., *Phasianus colchicus*, *Charadrius* sp., *Scolopax rusticola*, *Tyto jinniushanensis*, *Asio* sp., *Parus* sp., *Podoces hendersoni*  
Det.: Hou  
Notes: A. k. a. Jinniushan, Niuxinshan.

#### **CI 53 Xujia Yao (Shanxi)**

Type: o  
Sources: Jia 1980, Jia & Wei 1980, Rich et al. 1986  
Date: LP? ca 100 000 BP?  
Fauna: *Struthio* sp., Accipitridae sp.  
Notes: A. k. a. Xujiayao and Hsuchiayao

### **CYPRUS**

#### **CY 1 Akrotiri Aetokremnos**

Type: c  
Sources: Simmons 1991, Mourer-Chauviré 1999 and pers. com.  
Date: LP LG ca 10,500 BP  
Layer: Surface  
Fauna: *Otis tarda*  
Layer: 1  
Fauna: *Anser anser/fabalis*, *Otis tarda*

Layer: 1/2

Fauna: *Anser anser/fabalis*, *Otis tarda*, *Columba livia*, *Corvus corone/frugilegus*

Layer: 1-4

Fauna: *Anser anser/fabalis*, *Otis tarda*

Layer: 2

Fauna: *Podiceps nigricollis*, *Phalacrocorax aristotelis*, *Anser anser/fabalis*, *Anser sp.*, Anseriform, *Anas crecca*, *Rallus aquaticus*, *Otis tarda*, *Columba livia/oenas*, *Asio flammeus*, *Corvus corone/frugilegus*, Passeriformes (small)

Layer: 2/4

Fauna: *Puffinus puffinus*, *Anser anser/fabalis*, Anseriform, *Otis tarda*

Layer: 3

Fauna: *Otis tarda*

Layer: 4

Fauna: *Anser anser/fabalis*, *Anser sp.*, *Otis tarda*

Layer: 4A/B

Fauna: *Athene noctua*, *Turdus iliacus/philomelos*, Turdidae sp.

Layer: 4B

Fauna: cf *Circus sp.*, *Columba livia/oenas*, *Corvus corone/frugilegus*

Layer: 4C

Fauna: *Columba livia/oenas*

Det.: Mourer-Chauviré

## FRANCE

### FR 4 Abri Dufaure (Landes)

Alt: 127 Type: c

Sources: Altuna et al. 1991, Eastham 1995b

Layer: 3

Date: LP-Hol Azilian Dryas 3 - PB 14C=10300-9600 BP

Fauna: *Ardea cinerea*, *Cygnus olor*, *Anas penelope*, *Anas crecca*, *Tetrao urogallus*, *Strix sp.*, *Alauda arvensis*, *Turdus merula*, *Turdus iliacus*, *Turdus philomelos*, *Garrulus glandarius*, *Corvus corax*, *Pyrrhocorax pyrrhocorax*

Layer: 4U

Date: LP LG Late Magdalenian Dryas 2 - Alleröd 14C=10910±220 BP

Fauna: *Anser fabalis*, *Anas penelope*, *Anas platyrhynchos*, *Aquila chrysaetos*, *Falco peregrinus*, *Lagopus lagopus*, *Tringa totanus*, *Bubo bubo*, *Nyctea scandiaca*, *Turdus merula*, *Turdus viscivorus*, *Corvus corax*

Layer: 4U-M

Date: LP LG Late Magdalenian Dryas 2 - Alleröd 14C=11700-12000 BP

Fauna: *Gavia immer*, *Anser anser*, *Anser fabalis*, *Anser sp.*, *Anas platyrhynchos*, *Falco tinnunculus*, *Tringa totanus*, *Bubo bubo*, *Nyctea scandiaca*, *Alauda arvensis*, *Turdus iliacus*, *Fringilla coelebs*, *Montifringilla nivalis*, *Pica pica*, *Pyrrhocorax pyrrhocorax*

Layer: 4L-M

Date: LP LG Late Magdalenian Dryas 2 - Alleröd

Fauna: *Anser anser*, *Anser fabalis*, *Bubo bubo*, *Nyctea scandiaca*, *Alauda arvensis*, *Montifringilla nivalis*, *Pica pica*, *Pyrrhocorax pyrrhocorax*

Layer: 4L

Date: LP LG Late Magdalenian Dryas 2 - Alleröd 14C=12260±400 BP

Fauna: *Cygnus columbianus*, *Buteo buteo/lagopus*, *Burhinus oedicephalus*, *Bubo bubo*, *Nyctea scandiaca*, *Turdus merula*, *Pica pica*

Layer: 5

Date: LP Middle Magdalenian Dryas 1 - Bölling 14C=12690-14570 BP

Fauna: *Lagopus lagopus*, *Bubo bubo*, *Nyctea scandiaca*, *Lullula arborea*, *Alauda arvensis*, *Turdus iliacus*, *Phylloscopus collybita/trochilus*, *Montifringilla nivalis*, *Corvus corax*, *Pyrrhocorax pyrrhocorax*

Layer: 6

Date: LP Early Middle Magdalenian, Dryas 1 14C=14020-14640 BP

Fauna: *Nyctea scandiaca*, *Alauda arvensis*

Det.: Eastham

Stored: Institut du Quaternaire, Université de Bordeaux I



### FR 49 Bois-Ragot (Vienne)

Type: c

Sources: Chollet et al. 1979, Laroulandie 2000 (Gilbert 1984, Griggo 1995)

Layer: BR3

Date: LP LG Late Azilian 14C=8800±220 BP

Fauna: *Nyctea scandiaca*

Layer: BR4b

Date: LP LG Early Azilian 14C=10990±160 BP

Fauna: *Cygnus cygnus*, *Nyctea scandiaca*

Layer: BR5b

Date: LP LG Late Magdalenian 14C=11030±140 BP

Fauna: *Cygnus cygnus*, *Anser* sp., *Anas platyrhynchos*, *Anas clypeata*, Anatidae sp., *Aquila chrysaetos*, *Falco* cf *tinnunculus*, *Lagopus* sp., *Gallus gallus*, *Grus* sp., *Crex crex*, *Bubo bubo*, *Nyctea scandiaca*, *Corvus corax*, Passeriformes sp.

Layer: BR6

Date: LP LG Late Magdalenian 14C=10180±160 BP

Fauna: *Nyctea scandiaca*

Det.: Delpech, Gilbert, Griggo & Laroulandie    Stored: Institut du Quaternaire, Université de Bordeaux I

Notes: A. k. a. Goux

### FR 63 La Grotte du Renne à Arcy-sur-Cure (Yonne)

Type: c

Sources: David et al. 2006, d'Errico et al. 1998, Lambrecht 1933, Milne-Edwards 1867-71,1875a,b, Mourer-Chauviré 1979b,1983a,2002 Paris 1912, Wolf 1938-41

Layer: 7

Date: LP Aurignacien 14C = 30,800-31,800 BP

Fauna: *Aquila chrysaetos*, *Lagopus lagopus*, *Ptyonoprogne rupestris*, *Prunella collaris*, *Corvus corax*

Layer: 8

Date: LP Chatelperronian 14C = 33,000-33,860 BP

Fauna: *Gyps fulvus*, *Haliaeetus albicilla*, *Corvus corax*

Layer: 9

Date: LP Chatelperronian 14C = 24,500-45,100 BP

Fauna: *Cygnus cygnus*

Layer: 10b

Date: LP Chatelperronian 14C = 24,500-45,100 BP

Fauna: *Cygnus cygnus*

Det.: Milne-Edwards, Mourer-Chauviré

Stored: Département des Sciences de la Terre de Lyon

Notes: A. k. a. Caverne d'Arcy-sur-Cure

### FR 92 Grotta di Brietta (Corse)

Alt: 300 Type: c

Sources: Lambrecht 1933, Louchart 2002, Newton 1922a

Date: LP

Fauna: *Oenanthe* sp., *Turdus* sp., *Pica pica*

Det.: Newton, Louchart

Stored: BMNH or Muséum d'Histoire Naturelle de Bâle?

### FR 93 Grotta di Funtanedu (Corse)

Alt: 400 Type: c

Sources: Lambrecht 1933, Louchart 2002,2004, Newton 1922a

Date: LP

Fauna: *Anas platyrhynchos/acuta*, *Aquila* sp., *Accipiter nisus*, *Falco tinnunculus*, *Alectoris rufa??*, *Coturnix coturnix*, *Porzana parva*, Tringinae sp., cf *Larus minutus*, *Columba palumbus*, *Asio flammeus*, *Apus apus*,

*Alauda arvensis*, cf *Eremophila alpestris*, *Motacilla* sp., *Anthus* sp., cf *Cinclus cinclus*, *Oenanthe* sp., *Saxicola*

sp., *Phoenicurus* sp., *Erithacus rubecula*, *Meridiocichla salotti*, Sylviidae sp., *Sturnus* sp., *Pyrrhonorax pyrrhonorax*, *Garrulus glandarius*, *Corvus monedula*, Fringillidae sp.

Det.: Newton, Louchart      Stored: BMNH or Muséum d'Histoire Naturelle de Bâle?

### FR 97 Grotte Jean-Pierre N:o 1 (Savoie)

Alt: 750 Type: c

Sources: Mourer-Chauviré 1975a,1979c,1994 Date: LP/Hol Alleröd/Preboreal

Layer: 6

Date: LP LG Dryas 3 14C=10750±300 BP Azilian

Fauna: *Anas platyrhynchos*, *Lagopus lagopus*, *Tetrao tetrix*, *Coturnix coturnix*, *Cuculus canorus*, *Asio flammeus*, *Aegolius funereus*, *Dendrocopos leucotos*, *Turdus merula*, *Turdus philomelos*, *Turdus viscivorus*, *Emberiza citrinella*, *Coccothraustes coccothraustes*

Layer: 6a

Date: LP LG Dryas 3 14C=10750±300 BP Azilian

Fauna: *Accipiter nisus*, *Lagopus* sp., *Tetrao tetrix*, *Crex crex*, *Actitis hypoleucos*, *Aegolius funereus*, *Strix aluco*, *Dendrocopos leucotos*, *Alauda arvensis*, *Hirundo daurica*, *Cinclus cinclus*, *Monticola saxatilis*, *Turdus pilaris*, *Turdus torquatus*, *Turdus merula*, *Turdus iliacus*, *Turdus philomelos*, *Turdus viscivorus*, *Emberiza citrinella*, *Coccothraustes coccothraustes*

Layer: 6b-c

Date: LP LG Alleröd Azilian 14C=10750±300 BP

Fauna: *Anas platyrhynchos*, *Anas crecca*, *Lagopus* sp., *Tetrao tetrix*, *Coturnix coturnix*, *Rallus aquaticus*, *Crex crex*, *Lymnocyrtus minimus*, *Scolopax rusticola*, *Asio otus*, *Asio flammeus*, *Aegolius funereus*, *Strix aluco*, *Apus apus*, *Dendrocopos major*, *Dendrocopos leucotos*, *Alauda arvensis*, *Hirundo daurica*, *Cinclus cinclus*, *Turdus pilaris*, *Turdus torquatus*, *Turdus merula*, *Turdus iliacus*, *Turdus viscivorus*, *Turdus philomelos*, *Sylvia atricapilla*, *Sylvia communis*, *Parus montanus*, *Parus caeruleus*, *Emberiza citrinella*, *Plectrophenax nivalis*, *Fringilla coelebs*, *Carduelis spinus*, *Pyrrhula pyrrhula*, *Montifringilla nivalis*, *Garrulus glandarius*

Layer: 7

Date: LP LG Dryas 2 Azilian 14C=11900±360 BP

Fauna: *Anas platyrhynchos*, *Anas crecca*, *Anas strepera*, *Anas querquedula*, *Aythya marila*, *Falco subbuteo*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Crex crex*, *Pluvialis squatarola*, *Asio otus*, *Turdus iliacus*, *Turdus philomelos*, *Emberiza citrinella*, *Pyrrhonorax graculus*

Layer: 8

Date: LP LG Bölling B

Fauna: *Anas platyrhynchos*, *Anas crecca*, *Anas strepera*, *Anas querquedula*, *Aythya fuligula*, *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Perdix perdix*, *Rallus aquaticus*, *Crex crex*, *Gallinago media*, *Scolopax rusticola*, *Calidris alba*, *Rissa tridactyla*, *Asio otus*, *Asio flammeus*, *Strix aluco*, *Dryocopus martius*, *Turdus viscivorus*, *Emberiza citrinella*, *Coccothraustes coccothraustes*, *Fringilla coelebs*, *Pica pica*, *Pyrrhonorax graculus*, *Corvus monedula*

Layer: 9

Date: LP LG Bölling A Magdalenian sup., 14C=13000±300 BP

Fauna: *Anas platyrhynchos*, *Anas crecca*, *Anas strepera*, *Falco subbuteo*, *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Perdix perdix*, *Pluvialis apricaria*, *Gallinago media*, *Scolopax rusticola*, *Limosa limosa*, *Asio otus*, *Asio flammeus*, *Strix aluco*, *Fringilla coelebs*, *Garrulus glandarius*, *Pyrrhonorax graculus*

Layer: 10

Date: LP Dryas I

Fauna: *Aythya fuligula*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Gallinago media*, *Numenius arquata*, *Asio otus*

Det.: Mourer-Chauviré      Stored: Laboratoire de Géologie de l'Université de Grenoble/Muséum d'Histoire naturelle, Grenoble

Notes: A. k. a. Saint Thibaud-de-Couz

### FR120 Grotte de Raymond (Dordogne)

Alt: 100 Type: c

Date: LP

Sources: Gaudry 1890, Lambrecht 1933

Fauna: *Lagopus mutus*, *Nyctea scandiaca*

### FR124 Grotte de Tarté (Haute-Garonne)

Alt: 347 Type: c

Sources: Clot & Mourer-Chauviré 1986, Laroulandie 2004, Mourer-Chauviré 1975a

Date: LP Magdalenian (inferieur?), Perigordien (1986)

Fauna: *Gypaetus barbatus*, *Aquila chrysaetos*

Stored: Muséum d'Histoire naturelle de Bordeaux

Notes: Collection Harlé

Date: LP Aurignacian

Fauna: *Perdix perdix*, *Pyrhcorax graculus*

Det.: Mourer-Chauviré

Date: Unknown

Fauna: *Cygnus* sp.

### FR131 Grotte de la Vache (Ariège)

Alt: 595 Type: c

Sources: Clot & Mourer-Chauviré 1986, Koby 1957a,b, Laroulandie 2000 (Pailhague 1993,1995,1996,1998)

Layer: I

Date: LP LG Magdalenian

Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix?*, *Perdix perdix*, *Pica pica*, *Pyrhcorax graculus*

Layer: II

Date: LP LG Magdalenian 14C=12540±105,11650±200 BP

Fauna: *Ciconia* sp., *Mergus merganser*, *Haliaeetus albicilla*, *Gyps fulvus*, *Aegypius monachus*, *Gypaetus barbatus*, *Lagopus lagopus*, *Lagopus mutus*, *Perdix perdix*, *Corvus corax*, *Pyrhcorax graculus*, *Pyrhcorax pyrrhcorax*

Layer: III

Date: LP LG Magdalenian

Fauna: *Anas platyrhynchos*, *Mergus merganser*, *Buteo buteo*, *Lagopus lagopus*, *Lagopus mutus*, *Perdix perdix*, *Streptopelia turtur*, *Corvus corax*, *Pyrhcorax graculus*, *Pyrhcorax pyrrhcorax*

Layer: IV

Date: LP LG Magdalenian 14C=12850±60 BP

Fauna: *Gypaetus barbatus*, *Lagopus lagopus*, *Lagopus mutus*, *Perdix perdix*, *Bubo bubo*, *Nyctea scandiaca*, *Pica pica*, *Corvus corax*, *Pyrhcorax graculus*, *Pyrhcorax pyrrhcorax*

Det.: Koby

Layer: Salle Monique

Date: LP LG Late Magdalenian - Early Azilian

Fauna: *Anas platyrhynchos*, *Anas clypeata*, *Aythya fuligula*, *Mergus merganser*, *Aquila chrysaetos*, *Lagopus* sp., *Perdix perdix*, *Coturnix coturnix*, *Columbidae* sp., *Nyctea scandiaca*, *Asio otus*, *Picus viridis*, *Turdidae* sp., *Montifringilla nivalis*, *Garrulus glandarius*, *Pica pica*, *Pyrhcorax graculus*, *Pyrhcorax pyrrhcorax*, *Corvus corax*

Det: Pailhague

Stored: Alliat (Ariège) & Musée de Saint Germain en Laye.

### FR145 Abri Sud de la Grotte de la Coscia (Corse)

Type: c

Alt: 6

Sources: Bonifay et al. 1998, Mourer-Chauviré & Weesie 1986, Louchart 2002,2004, Louchart, Bedetti & Pavia 2005, Mourer Chauviré et al. 1997

Layer: 4

Date: LP, Early Würm, ca 60-90 Ka BP

Fauna: *Anser erythropus*, *Anas crecca/querquedula*, *Anas* spp., *Milvus milvus/migrans*, *Haliaeetus/Aquila* sp., *Gyps melitensis*, *Accipiter gentilis*, *Accipiter nisus*, *Buteo lagopus*, *Aquila chrysaetos*, *Aquila* sp., *Falco tinnunculus*, *Falco subbuteo*, *Falco naumanni/vespertinus*, *Falco tinnunculus/columbarius*, *Falco* sp., *Falco peregrinus cyrneus*, *Coturnix coturnix*, *Porzana porzana*, cf *Porzana parva*, *Porzana parva/pusilla*, *Rallus aquaticus/Porzana porzana*, *Crex crex*, *Crex crex/Rallus aquaticus*, *Tetrax tetrax*, *Gallinago gallinago*, *Scolopax rusticola*, cf *Tringa* sp., *Fratercula arctica*, *Columba livia*, *Columba palumbus*, *Streptopelia turtur*, *Otus scops*, *Bubo insularis*, *Asio flammeus/otus*, *Caprimulgus europaeus*, *Apus melba*, *Merops apiaster*,

*Coracias garrulus*, *Dendrocopos major*, Alaudidae sp., cf *Hirundo* sp., *Anthus* sp., *Motacilla* cf *cinerea/alba*, *Luscinia luscinia/megarhynchos*, *Phoenicurus ochruros/phoenicurus*, *Saxicola rubetra/torquata*, *Turdus* cf *iliacus*, *Turdus* cf *viscivorus*, *Turdus* spp., *Meridiocichla salotti*, *Sylvia* cf *atricapilla*, *Muscicapa striata*, *Lanius minor*, *Pyrrhocorax pyrrhocorax*, *Corvus corone*, *Corvus corone/fragilegus*, *Sturnus* sp., *Coccothraustes coccothraustes*, *Emberiza* cf *citrinella*

Layer: 5

Date: LP, Early Würm, ca 60-90 Ka BP

Fauna: *Anas* sp., *Gyps melitensis*, *Porzana parva*, *Asio flammeus/otus*, *Pyrrhocorax pyrrhocorax*, *Corvus corone/fragilegus*, *Sturnus* sp., *Coccothraustes coccothraustes*, *Emberiza* cf *citrinella*

Layer: 6

Date: LP, Early Würm, ca 60-90 Ka BP

Fauna: *Anas* spp., *Aquila* sp., *Falco tinnunculus/columbarius*, *Coturnix coturnix*, *Crex crex*, *Gallinago media*, *Tringa* cf *erythropus*, *Otus scops*, *Asio flammeus*, cf *Hirundo* sp., *Turdus* sp., *Pyrrhocorax pyrrhocorax*, *Corvus corone/fragilegus*

Layer: 7

Date: LP, Early Würm, ca 60-90 Ka BP

Fauna: *Calonectris diomedea*, *Aquila chrysaetos*, *Falco naumanni*, *Falco subbuteo*, *Falco* sp., *Falco peregrinus cyrneus*, *Coturnix coturnix*, *Crex crex*, *Tetrax tetrax*, *Coracias garrulus*, *Dendrocopos major*, *Turdus* sp., *Pyrrhocorax pyrrhocorax*

Layer: Unstratified

Date; Probably LP, Early Würm, ca 60-90 Ka BP

Fauna: *Anas* sp., *Aquila* sp., *Aquila nipaloides*, cf *Falco subbuteo*, *Falco naumanni/vespertinus*, *Falco peregrinus cyrneus*, *Bubo insularis*, *Coracias garrulus*, *Turdus* cf *iliacus*, *Turdus* sp., *Oriolus oriolus*, *Lanius collurio*, *Pyrrhocorax pyrrhocorax*, *Corvus corone/fragilegus*, *Corvus corax*

Det.: Louchart, Mourer-Chauviré, Weesie      Stored: Département des Sciences de la Terre, Lyon

Notes: A. k. a. Grotte de Macinaggio.

#### **FR192 L'Esquicho-Grapaou (Gard)**

Type: c

Sources: Bazile 1985, (Bazile et al 19XX)

Layer: SLC 1A

Date: LP Aurignacian 0 14C=31850±1700, 31950±1300 BP

Fauna: *Haliaeetus albicilla*, *Falco columbarius*, *Perdix perdix*, *Columba livia*, *Pyrrhocorax* sp.

#### **FR213 Pair-non-Pair (Gironde)**

Type: c

Sources: Laroulandie 2004, Mourer-Chauviré 1975a

Date: LP Aurignacian-Solutrean?

Fauna: *Anser anser*, *Branta leucopsis*, *Anas strepera*, *Mergus merganser*, *Aquila chrysaetos*, cf *Gypaetus barbatus*, *Buteo rufinus*, *Accipiter gentilis*, *Falco rusticolus*, *Pluvialis squatarola*, *Charadrius morinellus*, *Larus hyperboreus*, *Corvus monedula*, *Corvus corax*

Det.: Mourer-Chauviré, Laroulandie      Stored: Muséum de Bordeaux

#### **FR243 Toga (Corse)**

Type: c

Sources: Lambrecht 1933, Locard 1872, Louchart 2002, Lydekker 1891b, Newton 1922a

Date: LP or Holocene

Fauna: *Aquila* sp., *Columba livia/oenas*, *Turdus* sp., *Pyrrhocorax pyrrhocorax*

Det.: Lydekker, Newton, Louchart      Stored: BMNH or Muséum d'Histoire Naturelle de Bâle?

#### **FR255 Combe Saunière 1 (Dordogne)**

Type.: c

Sources: Geneste & Plisson 1993, Laroulandie 2000

Layer: IV

Date: LP Late Solutrean 14C=14,890±200-19,630±320 BP

Fauna: *Anser* sp., *Aythya* sp., *Mergus merganser*, Anatidae sp., *Falco peregrinus*, *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus* sp., *Perdix perdix*, *Nyctea scandiaca*, *Athene noctua*, Strigiformes spp., *Pyrrhocorax graculus*, *Corvus monedula*, *Corvus corax*, Passeriformes sp.  
Det: Laroulandie

## GEORGIA

### GE 6 Gvardzhilas-Klde (Imeretia)

Type: c

Sources: Burchak-Abramovich 1966b,1969,1974,1975, Burchak-Abramovich & Bendukidze 1971a, Potapova 2000

Date: LP UP "Magdalenian"

Fauna: *Haliaeetus albicilla*, *Tetrao mlokosiewiczii*, *Gallus gallus*, *Alectoris graeca*, *Perdix perdix*, *Coturnix coturnix*, *Crex crex*, *Turdus merula*, *Pyrrhocorax pyrrhocorax*, *Erythrurus rubicilla*

Det.: Burchak-Abramovich, Potapova

### GE 9 Kudaro 1 (South Ossetia)

Alt: 1600 Type: c

Sources: Baryshnikov & Cherepanov 1985, Burchak-Abramovich 1974,1975,1980a, Burchak-Abramovich & Bendukidze 1971a, Burchak-Abramovich & Burchak 1982, Burchak-Abramovich & Lyubin 1972, Gerasimov 1978, Potapova 2000.

Layer: 1-2

Date: LP Mesolithic

Fauna: *Buteo buteo*, *Phasianus colchicus*, *Dryocopus martius*, *Ptyonoprogne rupestris*

Layer: 3 unstrat.

Date: LP Mousterian

Fauna: *Gypaetus barbatus*, *Aegypius monachus*, *Pyrrhocorax graculus*

Layer: 3a

Date: LP Mousterian 14C=44150±2400 BP

Fauna: *Anas crecca*, *Falco tinnunculus*, *Falco columbarius*, *Tetrao mlokosiewiczii*, *Dryocopus martius*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: 3b

Date: LP Mousterian 14C=441500±2400 BP

Fauna: *Anas clypeata*, *Falco tinnunculus*, *Tetrao mlokosiewiczii*, *Tetraogallus caucasicus*, *Coturnix coturnix*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: 3c

Date: LP Mousterian 14C=44150±2400 BP

Fauna: *Anser anser*, *Falco tinnunculus*, *Tetraogallus caucasicus*, *Tetrao mlokosiewiczii*, *Alectoris chukar*, *Perdix perdix*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Notes: Possibly *Alectoris graeca* instead of *Alectoris chukar*.

Layer: 3/4

Date: LP Mousterian

Fauna: *Pandion haliaetus*, *Falco tinnunculus*, *Tetraogallus cf caucasicus*, *Bubo cf bubo*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: 4

Date: LP Mousterian "Brörup/Amersfoort", IS 5a-d

Fauna: *Anas crecca*, *Aythya nyroca*, *Accipiter nisus*, *Falco tinnunculus*, *Tetrao mlokosiewiczii*, *Alectoris chukar*, *Perdix perdix*, *Columba livia*, *Athene noctua*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Notes: Possibly *Alectoris graeca* instead of *Alectoris chukar*.

Layer: 5a

Date: MP Acheulean IS 8

Fauna: *Aythya ferina*, *Buteo buteo*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco subbuteo*, *Tetrao mlokosiewiczii*, *Tetraogallus cf caucasicus*, *Alectoris chukar*, *Perdix perdix*, *Phasianus colchicus*, *Phasianus* sp., *Apus melba*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Notes: Possibly *Alectoris graeca* instead of *Alectoris chukar*.

Layer: 5b

Date: MP Acheulean IS 9-10

Fauna: *Accipiter gentilis*, *Falco tinnunculus*, *Tetrao mlokosiewiczii*, *Perdix perdix*, *Phasianus colchicus*, *Anthus* sp., *Turdus* sp., *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*

Notes: *Pyrrhocorax graculus* instead of *Pyrrhocorax pyrrhocorax* according to Burchak-Abramovich 1975

Layer: 5c

Date: MP Acheulean 360±90 KA BP, IS 11-12

Fauna: *Tetrao mlokosiewiczii*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*

Layer: 5 undif.

Date: MP Acheulean

Fauna: *Falco tinnunculus*, *Tetrao mlokosiewiczii*, *Phasianus* sp., *Columba livia*, *Strix aluco*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*

Det: Burchak-Abramovich

Notes: The *Gallus* sp. previously reported from this site is actually a *Phasianus* (Potapova 2000).

### GE 13 Mgwimewi (Imeretia)

Type: c

Sources: Burchak-Abramovich 1972, Burchak-Abramovich & Bendukidze 1971a, Ganja & Burchak-Abramovich 1992, Potapova 2000

Date: LP UP Late Würm

Fauna: *Phasianus* sp.

Det.: Burchak-Abramovich, Potapova

### GE 14 Okumi I (Abkhazia)

Type: c

Sources: Baryshnikov & Cherepanov 1985, Burchak-Abramovich 1981, Potapova 1991 (Burchak-Abramovich 1980b)

Date: LP Mousterian-Eneolithic

Fauna: *Anas platyrhynchos*, *Falco tinnunculus*, *Tetrao mlokosiewiczii*, *Phasianus colchicus*, *Turdus pilaris*, *Pyrrhocorax graculus*, Passeriformes sp.

Det.: Burchak-Abramovich

## GREECE

### GR 10 Liko cave (Crete)

Alt: 1            Type: c

Sources: Louchart 2004, Louchart, Bedetti & Pavia 2005, Weesie 1982a, 1987a, b

Layer: a            Date: LP?

Fauna: *Gyps fulvus*, *Accipiter gentilis*, *Buteo buteo*, *Falco tinnunculus*, *Falco subbuteo*, *Falco eleonora*, *Falco peregrinus*, *Glareola* sp., *Scolopax rusticola*, *Columba oenas*, *Columba livia/oenas*, *Columba palumbus*, *Tyto alba*, *Otus scops*, *Athene cretensis*, *Aegolius funereus*, *Apus apus*, *Apus melba*, *Prunella collaris*, *Erithacus rubecula*, *Oenanthe hispanica*, *Meridiocichla salotti*, *Turdus iliacus*, *Turdus* sp., *Muscicapa striata*, *Garrulus glandarius*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corone/fragilegus*, *Fringilla coelebs/montefringilla*, *Carduelis chloris*, *Pyrrhula pyrrhula*, *Coccothraustes coccothraustes*, *Emberiza* sp.

Layer: a/b            Date: LP?

Fauna: *Accipiter gentilis*, *Falco tinnunculus*, *Falco eleonora*, *Scolopax rusticola*, *Columba oenas*, *Columba oenas/livia*, *Columba palumbus*, *Athene cretensis*, *Erithacus rubecula*, *Turdus iliacus*, *Turdus* sp., *Garrulus glandarius*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corone/fragilegus*, *Fringilla coelebs/montefringilla*, *Miliaria calandra*, *Emberiza* spp.

Layer: b            Date: LP?

Fauna: *Columba oenas*, *Tyto alba*, *Athene cretensis*, *Prunella collaris*

Layer: c            Date: LP?

Fauna: *Haliaeetus albicilla*, *Gyps melitensis*, *Buteo buteo*, *Falco eleonora*, *Porzana porzana*, *Scolopax rusticola*, *Columba livia*, *Columba oenas*, *Columba livia/oenas*, *Columba palumbus*, *Tyto alba*, *Otus scops*, *Athene cretensis*, *Aegolius funereus*, *Apus melba*, *Hirundo daurica*, *Erithacus rubecula*, *Monticola solitarius*,

*Meridiocichla salotti*, *Turdus* spp., *Turdus pilaris/viscivorus*, *Garrulus glandarius*, *Pyrrhocorax graculus*, *Corvus monedula*, *Corvus corone/fragilegus*, *Sturnus* sp., *Fringilla coelebs/montefringilla*, *Carduelis chloris*, *Emberiza* sp.

Layer: c/d Date: LP?

Fauna: *Scolopax rusticola*, *Columba livia*, *Columba livia/oenas*, *Tyto alba*, *Athene cretensis*, *Turdus* spp., *Corvus monedula*, *Emberiza* sp.

Layer: d Date: LP?

Fauna: *Aquila chrysaetos*, “*Aquila chrysaetos simurgh*”, *Falco tinnunculus*, *Falco eleonora*, *Porzana porzana*, *Scolopax rusticola*, *Columba livia*, *Columba livia/oenas*, *Columba oenas*, *Tyto alba*, *Athene cretensis*, *Asio flammeus*, *Aegolius funereus*, *Apus apus*, *Calandrella brachydactyla*, *Erithacus rubecula*, *Meridiocichla salotti*, *Turdus* spp., *Turdus viscivorus/pilaris*, *Garrulus glandarius*, *Pyrrhocorax graculus*, *Corvus monedula*, *Sturnus* sp., *Emberiza* sp.

Layer: e Date: LP?

Fauna: *Anas querquedula*, *Columba livia/oenas*, *Athene cretensis*, *Aegolius funereus*, *Turdus* sp., *Miliaria calandra*

Layer: A Date: LP?

Fauna: *Accipiter nisus*, *Coturnix coturnix*, *Scolopax rusticola*, *Columba palumbus*, *Athene cretensis*, *Corvus monedula*

Layer: B Date: LP AAR = 105,000±21,000 BP

Fauna: *Phalacrocorax aristotelis*, *Anas penelope*, *Gypaetus barbatus*, *Accipiter gentilis*, *Accipiter nisus*, *Buteo buteo*, “*Aquila chrysaetos simurgh*”, *Falco tinnunculus*, *Falco subbuteo*, *Falco eleonora*, *Gallinula chloropus*, *Scolopax rusticola*, *Columba oenas*, *Columba livia/oenas*, *Columba palumbus*, *Tyto alba*, *Otus scops*, *Athene noctua*, *Aegolius funereus*, *Caprimulgus europaeus*, *Apus melba*, *Dendrocopos leucotos*, *Hirundo daurica*, *Prunella collaris*, *Oenanthe hispanica*, *Meridiocichla salotti*, *Turdus iliacus*, *Turdus* sp., *Turdus pilaris/viscivorus*, *Garrulus glandarius*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corone/fragilegus*, *Sturnus* sp., *Fringilla coelebs/montefringilla*

Layer: C Date: LP AAR = 105,000±21,000 BP

Fauna: *Corvus monedula*

Layer: D Date: LP AAR = 87,000±17,000 BP

Fauna: *Branta ruficollis*, *Aegyptius monachus*, *Accipiter nisus*, *Buteo buteo*, *Aquila chrysaetos*, *Falco tinnunculus*, *Columba oenas/livia*, *Tyto alba*, *Ketupa zeylonensis*, *Athene cretensis*, *Corvus monedula*, *Corvus corone/fragilegus*

Layer: V Date: LP?

Fauna: *Haliaeetus albicilla*, *Aegyptius monachus*, *Accipiter gentilis*, *Accipiter nisus*, *Buteo buteo*, “*Aquila*” *simurgh*, *Falco tinnunculus*, *Falco eleonora*, *Falco peregrinus*, *Calidris canutus*, *Scolopax rusticola*, *Columba livia*, *Columba livia/oenas*, *Columba palumbus*, *Athene cretensis*, *Apus apus*, *Erithacus rubecula*, *Monticola solitarius*, *Turdus* sp., *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corone/fragilegus*, *Sturnus* sp., *Fringilla coelebs/montefringilla*, *Carduelis chloris*, *Coccothraustes coccothraustes*

Layer: Unstrat. Date: LP?

Fauna: *Branta ruficollis*, *Gyps fulvus*, *Gyps melitensis*, *Accipiter gentilis*, *Falco tinnunculus*, *Scolopax rusticola*, *Columba oenas*, *Columba livia/oenas*, *Columba palumbus*, *Tyto alba*, *Athene cretensis*, *Prunella collaris*, *Turdus* sp., *Garrulus glandarius*, *Corvus monedula*, *Corvus corone/fragilegus*

Det.: Weesie Stored: Institute for Earth Sciences, Utrecht

Note: A. k. a. Likotinarus, Likotinara cave, Kopranou cave.

## HUNGARY

### HU 5 Beremend 16-17 (Villány)

Type: c

Sources: Jánossy 1991,1992,1996, Mlíkovský 2002

Date: EP ca 1 MA BP

Fauna: *Ciconia stehlini*, *Anas crecca percrecca*, *Anas cf acuta*, *cf Anas clypeata*, *Anas cf strepera*, *Falco tinnunculus atavus*, *Tetrao partium*, *Palaeocryptonyx donnezani*, *Francolinus minor*, *Francolinus capeki*, *Francolinus subfrancolinus*, *Coturnix cf coturnix*, *Perdix* sp., *Otis kalmani*, *Otis cf lambrechtii*, *Crex* sp., *Porzana cf porzana*, *Porzana cf parva*, *Gallinula cf chloropus*, *Tringa* sp., *Limosa cf limosa*, *Vanellus cf*

*vanellus*, *Larus* cf *ridibundus*?, *Cursorius* sp.?, *Columba* cf *livia*, *Strix intermedia*, *Asio* sp., *Athene veta*, *Alauda* cf *arvensis*, *Galerida* sp., *Melanocorypha* sp., *Hirundo* sp., *Bombycilla* cf *garrulus*, *Turdus* aff *iliacus*, *Turdus* cf *philomelos*, *Erithacus* sp., *Emberiza* sp., *Carduelis* sp., *Pyrrhula* sp., *Serinus* sp., *Sturnus* cf *vulgaris*, *Pyrrhocorax graculus vetus*, *Garrulus* cf *glandarius*, *Corvus janossyi*  
Det.: Jánossy, Mlíkovský

## **HU 12 Hungária-hegy (Gerecse)**

Type: c  
Sources: Jánossy 1953,1986, Jánossy & Vörös 1987  
Date: MP Late MP, Riss s. I.  
Fauna: *Pica pica*  
Det: Jánossy  
Notes: A. k. a. Dorog, Köszikla, Nagy-Köszikla and Kis-Köszikla

## **HU 46 Somssichhégy 2 (Villány)**

Type: c  
Sources: Jánossy 1981a,1982b,1983,1986  
Date: EP Lower Biharian Templomhegy substage MNQ 20  
Fauna: *Anser subanser*, *Aythya* sp., Anatidae, *Aquila* cf *heliaca*, *Falco tinnunculus atavus*, *Falco* cf *vespertinus*, *Tetrao partium*, *Francolinus capeki*, *Coturnix* cf *coturnix*, *Otis* sp., *Surnia robusta*, *Athene noctua* cf *lunellensis*, *Picus* cf *viridis*, *Dendrocopos submajor*, *Galerida* cf *cristata*, *Hirundo* cf *rustica*, *Sitta* cf *europaea*, Passeriformes  
Det.: Jánossy  
Notes: A. k. a. Somssich hill 2

## **HU 64 Vaskapu (Bükk)**

Alt: 495  
Type: c  
Sources: Mottl 1941, Válóczy 1999 (Kadic & Mottl 1938)  
Layer: Hellbraune-grünlichgraue-rötliche schichte  
Date: LP "Magdalenien II", "Late Würm III, Pilisszanto horizon"  
Fauna: *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus mutus*, *Pyrrhocorax graculus*

## **ISRAEL**

### **IS 11 Hayonim cave (Galilee)**

Alt: 230  
Type: c  
Sources: Bar-Yosef & Tchernov 1966, Munro 1999,2001,2003, Pichon 1984,1989, Stiner 2005, Stiner et al. 1999, Stiner & Munro 2002, Tchernov 1979, 1984  
Layer: B  
Date: LP LG Natufian, c. 10700-12400 BP  
Fauna: *Anser* sp., *Anas platyrhynchos*, *Aquila pomarina*, *Milvus migrans*, *Buteo buteo*, *Falco tinnunculus*, *Falco peregrinus*, *Accipiter nisus*, *Accipiter* cf *gentilis*, *Gyps fulvus*, *Alectoris chukar*, *Coturnix coturnix*, *Phasianus colchicus*, *Crex crex*, *Gallinula chloropus*, *Columba livia*, *Columba palumbus*, *Streptopelia* sp., *Athene noctua*, *Otus scops*, *Tyto alba*, *Asio* sp., *Apus affinis gallelejensis* *Coracias* sp., *Upupa epops*, *Alcedo atthis*, *Alauda arvensis*, *Melanocorypha calandra*, *Galerida cristata*, *Motacilla cinerea*, *Hirundo daurica*, *Hirundo* sp., *Hirundo rustica*, *Garrulus glandarius*, *Pyrrhocorax pyrrhocorax*, *Pica pica*, *Corvus monedula*, *Sturnus vulgaris*, *Sturnus* sp., *Regulus* sp., *Turdus merula*, *Turdus philomelos*, *Monticola* sp., *Oenanthe* spp., *Phoenicurus* sp., *Saxicola torquata*, *Erithacus rubecula*, *Luscinia megarhynchos*, *Luscinia svecica*, *Luscinia* sp., *Sylvia* sp., *Sylvia hortensis*, *Sylvia melanocephala*, *Phylloscopus* sp., *Nectarinia osea*, *Lanius senator*, *Passer domesticus*, *Petronia petronia*, *Carduelis carduelis*, *Carduelis spinus*, *Carduelis cannabina*, *Carduelis chloris*, *Coccothraustes coccothraustes*, *Loxia curvirostra*, *Serinus serinus*, *Miliaria calandra*, *Emberiza caesia*  
Det.: Tchernov



Notes: *Carduelis cannabina* not mentioned by Tchernov 1979

Layer: B

Date: LP LG Natufian c. 11,000-13,000 BP

Fauna: *Anser albifrons*, *Anser anser*, *Tadorna tadorna*, *Anas crecca*, *Anas platyrhynchos*, *Aythya nyroca*, *Aythya fuligula*, *Pandion haliaetus*, *Neophron percnopterus*, *Gyps fulvus*, *Aegypius monachus*, *Accipiter nisus*, *Accipiter gentilis*, *Buteo buteo*, *Buteo rufinus*, *Buteo sp.*, *Aquila pomarina*, *Aquila chrysaetos*, *Falco naumanni*, *Falco tinnunculus*, *Falco subbuteo*, *Perdix perdix*, *Alectoris chukar*, *Coturnix coturnix*, *Phasianus cf colchicus*, *Grus grus*, *Rallus aquaticus*, *Crex crex*, *Porzana porzana*, *Fulica atra*, *Tetrax tetrax*, *Otis tarda*, *Chlamydotis undulata*, *Vanellus vanellus*, *Pterocles alchata*, *Pterocles sp.*, *Columba livia*, *Columba palumbus*, *Streptopelia senegalensis*, *Streptopelia sp.*, *Tyto alba*, *Asio otus*, *Otus scops*, *Athene noctua*, *Strix aluco*, *Apus affinis*, *Alcedo atthis*, *Merops apiaster*, *Coracias garrulus*, *Upupa epops*, *Melanocorypha calandra*, *Melanocorypha cf calandra*, *Alauda arvensis*, *Hirundo rustica*, *Hirundo daurica*, *Motacilla cinerea*, *Motacilla alba*, *Lanius senator*, *Lanius nubicus*, *Troglodytes troglodytes*, *Nectarinia osea*, *Saxicola torquata*, *Oenanthe oenanthe*, *Oenanthe hispanica*, *Monticola solitarius*, *Phoenicurus ochruros*, *Erithacus rubecula*, *Luscinia svecica*, *Luscinia megarhynchos*, *Turdus iliacus*, *Turdus philomelos*, *Turdus merula*, *Turdus sp.*, *Prinia gracilis*, *Sylvia hortensis*, *Sylvia borin*, *Sylvia atricapilla*, *Sylvia melanocephala*, *Phylloscopus collybita*, *Phylloscopus sibilatrix*, *Phylloscopus sp.*, *Regulus regulus*, *Muscicapa striata*, *Remiz pendulinus*, *Parus major*, *Sturnus vulgaris*, *Sturnus sp.*, *Oriolus oriolus*, *Garrulus glandarius*, *Pica pica*, *Corvus monedula*, *Corvus corone*, *Miliaria calandra*, *Emberiza caesia*, *Fringilla coelebs*, *Serinus pusillus*, *Carduelis carduelis*, *Carduelis chloris*, *Carduelis spinus*, *Loxia curvirostra*, *Passer domesticus*, *Passer hispaniolensis*, *Passer sp.*, *Petronia petronia*

Det.: Pichon

Layer: B

Date: LP LG Natufian, c. 11,000-13,000 BP

Fauna: *Anser anser*, *Aquila chrysaetos*, *Buteo buteo*, *Alectoris chukar*, *Coturnix coturnix*, *Fulica atra*, *Columba livia*, *Strigidae sp.*, *Passeriformes sp.*

Layer: B

Date: LP LG Alleröd, Early Natufian

Fauna: *Anser sp.*, *Anas sp.*, *Alectoris chukar*, *Coturnix coturnix*, *Rallus aquaticus*, *Fulica atra*, *Otis tarda*, *Vanellus vanellus*, *Crex crex*, *Grus grus*, *Columba livia*

Layer: B

Date: LP LG Younger Dryas, Late Natufian

Fauna: *Anser sp.*, *Anas sp.*, *Alectoris chukar*, *Coturnix coturnix*, *Rallus aquaticus*, *Fulica atra*, *Tetrax tetrax*, *Otis tarda*, *Crex crex*, *Columba livia*, *Columba palumbus*

Layer: B

Date: LP LG Natufian, ca 12,500-10,700 BP

Fauna: *Anser sp.*, *Anas sp.*, *Aquila chrysaetos*, *Accipiter nisus*, *Buteo buteo*, *Falco tinnunculus*, *Falco subbuteo*, *Gyps fulvus*, *Aegypius monachus*, *Neophron percnopterus*, *Alectoris chukar*, *Coturnix coturnix*, *Rallus aquaticus*, *Fulica atra*, *Otis tarda*, *Tetrax tetrax*, *Vanellus vanellus*, *Crex crex*, *Grus grus*, *Gallinula chloropus*, *Columba livia*, *Columba palumbus*, *Asio otus*, *Athene noctua*, *Tyto alba*, *Otus scops*, *Alauda arvensis*, *Corvus monedula*, *Corvus corone*, *Pica pica*, *Garrulus sp.*

Det.: Munro

Note: 1992 excavation.

Layer: C

Date: LP Kebaran, ca 14,000-17,000 BP

Fauna: *Struthio sp.*, *Columba livia*, *Passer domesticus*

Det.: Tchernov

Layer: D

Date: LP Aurignacian 14C=26,000-28,000 BP

Fauna: *Struthio sp.*, *Passer domesticus*

Det.: Tchernov

Layer: E (upper)

Date: LP Mousterian ca 70-100 KA BP, IS 4-5

Fauna: *Passer domesticus*

Det.: Tchernov

Layer: E (lower)

Date: LP Mousterian

Fauna: *Passer domesticus*

Layer: E2

Date: MP ca 150 KA BP

Fauna: *Struthio sp.*

Layer: E3  
Date: MP ca 170 KA BP  
Fauna: *Struthio* sp.  
Layer: E4  
Date: MP ca 200 KA BP  
Fauna: *Struthio* sp.  
Det.: Tchernov  
Layer: E undifferentiated  
Date: MP ca 70-200 KA BP  
Fauna: *Struthio camelus*, *Alectoris chukar*  
Det: Stiner?

### IS 23 Netiv Hagdud (West Bank)

Alt: -200 Type: o  
Sources: Tchernov 1993a,1994  
Layer: Lower Complex  
Date: LP/Hol PPNA 14C=9600-9780 BP  
Fauna: *Ciconia ciconia*, *Anser albifrons*, *Tadorna tadorna*, *Anas querquedula*, *Anas platyrhynchos*, *Pernis apivorus*, *Milvus migrans*, *Aquila pomarina*, *Aquila* spp., *Alectoris chukar*, *Francolinus francolinus*, *Ammoperdix heyi*, *Coturnix coturnix*, *Otis tarda*, *Streptopelia decaocto*, *Sturnus vulgaris*, *Pica pica*, *Corvus monedula*, *Corvus corone*, *Serinus serinus*  
Layer: Middle Complex  
Date: LP/Hol PPNA 14C=9400-9970 BP  
Fauna: *Leptoptilos crumeniferus*, *Ciconia ciconia*, *Anser albifrons*, *Tadorna tadorna*, *Anas querquedula*, *Anas platyrhynchos*, *Pernis apivorus*, *Milvus migrans*, *Circus* sp., *Accipiter* sp., *Buteo buteo*, *Buteo rufinus*, *Aquila pomarina*, *Aquila* spp., *Falco* spp., *Alectoris chukar*, *Francolinus francolinus*, *Ammoperdix heyi*, *Coturnix coturnix*, *Otis tarda*, *Fulica atra*, *Burhinus oedicephalus*, *Vanellus spinosus*, *Columba livia*, *Streptopelia decaocto*, *Athene noctua*, *Melanocorypha calandra*, *Galerida cristata*, *Pycnonotus xanthopygus*, *Lanius excubitor*, *Turdus merula*, *Pica pica*, *Corvus monedula*, *Corvus ruficollis*, *Corvus rhipidurus*, *Corvus corone*, cf *Fringilla* sp., *Coccothraustes coccothraustes*, *Passer domesticus*  
Layer: Upper Complex  
Date: LP/Hol PPNA 14C=9700 BP  
Fauna: *Ciconia ciconia*, *Tadorna tadorna*, *Anas querquedula*, *Anas platyrhynchos*, *Milvus migrans*, *Circus* sp., *Aquila pomarina*, *Aquila* spp., *Francolinus francolinus*, *Coturnix coturnix*, *Galerida cristata*, *Onychognathus tristrami*, *Sturnus vulgaris*, *Corvus corone*  
Layer: Upper Area  
Date: LP/Hol PPNA 14C=9600-10180 BP  
Fauna: *Anser albifrons*, *Tadorna tadorna*, *Anas querquedula*, *Milvus migrans*, *Buteo buteo*, *Aquila* spp., *Falco* spp., *Francolinus francolinus*, *Coturnix coturnix*, *Otis tarda*, *Corvus corone*  
Det.: Tchernov

## ITALY

### IT 12 + 122 Monte Reale (Sardegna)

Type: o  
Sources: Fischer & Mauersberger 1989, Lydekker 1891b, Milne-Edwards 1867-71, Mlíkovský 1995b, 2000b (Wagner 1832,1833, Studiat 1857)  
Date: MP?  
Fauna: *Tadorna* sp.  
Det: Wagner, Mlíkovský  
Fauna: *Anas* sp., *Passer* sp.  
Stored: Museum für Naturkunde der Humboldt-Universität zu Berlin  
Fauna: *Tyto balearica*  
Det: Mlíkovský  
Stored: Muséum National d'Histoire Naturelle de Paris

Notes: Also known as Cagliari and Monreale. Wagner also reported *Anas* sp., *Aquila* sp., *Buteo* sp., *Sterna* sp., *Strix* sp., *Picus* sp., *Alauda* sp., *Turdus* sp., *Corvus* sp. and *Fringilla* sp. from this site. Furthermore Milne-Edwards (1867-71) reported *Upupa epops* from "brèches de Sardaigne", possibly from this site. A owl similar to *Nyctea scandiaca* probably from this site (Milne-Edwards 1867-71) is presumably *Bubo insularis*.

#### **IT 14 Cala della Calcina (Sardegna)**

Sources: Kotsakis 1980, Louchart 2002, Louchart, Bedetti & Pavia 2005, Malatesta & Suriano 1970

Date: LP Post-Tyrrhenian

Fauna: *Gavia* sp., *Phalacrocorax aristotelis*, *Ardea* sp., *Anser* sp., *Branta* sp., Anatinae sp., *Gypaetus barbatus*, *Aegypius monachus*, *Aquila nipaloides*, *Aquila chrysaetos*, *Aquila* sp., *Milvus milvus*, *Buteo buteo*, *Circus cf cyaneus*, *Falco peregrinus/biarmicus*, *Falco tinnunculus*, *Limosa* sp., *Larus* sp., *Columba livia*, *Tyto alba cf ernestii*, *Bubo insularis*, *Turdus* sp., *Sturnus* sp., *Corvus corax*, *Corvus corone/ frugilegus*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Det.: Cardini, Cassoli, Suriano, Pavia

Stored: Museo di Paleontologia Università "La Sapienza" Roma (MPUR)

Notes: A. k. a. Grotte de Dragonara

#### **IT 21 Cava Panzini a Pontecorvo (Lazio)**

Type: o

Sources: Bedetti 2003, Bidittu & Segre 1982, Cassoli 1978 (Bidittu & Cassoli 1969, Bidittu & Segre 1976-77)

Date: MP IS 9

Fauna: *Anser* sp.

Det.: Bedetti, Cassoli

Notes: A. k. a. Vetrine, Pontecorvo

#### **IT 22 Cava Sud à Soave (Verona)**

Type: c

Sources: Bedetti, 2003, Bedetti & Pavia 2004b, Mourer-Chauviré 1980b

Date: EP middle/late Villafranchien MNQ 19

Fauna: *Branta* sp., *Circaetus gallicus*, *Aquila* sp., *Perdix n. sp.*, *Palaeocryptonyx donnezani*, Galliformes indet., Charadriiformes indet., *Bubo bubo*, *Strix nebulosa*, Strigidae sp., *Alauda arvensis/ Galerida cristata*, Alaudidae indet., *Corvus pliocaenus*, *Carduelis chloris*, Fringillidae indet., *Emberiza* sp.

Det.: Bedetti, Mourer-Chauviré, Pavia

Stored: Museo Civico di Storia Naturale Verona

#### **IT 28 Colle Avarone (Frosinone)**

Type: o

Sources: Bedetti 2003, Bidittu & Segre 1982, Cassoli 1978,1980

Date: MP IS 9?

Fauna: *Anser* sp., *Stercorarius longicaudus*

Det.: Bedetti, Cassoli

Notes: A. k. a. Ceprano a Avarone and Ceprano

Stored: Istituto di Paleontologia Umana

#### **IT 33 Frascati (Lazio)**

Type: o

Sources: Friant 1952, Lambrecht 1933, Palombo et al 2002 (Meli 1889,1892)

Date: LP, 20-70 Ka BP

Fauna: *Gyps fulvus*

Notes: Near km XIX via Anagnina.

#### **IT 36 Grotta Luparello (Palermo)**

Type: c

Alt: 130

Sources: Pavia 2000, 2004, Vaufrey 1929, Wolf 1938-41

Date: MP? "Terre rouge á Elephants"

Fauna: *Cygnus* sp., *Anser* sp., *Branta* sp., *Tadorna tadorna*, *Anas platyrhynchos*, *Anas* sp., *Aythya* sp., *Buteo buteo*, *Accipiter gentilis*, *Aquila* sp., *Gallus gallus*, *Alectoris graeca*, *Coturnix coturnix*, *Scolopax rusticola*, *Cuculus canorus*, *Columba livia/oenas*, *Columba oenas*, *Columba palumbus*, *Tyto mouerchauvireae*, *Bubo bubo*, *Athene trinacriae*, *Monticola saxatilis/solitarius*, *Turdus* sp., *Acrocephalus* sp., *Pyrrhonorax pyrrhonorax*, *Corvus monedula*, *Corvus corone*, *Corvus corax*, Corvidae n. sp., *Sturnus unicolor/vulgaris*, *Carduelis* sp., Passeriformes sp.

Det: Pavia

Stored: Museo Geologico "G. G. Gemmillaro" di Palermo

### IT 39 Grotta Rapaci (Sardegna)

Type: c

Sources: Louchart 2002, Louchart, Bedetti & Pavia 2005, Mourer-Chauviré & Weesie 1986

Date: LP

Fauna: *Ciconia ciconia*, *Anser anser/fabalis*, *Anas* sp., *Gypaetus barbatus*, *Gyps melitensis*, *Accipiter gentilis*, *Buteo buteo*, *Aquila nipaloides*, *Aquila chrysaetos*, *Falco tinnunculus*, *Coturnix coturnix*, *Fulica atra*, Rallidae sp., *Columba livia/oenas*, *Bubo insularis*, *Athene noctua*, *Asio flammeus*, *Apus apus*, *Dryocopus martius*, *Prunella collaris*, *Oenanthe* sp., *Turdus* spp., *Pyrrhonorax graculus*, *Corvus monedula*, *Corvus corax*, *Corvus corone/fragilegus*, Passeriformes sp.

Det.: Louchart, Mourer-Chauviré, Weesie

### IT 40 Grotta Romanelli (Puglia)

Alt: 18 Type: c

Sources: Bartolomei et al. 1979, Blanc 1920, 1928, Cassoli 1972, Cassoli, Gala & Tagliacozzi 2003, Cassoli, Segre & Segre 1979, Cassoli & Tagliacozzi 1994, 1997a, Del Campana 1928, Gál 1999, Gala & Tagliacozzi 2000, Regalia 1904, Stehlin & Graziosi 1935, Tagliacozzi & Gala 2000, 2001, Vaufrey 1928, Wolf 1938-41 (Rovereto 1919)

Layer: A1

Date: LP LG Late Dryas 3 14C (A1+2) 10,320±130, 9,880±100, 11,800±600, 9,050±100 BP

Fauna: *Gavia stellata*, *Gavia arctica*, *Podiceps cristatus*, *Cygnus cygnus*, *Anser fabalis*, *Anser brachyrhynchus*, *Anser albifrons*, *Anser erythropus*, *Anser anser*, *Anser caerulescens*, *Branta leucopsis*, *Branta bernicla*, *Branta ruficollis*, *Tadorna tadorna*, *Anas penelope*, *Anas strepera*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Anas clypeata*, *Aythya ferina*, *Aythya fuligula*, *Melanitta fusca*, *Mergus albellus*, *Haliaeetus albicilla*, *Gyps fulvus*, *Aquila heliaca*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco subbuteo*, *Alectoris graeca*, *Alectoris rufa*, *Coturnix coturnix*, *Fulica atra*, *Grus grus*, *Tetrax tetrax*, *Otis tarda*, *Pluvialis apricaria*, *Numenius phaeopus*, *Larus argentatus*, *Pterocles alchata*, *Streptopelia turtur*, *Tyto alba*, *Otus scops*, *Athene noctua*, *Asio flammeus*, *Apus apus*, *Galerida cristata*, *Turdus iliacus*, *Pica pica*, *Corvus monedula*, *Corvus corone*, *Corvus corax*, *Pyrrhula pyrrhula*

Layer: A2

Date: LP LG Late Dryas 3

Fauna: *Gavia stellata*, *Gavia arctica*, *Podiceps nigricollis*, *Phalacrocorax carbo*, *Cygnus cygnus*, *Anser fabalis*, *Anser brachyrhynchus*, *Anser albifrons*, *Anser erythropus*, *Anser anser*, *Anser caerulescens*, *Branta leucopsis*, *Branta bernicla*, *Branta ruficollis*, *Anas penelope*, *Anas strepera*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Netta rufina*, *Aythya ferina*, *Aythya nyroca*, *Clangula hyemalis*, *Melanitta fusca*, *Circus aeruginosus*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco peregrinus*, *Alectoris rufa*, *Coturnix coturnix*, *Fulica atra*, *Grus grus*, *Tetrax tetrax*, *Otis tarda*, *Vanellus vanellus*, *Numenius phaeopus*, *Pinguinus impennis*, *Pterocles alchata*, *Columba livia*, *Columba oenas*, *Athene noctua*, *Asio otus*, *Asio flammeus*, *Turdus pilaris*, *Pica pica*, *Pyrrhonorax pyrrhonorax*, *Corvus monedula*, *Sturnus vulgaris*

Layer: B

Date: LP LG Late Middle Dryas 3 14C = 11,930±520 BP

Fauna: *Gavia stellata*, *Gavia arctica*, *Podiceps cristatus*, *Podiceps nigricollis*, *Phalacrocorax carbo*, *Cygnus cygnus*, *Anser fabalis*, *Anser brachyrhynchus*, *Anser albifrons*, *Anser erythropus*, *Anser anser*, *Anser caerulescens*, *Branta leucopsis*, *Branta bernicla*, *Branta ruficollis*, *Tadorna tadorna*, *Anas penelope*, *Anas strepera*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Anas clypeata*, *Netta rufina*, *Aythya ferina*, *Aythya nyroca*, *Oxyura leucocephala*, *Gyps fulvus*, *Circus macrourus*, *Accipiter gentilis*, *Aquila heliaca*, *Aquila*

*chrysaetos*, *Falco tinnunculus*, *Falco subbuteo*, *Falco peregrinus*, *Coturnix coturnix*, *Fulica atra*, *Grus grus*, *Grus cf leucogeranus*, *Tetrax tetrax*, *Otis tarda*, *Pluvialis apricaria*, *Pluvialis squatarola*, *Vanellus vanellus*, *Scolopax rusticola*, *Numenius phaeopus*, *Pinguinus impennis*, *Pterocles orientalis*, *Pterocles alchata*, *Columba livia*, *Columba oenas*, *Athene noctua*, *Asio otus*, *Asio flammeus*, *Ptyonoprogne rupestris*, *Turdus viscivorus*, *Pica pica*, *Pyrrhocorax graculus*, *Corvus monedula*, *Corvus corone*, *Sturnus vulgaris*

Layer: C sup.

Date: LP LG Middle Dryas 3 14C (C sup + inf) = 10,390±80, 9,790±80 BP

Fauna: *Gavia stellata*, *Gavia arctica*, *Podiceps cristatus*, *Podiceps nigricollis*, *Phalacrocorax carbo*, *Phalacrocorax aristotelis*, *Pelecanus crispus*, *Nycticorax nycticorax*, *Ardea cinerea*, *Cygnus cygnus*, *Anser fabalis*, *Anser brachyrhynchus*, *Anser albifrons*, *Anser erythropus*, *Anser anser*, *Anser caerulescens*, *Branta leucopsis*, *Branta bernicla*, *Branta ruficollis*, *Anas penelope*, *Anas strepera*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Anas querquedula*, *Anas clypeata*, *Netta rufina*, *Aythya ferina*, *Aythya nyroca*, *Aythya fuligula*, *Clangula hyemalis*, *Melanitta fusca*, *Bucephala clangula*, *Mergellus albellus*, *Mergus serrator*, *Gyps fulvus*, *Aegyptius monachus*, *Circus aeruginosus*, *Accipiter gentilis*, *Buteo lagopus*, *Aquila heliaca*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco vespertinus*, *Falco subbuteo*, *Falco eleonorae*, *Falco peregrinus*, *Alectoris graeca*, *Coturnix coturnix*, *Crex crex*, *Gallinula chloropus*, *Fulica atra*, *Grus grus*, *Grus cf leucogeranus*, *Tetrax tetrax*, *Otis tarda*, *Pluvialis apricaria*, *Pluvialis squatarola*, *Vanellus vanellus*, *Limosa limosa*, *Numenius phaeopus*, *Larus marinus*, *Pinguinus impennis*, *Pterocles alchata*, *Columba livia*, *Columba oenas*, *Tyto alba*, *Bubo bubo*, *Nyctea scandiaca*, *Athene noctua*, *Asio otus*, *Asio flammeus*, *Ptyonoprogne rupestris*, *Hirundo rustica*, *Zoothera dauma*, *Turdus pilaris*, *Turdus iliacus*, *Turdus viscivorus*, *Pica pica*, *Nucifraga caryocatactes*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus frugilegus*, *Corvus corone*, *Corvus corax*, *Sturnus vulgaris*, *Loxia curvirostra*, *Pyrrhula pyrrhula*

Layer: C inf.

Date: LP LG Middle Dryas 3

Fauna: *Gavia stellata*, *Gavia arctica*, *Podiceps cristatus*, *Podiceps nigricollis*, *Puffinus puffinus*, *Phalacrocorax carbo*, *Nycticorax nycticorax*, *Cygnus cygnus*, *Anser fabalis*, *Anser brachyrhynchus*, *Anser albifrons*, *Anser erythropus*, *Anser anser*, *Anser caerulescens*, *Branta leucopsis*, *Branta bernicla*, *Branta ruficollis*, *Tadorna tadorna*, *Anas penelope*, *Anas strepera*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Anas querquedula*, *Anas clypeata*, *Netta rufina*, *Aythya ferina*, *Aythya nyroca*, *Aythya fuligula*, *Melanitta fusca*, *Haliaeetus albicilla*, *Gyps fulvus*, *Aegyptius monachus*, *Circus aeruginosus*, *Accipiter gentilis*, *Aquila heliaca*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco vespertinus*, *Falco subbuteo*, *Falco eleonorae*, *Falco peregrinus*, *Alectoris graeca*, *Coturnix coturnix*, *Crex crex*, *Fulica atra*, *Grus grus*, *Grus cf leucogeranus*, *Anthropoides virgo*, *Tetrax tetrax*, *Otis tarda*, *Pluvialis squatarola*, *Vanellus vanellus*, *Philomachus pugnax*, *Numenius phaeopus*, *Larus marinus*, *Rissa tridactyla*, *Pinguinus impennis*, *Pterocles alchata*, *Columba livia*, *Columba oenas*, *Tyto alba*, *Athene noctua*, *Asio otus*, *Asio flammeus*, *Ptyonoprogne rupestris*, *Turdus pilaris*, *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus frugilegus*, *Corvus corone*, *Corvus corax*, *Sturnus vulgaris*

Layer: D

Date: LP LG Early Dryas 3 14C = 10.640±100 BP

Fauna: *Gavia stellata*, *Gavia arctica*, *Podiceps cristatus*, *Podiceps nigricollis*, *Phalacrocorax carbo*, *Phalacrocorax aristotelis*, *Cygnus cygnus*, *Anser fabalis*, *Anser brachyrhynchus*, *Anser albifrons*, *Anser erythropus*, *Anser anser*, *Anser caerulescens*, *Branta leucopsis*, *Branta bernicla*, *Branta ruficollis*, *Anas penelope*, *Anas strepera*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Anas clypeata*, *Netta rufina*, *Aythya ferina*, *Aythya nyroca*, *Clangula hyemalis*, *Melanitta fusca*, *Gyps fulvus*, *Aegyptius monachus*, *Circus cyaneus*, *Circus macrourus*, *Aquila heliaca*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco subbuteo*, *Falco eleonorae*, *Falco peregrinus*, *Coturnix coturnix*, *Fulica atra*, *Grus grus*, *Grus cf leucogeranus*, *Anthropoides virgo*, *Tetrax tetrax*, *Otis tarda*, *Burhinus oedicephalus*, *Charadrius morinellus*, *Pluvialis apricaria*, *Pluvialis squatarola*, *Vanellus vanellus*, *Numenius phaeopus*, *Numenius arquata*, *Larus marinus*, *Pinguinus impennis*, *Pterocles alchata*, *Columba livia*, *Columba oenas*, *Bubo bubo*, *Athene noctua*, *Asio otus*, *Asio flammeus*, *Turdus viscivorus*, *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus frugilegus*, *Corvus corone*, *Corvus corax*, *Sturnus vulgaris*

Layer: E

Date: LP LG Late Alleröd

Fauna: *Gavia stellata*, *Gavia arctica*, *Podiceps cristatus*, *Phalacrocorax carbo*, *Anser fabalis*, *Anser albifrons*, *Anser erythropus*, *Anser anser*, *Anser caerulescens*, *Branta leucopsis*, *Branta bernicla*, *Branta ruficollis*, *Anas penelope*, *Anas strepera*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Aythya ferina*, *Melanitta fusca*, *Gyps fulvus*, *Circus cyaneus*, *Accipiter gentilis*, *Aquila heliaca*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco subbuteo*, *Alectoris graeca*, *Alectoris rufa*, *Fulica atra*, *Grus grus*, *Grus cf leucogeranus*, *Tetrax tetrax*, *Otis tarda*, *Pluvialis squatarola*, *Vanellus vanellus*, *Numenius phaeopus*, *Columba livia*, *Columba oenas*, *Athene noctua*,

*Asio flammeus, Turdus pilaris, Pyrrhocorax graculus, Pyrrhocorax pyrrhocorax, Corvus monedula, Corvus corone, Corvus corax*

Layer: A-E

Date: LP Alleröd - Dryas 3

Fauna: *Gavia stellata, Gavia arctica, Phalacrocorax carbo, Cygnus cygnus, Anser fabalis, Anser albifrons, Anser erythropus, Anser anser, Branta leucopsis, Branta bernicla, Branta ruficollis, Anas penelope, Anas strepera, Anas crecca, Anas acuta, Aythya ferina, Aquila chrysaetos, Falco tinnunculus, Falco subbuteo, Falco peregrinus, Alectoris graeca, Coturnix coturnix, Grus grus, Grus cf leucogeranus, Tetrax tetrax, Otis tarda, Numenius phaeopus, Columba livia, Columba oenas, Asio flammeus, Apus apus, Pica pica, Pyrrhocorax pyrrhocorax, Corvus monedula, Corvus frugilegus, Corvus corone, Corvus corax, Sturnus vulgaris*

Det: Cassoli, Tagliacozzi, Gala

Layer: ?

Date: LP

Fauna: *Anser anser, Anser cf erythropus, Anser cf albifrons, Anser cf fabalis, Branta bernicla, Branta cf leucopsis, Branta cf ruficollis, Anas platyrhynchos, Anas cf strepera, Anas penelope, Mergus serrator, Fulica atra, Grus grus, Tetrax tetrax, Otis tarda, Pluvialis apricaria, Columba oenas, Turdus pilaris*

Det: Gál

Stored: Hungarian Geological Institute

Layer: G "Terra Rossa"

Date: LP Archaic Mousterian, Middle Würm ca 40-70 Ka BP?

Fauna: *Otis tarda, Tetrax tetrax, Columba livia*

Det: Blanc

Layer: H (lower Stalagmite)

Date: LP Archaic Mousterian, Early Würm ca 70 Ka BP?

Fauna: *Anser albifrons*

Det: Blanc

Layer: I

Date: LP Archaic Mousterian, Early Würm?

Fauna: *Aquila sp., Columba livia, Turdus sp., Corvus corax, Corvus monedula*

Det: Blanc

Layer: G-I "Terra Rossa"

Date: LP Archaic Mousterian, Early Würm?

Fauna: *Anser albifrons, Scolopax rusticola, Nyctea scandiaca, Strix uralensis*

Det: Cassoli

### **IT 53 Grotta del Fossellone (Lazio)**

Type: c

Sources: Alhaique, Biondi et al 1998, Alhaique & Tagliacozzi 2000, Cassoli 1980, Cuisin & Vigne 1998

Layer: 21.

Date: LP Aurignacian

Fauna: *Anser albifrons, Aquila chrysaetos, Gyps fulvus, Alectoris rufa, Alectoris graeca, Alectoris barbara, Alectoris sp., Perdix perdix, Otis tarda, Columba palumbus, Columba sp., Columba livia, Nyctea scandiaca, Strix aluco/Tyto alba, Lullula arborea, Corvus corone, Pyrrhocorax graculus, Pyrrhocorax pyrrhocorax, Turdus merula, Turdus sp.*

Layer: 23-27.

Date: LP Mousterian

Fauna: *Branta bernicla, Perdix perdix, Columba livia, Pyrrhocorax graculus, Fringilla coelebs*

Det: Recchi

Date: LP Mousterian/Aurignacian

Fauna: *Botaurus stellaris, Falco vespertinus, Columba oenas, Bubo bubo, Turdus viscivorus, Corvus monedula*

Det: Cassoli

### **IT 59 Grotta della Madonna (Calabria)**

Type: c

Sources: Cassoli 1972, Cassoli 1980, Cassoli & Tagliacozzi 1994, Tagliacozzo & Gala 2001,2002

Layer: L

Date: LP LG Upper Paleolithic 14C=8735±80-12100±150 BP

Fauna: *Gavia arctica*, *Gavia stellata*, *Podiceps cristatus*, *Tachybaptus ruficollis*, *Botaurus stellaris*, *Cygnus cygnus*, *Anser fabalis*, *Anser albifrons*, *Anser anser*, *Tadorna tadorna*, *Anas penelope*, *Anas strepera*, *Anas platyrhynchos*, *Anas acuta*, *Anas querquedula*, *Aythya ferina*, *Aythya nyroca*, *Aythya fuligula*, *Somateria mollissima*, *Bucephala clangula*, *Mergus merganser*, *Mergus serrator*, *Buteo buteo*, *Fulica atra*, *Larus argentatus*, *Scolopax rusticola*, *Pterocles orientalis*, *Columba livia*, *Pyrhacorax pyrrhacorax*, *Pyrhacorax graculus*

Layer: ?

Date: LP?

Fauna: *Calonectris diomedea*, *Botaurus stellaris*, *Cygnus cygnus*, *Anser albifrons*, *Anas platyrhynchos*, *Anas penelope*, *Netta rufina*, *Aythya ferina*, *Bucephala clangula*, *Mergus merganser*, *Mergus serrator*, *Accipiter gentilis*, *Buteo buteo*, *Aquila chrysaetos*, *Circus cyaneus*, *Circus macrourus*, *Circus aeruginosus*, *Falco subbuteo*, *Falco tinnunculus*, *Tetrao tetrix*, *Lagopus mutus*, *Alectoris graeca*, *Perdix perdix*, *Coturnix coturnix*, *Rallus aquaticus*, *Crex crex*, *Fulica atra*, *Otis tarda*, *Columba livia*, *Columba palumbus*, *Streptopelia turtur*, *Cuculus canorus*, *Otus scops*, *Bubo bubo*, *Athene noctua*, *Strix aluco*, *Asio flammeus*, *Apus apus*, *Coracias garrulus*, *Melanocorypha calandra*, *Ptyonoprogne rupestris*, *Turdus viscivorus*, *Turdus pilaris*, *Fringilla coelebs*, *Pyrhacorax pyrrhacorax*, *Pyrhacorax graculus*, *Corvus monedula*, *Corvus corone*, *Corvus corax*, *Garrulus glandarius*

Det.: Cassoli

Notes: A. k. a. Praia a Mare

### IT 62 Grotta di Cardamone (Puglia)

Type: c

Sources: Botti 1891, Cardini 1961, Cassoli 1980, Lambrecht 1933, Rustioni et al. 1999, Vaufrey 1927,1928, Wolf 1938-41

Date: LP

Fauna: *Anser albifrons*, *Branta bernicla*, *Anas platyrhynchos*, *Anas crecca*, *Mergus merganser*, *Buteo buteo*, *Buteo lagopus*, *Aquila chrysaetos*, *Circus cyaneus*, *Circus macrourus*, *Circus aeruginosus*, *Falco rusticolus*, *Falco subbuteo*, *Falco tinnunculus*, *Otis tarda*, *Calidris canutus*, *Charadrius morinellus*, *Nyctea scandiaca*, *Asio otus*, *Pyrhacorax pyrrhacorax*, *Corvus corone*

Date: LP

Fauna: *Grus grus*, *Otis tarda*, *Columba oenas*, *Strix sp.*, *Corvus corax*

Det.: Blanc?, Botti Stored: Istituto Tecnico di Lecce

Date: LP

Fauna: *Branta bernicla*, *Haliaeetus albicilla*, *Buteo buteo*, *Otis tarda*, *Tetrax tetrax*, *Columba livia/oenas*, *Cuculus canorus minor*, *Bubo bubo*

Det: Pavia

### IT 63 Grotta di Corbeddu (Sardegna)

Alt: 200 Type: c

Sources: Hoofmeijer 1997, Louchart 2002, Louchart, Bedetti & Pavia 2005, Mourer-Chauviré & Weesie 1986, Weesie 1999

Date: LP/Hol 8-15 KA BP

Layer: Salle I

Fauna: *Gyps sp.*, *Aquila chrysaetos*, *Columba palumbus*, *Bubo insularis*

Layer: Salle II

Fauna: *Anser sp.*, *Aquila chrysaetos*, *Aquila nipaloides*, *Bubo insularis*, *Athene noctua*

Layer: Salle III

Fauna: *Accipiter gentilis*, *Aquila chrysaetos*, *Columba livia/oenas*

Layer: Salle IV (Couche 1)

Fauna: *Columba palumbus*, *Bubo insularis*

Layer: Salle IV (Couche 2)

Fauna: *Anser sp.*, *Aquila chrysaetos*, *Aquila nipaloides*, *Scolopax rusticola*, *Otus scops*, *Bubo insularis*

Layer: Salle IV (Couche 3)

Fauna: *Anser sp.*

Layer: Unknown

Fauna: *Aquila sp.*, *Turdus sp.*, Passeriformes small spp.

Det.: Louchart, Mourer-Chauviré, Weesie

#### **IT 74 Ingarano (Foggia)**

Alt: 270 Type: c

Sources: Barbato et al. 1992, Bedetti & Pavia 2007, Pavia 2000, Petronio et al 1996, 2006

Layer: c, d, e

Date: LP IS 3, ca 35-40 KA BP

Fauna: *Aquila chrysaetos*, *Buteo rufinus*, *Circus aeruginosus*, *Falco cherrug*, *Falco columbarius*, *Alectoris graeca*, *Perdix perdix*, *Columba livia*, *Nyctea scandiaca*, *Nyctea scandiaca/Bubo bubo*, *Athene noctua*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus corax*, *Corvus corone*, *Corvus corone/fragilegus*

Det.: Bedetti, Cassoli, Parry, Pavia

Stored: Dipartimento di Scienze della Terra dell'Università "La Sapienza" di Roma

#### **IT 75 Loreto a Venosa (Basilicata)**

Type: o

Sources: Bedetti 2003, Cassoli 1978, 1980

Date: MP Acheulean c. 200-750 KA BP

Upper Levels

Fauna: *Otis tarda*

Lower Levels

Fauna: *Botaurus stellaris*, *Anser anser*, *Branta leucopsis*, *Mergus serrator*, Anatidae sp., *Coturnix coturnix*, *Fulica atra*, Strigidae sp., *Sturnus vulgaris*, Passeriformes sp.

Det.: Bedetti, Cassoli

Notes: layer 2-4: 198-215 KA BP, layer 8-9: 293-311 KA BP, layer 37: Brunhes/Matuyama border (c. 730 KA BP)

Stored: Istituto di Paleontologia Umana

#### **IT 78 Monte Argentario (Toscana)**

Type: c

Sources: Bedetti 2003, Cassoli 1980, Caterini 1921, Portis 1887

Date: EP

Fauna: *Alectoris*, *Columba livia*

Det: Cassoli, Bedetti

Stored: Istituto di Paleontologia Umana.

Date: LP?

Fauna: *Columba oenas*, *Turdus iliacus*

Det.: Del Campana

Notes: A. k. a. Miniera della Polveriera

#### **IT 79 Monte San Giovanni (Sardegna)**

Type: c

Sources: Cassoli 1980, Lambrecht 1933, Louchart 2002, Lydekker 1891b, Newton 1922a

Date: MP

Fauna: *Milvus milvus*, *Aquila* sp., *Aegypius monachus*, *Tyto balearica cyrneichnusae*, Alaudidae sp., *Hirundo* sp., *Turdus* sp., Fringillidae sp.

Det.: Lydekker, Louchart      Stored: BMNH or Muséum d'Histoire Naturelle de Bâle?

#### **IT 83 Monte delle Gioie (Lazio)**

Type: o

Sources: Bedetti 2003, Cassoli 1978, 1980, Taschini 1967

Date: MP (Protopontinian, "Riss II = Nomentana II") IS 7

Fauna: *Phalacrocorax carbo*, *Ciconia ciconia*, *Cygnus olor*, *Cygnus columbianus*, *Cygnus* sp., *Anser albifrons*, *Anser* sp., *Branta leucopsis*, *Anas* sp., *Aythya ferina*, *Grus grus*

Det.: Bedetti, Blanc, Cardini



### IT 85 Notarchirico (Basilicata)

Type: o

Sources: Belli et al. 1991, Cassoli et al. 1999, Piperno 2002

Layer: Upper A-ALFA

Date: MP Acheulean c. 500-650 KA BP

Fauna: *Anser fabalis*, *Anser cf fabalis*, *Anas acuta*, *Anas penelope*, *Anas querquedula*, *Anas clypeata*

Det.: Cassoli

### IT 95 Riparo Salvini (Lazio)

Alt: 35 Type: c

Sources: Bietti 1984a, Recchi 1996

Date: LP LG Final Epigravettian "Bölling/Dryas II" 14C=12,400±170 – 13,365±190 BP

Fauna: *Anser albifrons*, *Branta bernicla*, *Anas acuta*, *Circus cyaneus*, *Perdix perdix*, *Alectoris rufa*, *Coturnix coturnix*, *Columba livia*, *Columba oenas*, *Apus apus*, *Coracias garrulus*, *Asio otus*, *Athene noctua*, *Motacilla cinerea*, *Hirundo rustica*, *Turdus iliacus*, *Turdus merula*, *Turdus philomelos*, *Lanius minor*, *Garrulus glandarius*, *Nucifraga caryocatactes*, *Corvus monedula*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Sturnus vulgaris*, *Fringilla coelebs*, *Carduelis chloris*, *Coccothraustes coccothraustes*

Det.: Recchi, Cassoli

### IT 97 Riparo di Fumane (Verona)

Alt: 470 Type: c

Sources: Bartolomei et al. 1994, Bon et al. 1991, Cassoli & Tagliacozzi 1992a,c,1994a,b, Fiore et al. 2004

Layer: D1d-e

Date: LP Aurignacian (base D1d) Gravettian/Epigravettian (D1d)

Fauna: *Buteo lagopus*, *Circus pygargus*, *Falco tinnunculus*, *Falco subbuteo*, *Tetrao tetrax*, *Coturnix coturnix*, *Crex crex*, *Nyctea scandiaca*, *Asio otus*, *Aegolius funereus*, *Turdus viscivorus*, *Pyrrhocorax graculus*, *Carduelis chloris*, *Montifringilla nivalis*

Layer: D1-1c

Date: LP Aurignacian

Fauna: *Anas platyrhynchos*, *Buteo lagopus*, *Aquila chrysaetos*, *Circus pygargus*, *Falco tinnunculus*, *Falco subbuteo*, *Falco columbarius*, *Tetrao tetrax*, *Crex crex*, *Scolopax rusticola*, *Asio otus*, *Ptyonoprogne rupestris*, *Turdus pilaris*, *Pica pica*, *Pyrrhocorax graculus*, *Corvus monedula*, *Loxia curvirostra*, *Montifringilla nivalis*

Layer: D3-2

Date: LP Aurignacian 14C=31700+1200-1100, 32300±400 BP (D3b)

Fauna: *Falco vespertinus*, *Falco tinnunculus*, *Falco subbuteo*, *Falco columbarius*, *Tetrao tetrax*, *Coturnix coturnix*, *Crex crex*, *Strix aluco*, *Asio otus*, *Turdus viscivorus*, *Pyrrhocorax graculus*, *Montifringilla nivalis*

Layer: D6-3

Date: LP Aurignacian 14C=31700+1200-1100, 32300±400 BP (D3b)

Fauna: *Anas querquedula*, *Buteo lagopus*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco subbuteo*, *Falco columbarius*, *Tetrao tetrax*, *Coturnix coturnix*, *Crex crex*, *Actitis hypoleucos*, *Tringa glareola*, *Asio otus*, *Turdus viscivorus*, *Nucifraga caryocatactes*, *Pyrrhocorax graculus*, *Corvus monedula*, *Carduelis cannabina*, *Montifringilla nivalis*

Layer: D7-6

Date: LP Aurignacian 14C=32300±500 BP (D6)

Fauna: *Buteo lagopus*, *Aquila chrysaetos*, *Falco vespertinus*, *Falco tinnunculus*, *Falco subbuteo*, *Falco columbarius*, *Tetrao tetrax*, *Coturnix coturnix*, *Rallus aquaticus*, *Crex crex*, *Actitis hypoleucos*, *Asio otus*, *Eremophila alpestris*, *Turdus viscivorus*, *Pyrrhocorax graculus*, *Corvus monedula*, *Loxia curvirostra*, *Pyrrhula pyrrhula*, *Montifringilla nivalis*

Layer: A2-1

Date: LP Aurignacian 14C=40 000+4000-3000, 36500±600, 31600±400, 32800±400, 32100±500 BP (A2), 31900±500 BP (A1)

Fauna: *Buteo lagopus*, *Falco vespertinus*, *Falco tinnunculus*, *Falco subbuteo*, *Tetrao tetrax*, *Lagopus mutus*, *Perdix perdix*, *Rallus aquaticus*, *Crex crex*, *Scolopax rusticola*, *Vanellus vanellus*, *Columba oenas*, *Strix aluco*, *Asio otus*, *Dendrocopos leucotos*, *Lullula arborea*, *Ptyonoprogne rupestris*, *Turdus viscivorus*, *Turdus pilaris*, *Pica pica*, *Garrulus glandarius*, *Nucifraga caryocatactes*, *Pyrrhocorax graculus*, *Corvus monedula*, *Loxia pytyopsittacus*, *Montifringilla nivalis*

Layer: A3

Date: LP Aurignacian

Fauna: *Falco tinnunculus*, *Falco subbuteo*, *Tetrao tetrix*, *Lagopus mutus*, *Perdix perdix*, *Coturnix coturnix*, *Crex crex*, *Asio otus*, *Nucifraga caryocatactes*, *Pyrrhocorax graculus*, *Pyrrhula pyrrhula*, *Montifringilla nivalis*

Layer: A4I-4

Date: LP Uncertain (transitional MP/UP, Uluzzian?) industry

Fauna: *Tetrao tetrix*, *Alectoris graeca*, *Perdix perdix*, *Crex crex*, *Pyrrhocorax graculus*

Layer: A4II

Date: LP Mousterian

Fauna: *Tetrao tetrix*, *Perdix perdix*, *Crex crex*, *Scolopax rusticola*, *Asio otus*, *Pica pica*, *Pyrrhocorax graculus*

Layer: A6-5

Date: LP Mousterian, TL (A6) = 50±8 KA BP, C14 (A5+A6) = 38,250±700, 38,800±750 BP

Fauna: *Falco vespertinus*, *Falco subbuteo*, *Tetrao tetrix*, *Lagopus cf mutus*, *Crex crex*, *Scolopax rusticola*, *Oriolus oriolus*, *Pyrrhocorax graculus*, *Corvus corax*

Layer: A7

Date: LP Mousterian

Fauna: *Tetrao tetrix*, *Pyrrhocorax graculus*

Layer: A9-8

Date: LP Mousterian

Fauna: *Tetrao tetrix*, *Alectoris graeca*, *Pyrrhocorax graculus*

Layer: A10

Date: LP Mousterian

Fauna: *Falco subbuteo*, *Tetrao tetrix*, *Pyrrhocorax graculus*

Layer: A11

Date: LP Mousterian

Fauna: *Tetrao tetrix*, *Crex crex*, *Recurvirostra avosetta*, *Pyrrhocorax graculus*

Layer: A13-12

Date: LP Mousterian

Fauna: *Aquila chrysaetos*, *Lagopus cf mutus*, *Turdus viscivorus*, *Pyrrhocorax graculus*

Notes: *Hystrix* present

Layer: Rim

Date: LP (unstratified)

Fauna: *Aythya ferina*, *Alectoris graeca*, *Pyrrhocorax graculus*

Layer: BR12-1

Date: LP Mousterian, TL (BR11) = 57±8 KA BP, (BR12) = 55±7 KA BP

Fauna: *Aquila chrysaetos*, *Falco vespertinus*, *Tetrao tetrix*, *Perdix perdix*, *Crex crex*, *Asio otus*, *Turdus viscivorus*, *Pyrrhocorax graculus*, *Corvus monedula*

Layer: S9-1

Date: LP Mousterian, TL (S7) = 79±13 KA BP

Fauna: *Falco tinnunculus*, *Falco eleonora*, *Tetrao tetrix*, *Perdix perdix*, *Crex crex*, *Ptyonoprogne rupestris*, *Pica pica*, *Pyrrhocorax graculus*, *Montifringilla nivalis*, *Loxia curvirostra*

Det.: Cassoli, Gala

Notes: A. k. a. Abri de Fumane.

### IT 105 Contrada Tabuna (Ragusa)

Type: c

Sources: Cassoli 1980, Pavia 2000

Date: MP "*Elephas falconeri* faunal complex"

Fauna: Anatidae indet., *Pterocles alchata*, *Tetrax tetrax*

Det: Cassoli, Pavia

note: A. k. a. Tabuna a Ragusa

Stored: Museo Civico di Storia Naturale di Comiso

### IT 113 Torre in Pietra (Lazio)

Type: o

Sources: Bedetti 2003, Cassoli 1978,1980

Layer: d

Date: MP "Mousterian" IS 7

Fauna: *Phalacrocorax carbo*, *Anser fabalis*, *Anser albifrons*, *Anas platyrhynchos*, *Anas acuta*, *Aythya nyroca*, *Pandion haliaetus*, *Perdix perdix*, *Crex crex*, *Turdus pilaris*, *Turdus iliacus*, *Turdus merula*, *Nucifraga caryocatactes*

Layer: m

Date: MP Acheulean "Kataglacial Riss I" IS 9 K/Ar = 431-438 KA BP

Fauna: *Anas platyrhynchos*, *Aythya nyroca*

Det.: Bedetti, Cassoli

### IT 118 Vitinia (Lazio)

Type: o

Sources: Bedetti 2001, 2003, Caloi et al. 1983

Layer: e

Date: MP Late MP, IS 9?

Fauna: *Podiceps grisegena*, *Ardea purpurea*, *Anser* sp., *Branta ruficollis*, *Anas platyrhynchos*, *Anas clypeata*, *Somateria mollissima*, *Mergus serrator*, *Fulica atra*, *Gallinago* sp., *Sturnus vulgaris*, *Pyrrhula pyrrhula*

Det.: Cuggiani, Cassoli, Bedetti

Stored: Museo di Paleontologia dell'Università di Roma, Vertebrati (MPUR/V)

Notes: A. k. a. Quartaccio quarry

### IT 119 Abri Soman (Verona)

Type: c

Sources: Cassoli & Tagliacozzi 1992b, Tagliacozzo & Cassoli 1994

Layer: Phase I

Date: LP Epigravettian, Dryas II-Alleröd (14C=11880±170-10370±110 BP)

Fauna: *Tetrao tetrix*

Layer: Phase II

Date: LP Epigravettian, Dryas III (14C=11880±170-10370±110 BP)

Fauna: *Aquila chrysaetos*, *Coturnix coturnix*

Det: Cassoli

Notes: A. k. a. Riparo di Soman.

### IT 123 Spinagallo (Sicilia)

Type: c

Alt: 120

Sources: Pavia 1999, 2000, 2004, 2007

Date: MP, c. 500 KA BP (AAR date) (OIS 6-22)

Fauna: *Geronticus eremita*, *Anser erythropus*, *Branta* cf *ruficollis*, *Anas crecca/querquedula*, *Anas penelope*, *Marmaronetta angustirostris*, *Accipiter gentilis*, *Accipiter nisus*, *Falco tinnunculus*, *Falco subbuteo*, *Falco eleonorae*, *Falco columbarius*, *Coturnix coturnix*, *Rallus aquaticus*, *Grus melitensis*, *Recurvirostra avosetta*, *Scolopax rusticola*, *Larus minutus*, *Larus ridibundus*, *Cuculus canorus*, *Columba livia/oenas*, *Columba palumbus*, *Streptopelia turtur*, *Tyto mouerchauvireae*, *Otus scops*, *Athene trinacriae*, *Aegolius martaie*, *Caprimulgus* cf *europaeus*, *Apus melba*, *Apus apus/pallidus*, *Dendrocopos leucotos*, *Picus viridis*, *Calandrella brachydactyla*, *Lullula arborea*, *Hirundo daurica/rustica*, *Anthus* sp., *Prunella modularis*, *Erithacus rubecula*, *Oenanthe* cf *hispanica*, *Monticola saxatilis/solitarius*, *Turdus* sp., *Sylvia* sp., *Phylloscopus sibilatrix/collybita*, *Lanius senator*, *Pica pica*, *Pyrrhocorax graculus*, *Corvidae* n. sp., *Sturnus unicolor/vulgaris*, *Petronia petronia*, *Fringilla coelebs/montifringilla*, *Serinus* sp., *Carduelis chloris*, *Carduelis* sp., *Pyrrhula pyrrhula*, *Coccothraustes coccothraustes*, *Emberiza* spp.

Stored: Dipartimento di Scienze della Terra (Università "La Sapienza") di Roma.

Det: Pavia

## JAPAN

### JA 3 Gohezu-dou fissure (Iejima)

Sources: Rich et al. 1986, Matsuoka 2000  
Date: LP  
Fauna: *Corvus macrorhynchos*, *Corvus connectens*  
Stored: Okinawa Prefectural Museum  
Notes: A. k. a. Gohezudu.

#### **JA 9 Minatogawa (Okinawa)**

Sources: Hasegawa 1980, Rich et al. 1986, Matsuoka 1998, 2000  
Date: LP 14C=9,865±35-18250±650 BP  
Fauna: *Nycticorax caledonicus*, Ardeidae sp., *Anser anser*, *Anas falcata*, *Buteo buteo*, *Gallirallus okinawae*, *Porzana fusca*, *Scolopax mira*, *Columba janthina*, *Treron formosae*, Columbidae sp., *Otus bakkamoena*, *Hypsipetes amaurotis*, cf *Zoothera major*, *Turdus pallidus*, Turdinae sp., *Garrulus lidhi*, *Corvus connectens*  
Stored: Okinawa Prefectural Museum, Seiho Oyama pers. coll., National Science Museum, Tokyo

#### **JA 10 Nojiri-ko (Nagano)**

Alt: 645  
Type: o  
Date: LP, 11,000-53,000 BP  
Sources: Kondo & Mazima 2001, Ono 1980a,b, Rich et al. 1986  
Fauna: *Phalacrocorax cf carbo*, *Anser fabalis*, *Phasianus soemmerringii*  
Notes: A. k. a. Tategahana

#### **JA 12 Pinza-abu (Miyako)**

Type: c  
Sources: Matsuoka 2000, Rich et al. 1986, Ono & Hasegawa 1985a  
Date: LP 14C = 25,800±900, 26,800±1,300 BP  
Fauna: *Phalacrocorax filamentosus*, *Anser anser*, *Aix galericulata*, *Buteo buteo*, *Butastur indicus*, *Haliaeetus cf pelagicus*, *Coturnix japonica*, *Exfalcatoria chinensis*, *Grus* sp. nov., *Turnix suscitator*, *Rallus aquaticus*, *Rallus* sp. nov., *Porzana fusca*, *Scolopax mira*, Scolopacidae sp., *Columba janthina*, *Streptopelia orientalis*, Strigidae sp., *Hypsipetes amaurotis*, cf *Zoothera major*, *Turdus pallidus*, Sylviinae sp., Emberizidae sp., *Corvus macrorhynchus*, *Corvus connectens*  
Det: Matsuoka  
Stored: National Science Museum, Tokyo

#### **JA 13 Shimojibaru-do (Okinawa)**

Type: c  
Sources: Matsuoka 2000, Ono et al. 1982, Rich et al. 1986  
Date: LP, 14C = 15,200±100 BP  
Fauna: *Anas acuta*, *Erithacus* sp., Turdinae sp.  
Stored: Okinawa Prefectural Museum  
Notes: A. k. a. Shimojibaru cave and Shimojibaru-dou cave. On Kume island SW Okinawa.

#### **JA 18 Yage (Shizuoka)**

Sources: Rich et al. 1986, Tomida 1978, Nojima 2002  
Layer: Upper Date: LP Würm  
Fauna: *Phasianus colchicus versicolor*  
Layer: Unknown Date: MP/LP "Mindel/Riss" - Würm  
Fauna: *Haliaeetus cf pelagicus*, *Spizaetus cf nipalensis*, *Gyps* sp., *Phasianus cf colchicus*

#### **LEBANON**

### LI 3 Saaidé II (Béqaa valley)

Alt: 1035 Type: o

Sources: Schroeder 1991, Churcher 1994

Date: LP LG Natufian

Fauna: *Anser anser/albifrons*, *Anas acuta*, *Anas crecca*, *Netta rufina*, *Aquila cf heliaca.*, *Otis tarda*, *Columba cf livia*

Det: Churcher

## MALTA

### MA 1 Bnghisa gap

Type: c

Sources: Borg 1999, Lambrecht 1933, (Despott 1929)

Fauna: *Cygnus equitum*, *Cygnus falconeri*, *Branta leucopsis*, *Gyps melitensis*, *Tetrax tetrax*

Det.: Lambrecht, Bate

### MA 4 Ghar Dalam

Type: c

Sources: Bate 1916b,1920, Borg 1999, Fischer & Stephan 1974, Lambrecht 1933, Northcote 1992, Olson 1976, Savona-Ventura & Mifsud 1998, Vaufrey 1929, Wolf 1938-41 (Despott 1925,1927, Caton-Thompson 1923)

Layer: VI-VII, "Hippopotamus layer" Date: MP?, U/Th = 115±10 KA BP, ESR = 180 KA BP

Fauna: *Anas acuta*, *Coturnix coturnix*, *Alectoris cf graeca*, *Tyto alba*, *Otus scops*, *Hirundo sp.*, *Turdus sp.*, *Sturnus vulgaris*, *Carduelis chloris*, *Coccothraustes coccothraustes*

Det.: Fischer & Stephan

Notes: *Scolopax ghardalamensis* redetermined as *Coturnix coturnix* by Olson (1976).

Layer: IVb-c-Va-b, "Cervus" or *Pitymys melitensis* layer Date: LP

Fauna: *Coturnix coturnix*, *Turdus sp.*, cf *Amandava amandava*, *Corvus cf frugilegus*

Det.: Fischer & Stephan

Notes: *Scolopax ghardalamensis* redetermined as *Coturnix coturnix* by Olson (1976).

Layer: Unstratified

Fauna: *Cygnus sp.*, *Cygnus cygnus*, *Cygnus falconeri*, *Cygnus equitum*, *Anser fabalis*, *Anser sp.*, *Branta bernicla*, *Branta leucopsis*, *Tadorna ferruginea*, *Tadorna tadorna*, *Anas sp.*, *Aythya ferina*, *Marmaronetta angustirostris*, *Gyps melitensis*, *Hieraaetus fasciatus*, *Columba sp.*, *Grus grus*, *Grus melitensis*, *Otis tarda*, *Tetrax aff tetrax*, *Strix melitensis*, *Asio flammeus*, *Strix aluco*, *Turdus cf merula*, *Turdus philomelos?*, *Corvus cf frugilegus*, *Corvus cf corone*, *Corvus corax?*

Det.: Lambrecht, Bate, Lydekker? Stored: BMNH, National Museum of Natural History, Malta

Notes: A. k. a. Har Dalam. Lambrecht's record of *Gyps melitensis* from this site is erroneous according to Brodkorb (1964), but is listed by Borg (1999).

### MA 8 Tal Herba fissure

Type: c

Sources: Borg 1999, Lambrecht 1933, Northcote 1992

Fauna: *Cygnus equitum*, *Cygnus falconeri*, *Cygnus sp.*, *Gyps melitensis*, *Accipiter nisus*, *Aquila chrysaetos*, *Circus aeruginosus*, *Columba cf livia*, *Columba palumbus*, *Asio flammeus*

Stored: BMNH

Notes: A. k. a. Tal Ghaqba.

### MA 9 Tal-Gnien

Type: c

Sources: Borg 1999, Harrison 1979a, Northcote 1983,1985,1992

Date: LP?

Fauna: *Cygnus cygnus*, *Cygnus falconeri*, *Cygnus equitum*, *Anser small sp.*, *Aquila chrysaetos*, *Grus grus*, *Grus melitensis*

Stored: BMNH

### MA 10 Zebbug Cave

Type: c

Sources: Borg 1999, Lambrecht 1933, Lydekker 1890,1891, Northcote 1985,1992, Parker 1869, Wolf 1938-41 (Despott 1927, Parker 1865)

Fauna: *Cygnus cygnus*, *Cygnus falconeri*, *Cygnus olor*, *Cygnus equitum*, *Branta bernicla?*, *Anas sp.?*, *Gyps melitensis*, *Grus grus*, *Grus melitensis*, *Tyto melitensis?*

Stored: BMNH

Notes: A. k. a. Jebbug

## MOLDOVA

### MO 1 Brynseny I

Type: c

Sources: Burchak-Abramovich 1975, Ganya 1965,1969, Ganya & Ketraru 1965, Mlíkovský 2001 (Ganya 1972)

Layer: Upper

Date: LP UP "Szeletian" 14C=14,700-26,600 BP

Fauna: *Anser fabalis*, *Anser sp.*, *Falco tinnunculus*, *Buteo lagopus*, *Lagopus lagopus*, *Tetrao tetrax*, *Perdix perdix*, *Gallus sp.*, *Tetrax tetrax*, *Asio sp.*, *Otus scops*, *Turdus sp.*, *Corvus monedula*, *Garrulus glandarius*, *Coccothraustes coccothraustes*

Layer: Middle

Date: LP UP "Szeletian" 14C=14,700-26,600 BP

Fauna: *Aythya nyroca*, *Falco tinnunculus*, *Falco sp.*, *Aquila chrysaetos*, *Lagopus lagopus*, *Tetrao tetrax*, *Coturnix coturnix*, *Tetrax tetrax*, *Galerida cristata*, *Corvus monedula*, *Corvus sp.*, *Garrulus glandarius*

Layer: Lower

Date: LP UP "Szeletian" 14C=14,700-26,600 BP

Fauna: *Anser anser*, *Anas sp.*, *Anas platyrhynchos*, *Falco peregrinus*, *Falco vespertinus*, *Falco tinnunculus*, *Falco sp.*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrax*, *Perdix perdix*, *Coturnix coturnix*, *Tetrax tetrax*, *Asio flammeus*, *Melanocorypha calandra*, *Turdus viscivorus*, *Lanius collurio*, *Corvus sp.*, *Corvus monedula*, *Corvus corax*, *Pica pica*

Det.: Voinstvenskii, Umanskaya

Notes: A. k. a. Brinzeni, Brynzeny.

### MO 5 Brynseny II

Type: c

Sources: Burchak-Abramovich & Lakerbai n. d., Ganya 1969

Date: LP UP "Szeletian"

Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrax*, *Coturnix coturnix*

Det: Ganya

## MONTENEGRO

### MN 2 Malisina stijena

Alt: 800 Type: c

Sources: Bogicevic & Dimitrijevic 2004, Gál, Dimitrijevic & Kessler 2003, Malez 1983a,1988b, Malez, Malez & Paunovic 1988

Date: LP LG Bölling or later

Fauna: *Anas sp.*, *Falco sp.*, *Lagopus mutus*, *Lagopus lagopus*, *Alectoris graeca*, *Gallinago gallinago*, *Larus sp.*, *Turdus merula*, *Pyrrhocorax graculus*

Det: Malez

Date: LP, Late Palaeolithic

Layer: 1

Fauna: *Anas querquedula*, *Lullula arborea*, *Anthus cf campestris*, *Fringilla montefringilla*, *Carduelis chloris*

Date: LP, Late Palaeolithic

Layer: 2

Fauna: aff *Phalacrocorax pygmaeus*, *Anas querquedula*, *Anas crecca*, *Aythya nyroca*, Anseriformes indet., *Falco cf vespertinus*, *Falco cf columbarius*, *Falco cf subbuteo*, *Falco sp.*, *Lagopus lagopus*, *Hirundo cf daurica*, *Lanius collurio*, *Pica pica*, *Turdus merula*, *Turdus cf iliacus*, *Sturnus vulgaris*, *Pyrrhula pyrrhula*

Date: LP, Late Palaeolithic, 14C = 13,780±140 BP

Layer: 3b

Fauna: *Anas querquedula*, *Falco columbarius*, *Lagopus lagopus*, *Sturnus vulgaris*, Passeriformes sp.

Date: LP, Mousterian, 14C >38,000 BP

Layer: 9

Fauna: *Anas sp.*

Date: LP, Mousterian

Layer: 14

Fauna: *Pyrrhocorax graculus*

Date: LP, Mousterian

Layer: 15

Fauna: *Corvus frugilegus*

Det: Gál, Kessler

## NETHERLANDS

### NE 1 Bunde (Limburg)

Delete site, probably Late Holocene (Clason 1968, Meijer in litt.).

### NE 2 Maastricht-Belvédère (Limburg)

Type: o

Sources: van Kolfschoten 1985, 1993

Layer: 4B-C Date: Late MP Belvedere interglacial (IS 7?)

Fauna: cf *Anas platyrhynchos*

Layer: 5 Date: Late MP IS 6?

Fauna: *Nyctea scandiaca*

Det.: Weesie

## PORTUGAL

### PG 2 Grotte de Furninha (Leiria)

Type: c

Sources: Harlé 1909,1911, Lambrecht 1933, Roche 1972, Villalta 1964, Wolf 1938-41

Date: LP

Layer: 4 m

Fauna: *Pyrrhocorax pyrrhocorax*

Layer: 4.50 m

Fauna: *Phalacrocorax aristotelis*, *Tadorna tadorna*, *Anas crecca*, *Pyrrhocorax pyrrhocorax*

Layer: 6 m

Fauna: *Tadorna tadorna*, *Columba livia*, *Pica cf pica*, *Pyrrhocorax pyrrhocorax*

Layer: 7 m

Fauna: *Calonectris diomedea*, *Cygnus cf olor*, *Tadorna tadorna*, *Melanitta nigra*, *Asio flammeus*, *Turdus philomelos*, *Turdus iliacus*, *Turdus pilaris*, *Corvus cf monedula*, *Pica cf pica*, *Pyrrhocorax pyrrhocorax*

Layer 7.50 m

Fauna: *Tadorna tadorna*, *Alectoris rufa*, *Perdix cf perdix*, *Bubo bubo*, *Turdus philomelos*, *Corvus cf corone*, *Pyrrhocorax pyrrhocorax*

Layer: 8.80 m

Fauna: *Tadorna tadorna*, *Corvus cf monedula*, *Pyrrhocorax pyrrhocorax*

Layer: 9.30 m

Fauna: *Tadorna tadorna*

Det: Newton

### PG 3 Gruta da Figueira Brava (Setúbal)

Alt: 5 Type: c

Sources: Mourer-Chauviré & Antunes 1991,2000

Layer: 2

Date: LP Mousterian 14C=30,930±700 BP, U/Th=30,561+10,726-11759, 44,806+13,959,-15,889 BP

Fauna: *Gavia stellata*, *Podiceps nigricollis*, *Puffinus holeae*, *Anas platyrhynchos*, *Melanitta nigra*, *Melanitta fusca*, *Clangula hyemalis*, *Aquila chrysaetos*, *Hieraetus fasciatus*, *Accipiter nisus*, *Milvus migrans*, *Falco cf tinnunculus*, *Alectoris rufa*, *Grus primigenia*, *Numenius phaeopus*, *Calidris canutus*, *Larus fuscus*, *Pinguinus impennis*, *Columba palumbus*, *Bubo bubo*, *Athene noctua*, *Pyrrhocorax pyrrhocorax*, Passeriformes sp.

Layer: 3

Date: LP Mousterian

Fauna: *Puffinus holeae*, *Sula bassana*, *Anas platyrhynchos*, *Melanitta nigra*, *Aquila chrysaetos*, *Milvus migrans*, *Alectoris rufa*, *Scolopax rusticola*, *Pyrrhocorax pyrrhocorax*

Layer: 4

Date: LP Mousterian

Fauna: *Puffinus holeae*, Passeriformes sp.

Det.: Mourer-Chauviré

## ROMANIA

### RM 2 Betfia (Bihor)

Type: c

Sources: Gál 2000, 2001, Jánossy 1972a,1976c,1977a,1978,1979,1980,1985, Jurcsák & Kessler 1973,1986, Kessler 1975,1977b,1978a,1985, Kormos 1911, Kretzoi 1941, 1961a, Mlíkovský 2002, Wolf 1938-41 (Capek 1917)

Layer: Loc. 1 Date: EP, "Waalian" c. 1.3 MA BP

Fauna: *Tetrao partium*

Det.: Jánossy

Layer: Loc. 2 Date: EP MNQ 19, "Waalian" c. 1.3 MA BP

Fauna: *Pelargosteon tothi*, *Anas aff acuta*, *Anas aff clypeata*, *Anas aff querquedula*, *Anas cf crecca*, *Anas cf strepera*, *Aythya cf nyroca*, *Falco tinnunculus atavus*, *Tetrao partium*, *Francolinus capeki*, *Perdix perdix jurcsáki*, *Otis kalmani*, *Crex cf crex*, *Gallinago cf media*, *Limosa aff limosa*, *Bubo aff bubo*, *Asio aff flammeus*, *Glaucidium cf passerinum*, *Caprimulgus capeki*, *Dendrocopos cf media*, *Jynx cf torquilla*, *Alauda cf arvensis*, *Hirundo sp.*, *Motacilla alba*, *Saxicola cf torquata*, *Turdus cf viscivorus*, *Turdus cf merula*, *Turdus cf philomelos*, *Acrocephalus cf palustris*, *Sylvia cf communis*, *Hippolais sp.*, *Parus cf lugubris*, *Parus cf major*, *Aegithalos cf caudatus*, *Certhia cf familiaris*, *Pyrrhocorax aff graculus*, *Corvus aff monedula*, *Garrulus aff glandarius*, *Lanius cf minor*, *Sturnus cf vulgaris*, *Coccothraustes cf coccothraustes*, *Fringilla cf coelebs*, *Passer cf montanus?*

Det.: Capek, Lambrecht, Jánossy Stored: Geological Institute, Budapest (in part)

Layer: Loc. 3 ("punct. fos. III") Date: EP, "Waalian" c. 1.3 MA BP

Fauna: *Anas clypeata*, *Tetrao cf tetrax*, *Perdix perdix*, *Otis tarda/lambrechtii*, *Corvus cf monedula*

Det.: Kessler

Layer: Loc. 3? Date: EP, "Waalian" c. 1.3 MA BP

Fauna: *Otis lambrechtii*

Det.: Jánossy

Layer: Loc. 5 Date: EP "Middle Cromerian-Biharian", "Menapian", c. 1.1 MA BP, MNQ 20

Fauna: *Pelargosteon tothi*, *Mergus connectens*, *Falco tinnunculus*, *Falco cf subbuteo*, *Tetrao urogallus?*, *Tetrao partium*, *Perdix perdix jurcsáki*, *Otis lambrechtii*, *Sterna sp.*, cf *Asio flammeus*, *Turdicus tenuis*, *Corvus betfianus*, *Pyrrhocorax graculus vetus*

Det.: Kretzoi, Jánossy Stored: Museum Regional Oradea (in part)



Layer: Loc. 5 ("punct. fos. V") Date: EP "Middle Cromerian-Biharian", "Menapian", c. 1.1 MA BP, MNQ 20  
Fauna: *Tadorna cf tadorna*, *Aquila aff pomarina*, *Tetrao urogallus*, *Perdix perdix*, *Perdix perdix jurcsáki*, *Otis tarda/lambrechtii*, *Tringa sp.*, *Galerida cristata*, *Corvus corax*, *Corvus corone/betfianus*

Det.: Kessler Stored: Museum Regional Oradea (in part)

Layer: Loc. 7 ("punct. fos. VII") Date: EP/MP, c. 0.6 - 1.1 MA BP MNQ 19-21

Fauna: *Anas strepera*, *Aythya nyroca*, *Perdix perdix*, *Tringa glareola/ochropus*, *Anthus aff trivialis?*, *Acrocephalus cf arundinaceus*, *Turdus merula*, *Lanius cf collurio*

Det.: Kessler

Notes: Upper layers at this locality are the youngest deposit in Betfia but the locality has a very large stratigraphic range.

Layer: Loc. 9 Date: EP MNQ 19, "Waalien", c. 1.3 MA BP, slightly older than loc.2

Fauna: *Ciconia stehlini*, *Tetrao partium*, *Francolinus capeki*, *Perdix perdix jurcsáki*, *Otis lambrechtii*, *Otis kálmáni*, *Vanellus nov. sp.*, *Caprimulgus capeki*, *Eurystomus nov. sp.*, *Merops nov. sp.* + 83 spp.

Det: Gál

Layer: Loc. 13 (punct. fos. XIII) Date: EP "Villafranchien superior", "Eburonian Interstadial" c. 1.6 MA BP MN 18

Fauna: *Anas cf crecca*, *Anas querquedula*, *Tetrao cf tetrax*, *Francolinus capeki*, *Tringa aff totanus*, *Turdus merula*, *Acrocephalus cf arundinaceus*

Det.: Kessler

Layer: "breccia cu microfauna" Date: EP

Fauna: *Falco subbuteo*, *Asio cf otus*, *Anthus aff trivialis*, *Garrulus glandarius*, *Turdus merula*

Det.: Kessler

Layer: "Aven" Date: EP "Middle Cromerian-Biharian", *Allophaiomys pliocaenicus* biozone, c. 1.2 MA BP.

Fauna: *Anas querquedula*, *Anas strepera*, *Anas cf penelope*, *Anas clypeata*, *Aythya nyroca*, *Falco subbuteo*, *Falco cf vespertinus*, *Francolinus capeki*, *Tringa glareola*, *Dendrocopos major*, *Corvus frugilegus*, *Corvus cf monedula*, *Garrulus glandarius*, *Pyrrhocorax graculus*

Det.: Kessler

Layer: ? Date: EP

Fauna: *Pelargosteon tothi*, *Anas submajor*, *Anas cf querquedula*, *Anas cf crecca*, *Anas cf clypeata*, *Anas strepera*, *Mergus connectens*, *Aythya cf nyroca*, *Tadorna cf tadorna*, *Aquila aff pomarina*, *Circus sp.*, *Falco cf peregrinus*, *Falco aff cherrug*, *Falco aff subbuteo*, *Falco cf vespertinus*, *Falco tinnunculus atavus*, *Tetrao praeurogallus*, *Tetrao partium*, *Francolinus capeki*, *Perdix perdix jurcsáki*, *Otis lambrechtii*, *Otis kalmani*, *Crex cf crex Limosa aff limosa*, *Tringa aff erythropus*, *Tringa glareola/ochropus*, *Tringa aff totanus*, *Actitis aff hypoleucos*, *Gallinago cf media*, *Vanellus cf vanellus*, *Glaucidium sp.*, *Asio cf flammeus*, *Asio aff otus*, *Otus sp.*, *Caprimulgus capeki*, *Dendrocopos submajor*, *Dendrocopos cf medius*, *Jynx cf torquilla*, *Alauda cf arvensis*, *Galerida cf cristata*, *Hirundo cf rustica*, *Delichon cf urbica*, *Motacilla cf alba*, *Anthus aff trivialis*, *Saxicola cf torquata*, *Turdus aff viscivorus*, *Turdus cf philomelos*, *Turdus cf merula*, *Turdus cf iliacus*, *Turdicus tenuis*, *Acrocephalus aff arundinaceus*, *Acrocephalus cf palustris*, *Sylvia cf communis*, *Parus cf major*, *Parus aff lugubris*, *Aegithalos cf caudatus*, *Certhia cf familiaris*, *Lanius aff collurio*, *Lanius cf minor*, *Sturnus cf vulgaris*, *Corvus cf corone*, *Corvus betfianus*, *Corvus aff monedula*, *Pyrrhocorax graculus vetus*, *Garrulus aff glandarius*, *Coccothraustes cf coccothraustes*, *Carduelis sp.*, *Fringilla cf coelebs*, *Passer cf montanus*

Det.: Capek, Kretzoi, Jánossy, Kessler

Notes: A. k. a. Püspökföld, Episcopia & Somlyóhegy

## RM 12 Pestera Bordu Mare (Hunedoara)

Alt: 650 Type: c

Sources: Gál 2003, Jurcsák & Kessler 1986,1988 Kessler 1981,1985

Date: LP "Würm propriu" 14C (Mousterian III-IV) = 39,5-43,6 KA BP (Climatic phases Nandru 1,2 and Ohaba A,B)

Fauna: *Haliaeetus albicilla*, *Gypaetus barbatus*, *Falco vespertinus*, *Lagopus cf mutus*, *Perdix perdix*, *Gallus gallus*, *Turdus merula*, *Turdus pilaris*, *Turdus viscivorus*, *Corvus corone*, *Corvus monedula*, *Pyrrhocorax graculus*, *Coccothraustes coccothraustes*, *Fringilla montefringilla*, *Carduelis chloris*

Date: Aurignacian?

Fauna: *Plegadis falcinellus*, *Anas platyrhynchos*, *Gypaetus barbatus*, *Falco sp.*, *Lagopus mutus*, *Perdix perdix*, *Gallus gallus*, *Scolopax rusticola*, *Tringa totanus*, *Hirundo rustica*, *Turdus pilaris*, *Garrulus glandarius*, *Pica pica*, *Corvus monedula*, *Corvus corax*

Det.: Kessler, Gál

Notes: A. k. a. Ohaba-Ponor, Ponor-Ohaba, Pestera Bordul Mare & Nandór-höhle

### RM 13 Pestera Cioarei (Gorj)

Alt: 350 Type: c

Sources: Jurcsák & Kessler 1986,1988, Kessler 1985, Kessler & Gál 2000, Terzea 1987

Date: LP

Layer: S I, Cas. 20, 0,95 m

Fauna: *Tetrao urogallus*

Layer: S IV, caroul 1, 0,60 m

Fauna: *Rallus aquaticus*

Layer S II, caroul 3, 7b

Fauna: *Porzana porzana*

Layer; S II, caroul 4, b5

Fauna: *Tringa ochropus*

Layer; S II, caroul 4, b10

Fauna: *Tetrao tetrrix*, *Carduelis carduelis*

Layer; S II, caroul 4, b14

Fauna: Corvidae sp., Fringillidae sp.

Layer; S II, caroul 4, b16

Fauna: *Coturnix coturnix*, *Crex crex*, *Tringa hypoleuca*

Layer; S II, caroul 4, b22

Fauna: *Coturnix coturnix*, *Corvus monedula*, *Pyrrhocorax pyrrhocorax*, Fringillidae sp.

Layer; S II, caroul 4, 1,05-1,10 m

Fauna: *Crex crex*, *Pyrrhocorax pyrrhocorax*, Fringillidae sp.

Layer: S III, 1,10 m

Fauna: *Pandion haliaetus*

Layer: S VI, 2,00-2,10 m

Fauna: *Bubo bubo*

Layer: S VII, 1,90-2,00 m

Fauna: *Surnia ulula*

Layer: S VIII, 0,60-0,70 m

Fauna: *Rallus aquaticus*, *Tetrao tetrrix*

Layer: S VIII, 0,70-0,80 m

Fauna: *Plegadis falcinellus*, *Rallus aquaticus*, *Tetrao tetrrix*, *Falco naumanni*, *Falco columbarius*, *Falco cherrug*, *Pyrrhocorax pyrrhocorax*

Layer: S VIII, 1,70-1,80 m

Fauna: *Bubo bubo*

Layer: S VIII, 2,20-2,30 m

Fauna: *Aquila chrysaetos*

Layer: S VIII, 2,40-2,50 m

Fauna: *Tetrao tetrrix*

Layer: S X, 0,85-0,95 m

Fauna: *Falco tinnunculus*

Layer: S XII, 0,50-0,95 m

Fauna: *Tetrao tetrrix*, *Turdus viscivorus*

Layer: S XII, 0,95-1,05 m

Fauna: *Turdus torquatus*, *Turdus pilaris*

Layer: S XI, 1,05-1,15 m

Fauna: *Rallus aquaticus*

Layer: S XII, 1,15-1,25 m

Fauna: *Tetrao tetrrix*, *Bubo bubo*, *Pyrrhocorax graculus*

Layer: S XII, 1,25-1,35 m

Fauna: *Tetrao tetrrix*, *Turdus merula*

Layer: S XII, 1,45-1,55 m

Fauna: *Tetrao tetrrix*, *Turdus viscivorus*

Det.: Gál, Kessler

### RM 16 Pestera Curata (Hunedoara)

Type: c

Sources: Fischer & Stephan 1977, Gál 2003, Jánossy 1965a,1977a,1981a, Jurcsák & Kessler 1986,1988, Kessler 1985

Layer: 5-6 ("Untere, rote Schicht")

Date: LP Mousterian I, Early Würm, "Würm I-II" /Nandru/Ohaba/Herculane phases

Fauna: *Anas penelope*, *Anas platyrhynchos*, *Aythya nyroca*, *Pernis apivorus*, *Aegypius monachus*, *Buteo lagopus*, *Aquila clanga*, *Haliaeetus albicilla*, *Falco tinnunculus*, *Tetrao tetrax*, *Tetrao urogallus*, *Perdix perdix*, *Crex crex*, *Strix nebulosa*, *Asio flammeus*, *Picus canus*, *Turdus pilaris*, *Sturnus vulgaris*, *Pyrrhocorax graculus*, *Corvus monedula*

Det.: Jánossy, Fischer & Stephan, Kessler, Gál

Notes: A. k. a. Nandru.

### RM 18 Pestera Gura Cheii (Brasov)

Alt: 750 Type: c

Sources: Gál 1998, Jurcsák & Kessler 1988

Layer: 102-130 cm

Date: LP Würm II

Fauna: *Tetrao tetrax*, *Lagopus mutus*, *Athene noctua*, *Turdus viscivorus*, *Pyrrhocorax graculus*, *Nucifraga caryocatactes*

Layer: 70-102 cm

Date: LP Würm II/III Interstadial, Aurignacian

Fauna: *Lagopus mutus*, *Turdus philomelos*, *Pyrrhocorax graculus*

Layer: 30-70 cm

Date: LP Würm III, Gravettian

Fauna: *Tetrastes bonasia*, *Lagopus lagopus*, *Lagopus mutus*, *Crex crex*, *Porzana porzana*, *Aegolius funereus*, *Bombycilla garrulus*, *Turdus iliacus*, *Monticola saxatilis*, *Pyrrhocorax graculus*

Det.: Gál, Kessler

## RUSSIA

### RO 2 Afontova Gora II (Krasnoyarsk)

Type: o

Sources: Burchak-Abramovich 1975, Panteleyev *in litt.*, 1999, Tugarinov 1932

Date: LP UP Upper Layer 14C=11,330±270 BP Lower Layer 14C=20900±300 BP

Fauna: *Anser fabalis*, *Anas querquedula*, *Falco rusticolus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrastes bonasia*, *Corvus corax*, *Corvus monedula*

Det.: Tugarinov

Stored: Dept of Ornithology, Zoological Institute, St Petersburg

### RO 2 Afontova Gora III (Krasnoyarsk)

Type: o

Sources: Burchak-Abramovich 1975, Panteleyev *in litt.*, 1999, Tugarinov 1932 (Gromov 1948)

Date: LP UP Upper Layer ca 10,000-11,000 BP, Middle Layer 16,000-18,000 BP, Lower Layer ca 21,000 BP

Fauna: *Falco rusticolus*, *Lagopus lagopus*, *Lagopus mutus*, *Corvus corax*

Det.: Tugarinov

Stored: Dept of Ornithology, Zoological Institute, St Petersburg

### RO 3 Akhshatyr (Krasnodar)

Alt: 320 Type: c

Sources: Baryshnikov 1999, Burchak-Abramovich 1969a,1975, Burchak-Abramovich & Lakerbai 1974, Gerasimov 1978, Musil 1980b, Potapova 1992, Vereshchagin 1959 (Vekilova & Grushchenko 1972)

Layer: 2

Date: LP UP 14C=19,000±500 BP (middle part of layer 2), 30,000±1900 BP (Gravettian)

Fauna: *Accipiter gentilis*, *Aquila chrysaetos*, *Columba livia*, *Melanocorypha* sp., *Sitta europaea*, *Pica pica*, *Pyrrhocorax pyrrhocorax*

Layer: 3

Date: LP Mousterian 14C=35,000±2000 BP (upper part of layer 3)  
Fauna: *Hirundo rustica*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*  
Layer: Mixed  
Date: LP Mousterian-UP 14C=19-112 KA BP  
Fauna: *Phasianus colchicus*, *Turdus pilaris*, *Pyrhcorax graculus*  
Det: Baryshnikov, Panteleev, Potapova  
Note: A. k. a. Akhstyrskaya

#### **RO 4 Avdeyevo (Kursk)**

Sources: Baryshnikov & Potapova 1992, Kalyakin 2001  
Date: LP UP 14C=17200-22700 BP  
Fauna: *Cygnus olor*, *Cygnus cygnus*, *Cygnus* sp., *Anser anser*, *Tadorna tadorna*, *Tadorna ferruginea*, *Anas acuta*, *Anas querquedula*, *Clangula hyemalis*, *Buteo rufinus*, *Aquila rapax*, Accipitridae sp. *Lagopus lagopus*, *Lyrurus tetrrix*, *Grus* sp., *Larus argentatus*, *Larus hyperboreus*, *Corvus corax*  
Det: Voinstvenskii, Kalyakin?

#### **RO 5 Barakaeskaya Peshchera (Krasnodar)**

Alt: 900  
Type: c  
Sources: Baryshnikov 1991, Baryshnikov & Cherepanov 1985, Hoffecker & Baryshnikov 1998  
Layer: 2  
Date: LP Late Mousterian, Middle Würm  
Fauna: *Anas querquedula/crecca*, *Columba livia*  
Layer: 4  
Date: LP Late Mousterian, Middle Würm  
Fauna: *Corvus corax*  
Det: Burchak-Abramovich  
Layer: Unknown.  
Date: LP Late Mousterian, Middle Würm  
Fauna: *Melanocorypha* sp., *Lullula arborea*, *Anthus trivialis*, *Rhodopechys sanguinea*, Passeriformes sp.  
Det: Panteleev  
Notes: A k a Barakayevskaya, Barakaevskaya

#### **RO 7 Bol'shoi Gluchoi (Middle Urals)**

Type: c  
Sources: Potapova 1991, 1999, 2001, 2003  
Layer IV  
Date: LP 14C=15,560±130 BP  
Fauna: *Nyctea scandiaca*  
Layer: VII  
Date: LP UP  
Fauna: *Anser* sp., *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao urogallus*, *Tetrao tetrrix*, *Bonasa bonasia*, *Strix aluco*, *Strix* sp., *Asio flammeus*, *Dendrocopos major*, *Pica pica*, *Loxia curvirostra*  
Layer: IX  
Date: LP 14C >33,900 BP, 38,200±900 BP  
Fauna: *Anser* cf *albifrons*, *Anser erythropus*, *Anas* cf *strepera*, *Anas penelope*, *Anas acuta*, *Buteo* sp., *Lagopus lagopus*, *Tetrao tetrrix*, *Strix aluco*, *Turdus viscivorus*  
Layer: Unknown  
Fauna: *Branta ruficollis*  
Det.: Potapova  
Notes: A. k. a. Bolshaia Glukhaia

#### **RO 9 Khoronkhoi (Buryatia)**

Type: o  
Sources: Imetchenov & Kalmykov 1988, Lambrecht 1933, Mikhailov & Kurochkin 1988 (Ivanov 1960)

Date: LP/Hol?

Fauna: *Struthio* sp.

Note: A. k. a. Kharankhoi, Khorenkhoi

### RO 10 Dyuktaiskaya Peshchera (Yakutia)

Alt: 112 Type: c

Sources: Tseitlin 1979, Olga Potapova in litt., Zelenkov et al. 2004, Zelenkov in litt. (Mochanov 1970, 1977)

Layer: VIIA-IX

Date: LP UP 12-14 KA BP

Fauna: *Anser anser*, *Anas strepera*, *Anas formosa*, *Lagopus lagopus*, *Lagopus mutus*, *Larus ridibundus*, *Sterna hirundo*, Strigidae sp.

Layer: All layers

Fauna: *Gavia arctica*, *Gavia stellata*, *Podiceps nigricollis*, *Podiceps auritus*, *Podiceps grisegena*, *Podiceps cristatus*, *Podiceps* sp., *Anser* n. sp., *Anser* sp., *Anas platyrhynchos*, *Anas crecca*, *Anas formosa*, *Anas penelope*, *Anas acuta*, *Anas querquedula*, *Anas clypeata*, *Anas strepera*, *Anas* sp., *Aythya fuligula*, *Aythya* sp., *Melanitta deglandi*, *Clangula hyemalis*, *Mergus serrator*, *Mergellus* n. sp., *Milvus migrans*, *Accipiter nisus*, *Buteo buteo*, *Buteo lagopus*, *Aquila chrysaetos*, *Falco columbarius*, *Falco tinnunculus*, *Falco subbuteo*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Tetrastes bonasia*, *Tetrao parvirostris*, *Tetrao tetrax*, *Grus leucogeranus*, *Otis tarda*, *Pluvialis* sp., *Tringa ochropus*, *Tringa glareola*, *Tringa nebularia*, *Tringa* sp., *Xenus cinereus*, *Calidris* sp., *Numenius minutus*, *Numenius phaeopus*, *Limosa limosa*, *Gallinago gallinago*, *Gallinago stenura*, *Gallinago megala*, *Gallinago* sp., *Scolopax rusticola*, *Philomachus pugnax*, *Phalaropus lobatus*, *Phalaropus fulicaria*, *Larus ridibundus*, *Larus canus*, *Sterna* sp., *Streptopelia orientalis*, *Strix nebulosa*, *Strix uralensis*, *Strix* sp., *Asio otus*, *Asio flammeus*, *Eremophila alpestris*, *Riparia riparia*, *Hirundo rustica*, *Delichon urbica*, *Anthus* sp., Motacillidae sp., *Bombycilla cf garrulus*, *Turdus hortulorum*, *Turdus pallidus*, *Turdus pilaris*, *Turdus* sp., *Zoothera dauma*, Turdidae sp., *Perisoreus infaustus*, *Corvus* sp., *Fringilla montifringilla*, Fringillidae sp., Emberizidae sp., Passeriformes sp.

Det: Kurochkin, Zelenkov, Ballman

Notes: A. k. a. Diuktai, Djuktai, Duktai

### RO 12 Gudskiy Naves 1 (Krasnodar)

Alt: 900

Type: c

Sources: Baryshnikov 1979, Baryshnikov & Cherepanov 1985, Hoffecker & Baryshnikov 1998

Date: LP Mousterian-Upper Paleolithic

Fauna: *Pyrrhocorax graculus*, *Corvus corax*, *Corvus corone*

Det.: Pastykhov?

Date: LP Late Mousterian

Fauna: *Columba livia*, *Apus apus*, *Alauda arvensis*, Alaudidae sp., Hirundinidae sp., cf *Delichon urbica*, *Sitta* sp., *Certhia familiaris*, *Erithacus rubecula*, *Loxia curvirostra*, aff *Pyrrhula pyrrhula*, aff *Coccothraustes coccothraustes*, *Passer domesticus*, *Pyrrhocorax graculus*, Fringillidae sp.

Det: Panteleev

Notes: A. k. a. Monasheskaya.

### RO 13 Ignatievskaya (Urals)

Sources: Baryshnikov & Potapova 1992, Potapova 2001

Date: LP 14C=14,038 BP

Fauna: *Lagopus lagopus*

Layer: 2

Date: LP

Fauna: *Nyctea scandiaca*

Det: Potapova

### RO 17 Khotylevo II (Bryansk)

Type: o

Sources: Burchak-Abramovich & Zavernyaev 1985, 1997, Soffer 1985

Date: LP Gravettian - Late Aurignacian 14C=21,170±270-24,960±400 BP

Fauna: *Gavia stellata*, *Gavia arctica*, *Anas penelope*, *Anas querquedula*, *Anas sp.*, *Aythya ferina*, *Clangula hyemalis*, *Bucephala clangula*, *Tetrao tetrix*, *Lagopus lagopus*, *Tetrastes bonasia*, *Larus argentatus*, *Alauda arvensis*, *Galerida cristata*, *Corvus corax*, *Emberiza citrinella*

Det.: Burchak-Abramovich, Umanskaya, Bibikova

### RO 21 Krasniy Yar (Irkutsk)

Type: o

Sources: Panteleev 1999, Tseitlin 1979, Olga Potapova in litt. (Abramova 1984, 1989, Ermolova 1978)

Layer: Upper Cultural Layer (Layer II)

Date: LP UP c. 16-18 Ka BP

Fauna: *Lagopus lagopus*

Layer: Lower Layer (Layer VII)

Date: LP UP c. 23-24 Ka BP

Fauna: *Struthio* sp.

Det.: Tattar

### RO 24 Mal'ta (Angara)

Type: o

Sources: Ermolova 1978, Gerasimov 1935, Mlíkovsky, Chenzychenova & Filippov 1997, Tseitlin 1979

Date: LP UP c. 21 KA BP End Kargino/Earliest Sartan

Fauna: *Anser anser*, *Larus argentatus*

Det.: Tugarinov

Fauna: *Corvus corax*

Det.: Ermolova

Date: LP, end of LP

Fauna: *Lagopus lagopus*

Det.: Mlíkovsky

Stored: Buryat Geological Institute, Ulan Ude

### RO 27 Mezmaiskaya (Krasnodar)

Alt: 1310 Type: c

Sources: Baryshnikov, Hoffecker & Burgess 1996, Baryshnikov & Potapova 1989, Golovanova et al. 1998

Layer: 1-2

Date: LP/Hol (mixed layer)

Fauna: *Pyrrhonorax pyrrhonorax*

Layer: 2

Date: LP IS 3, 14C=32,230±740 BP Mousterian

Fauna: *Aegypius monachus*, *Columba livia*, *Pyrrhonorax graculus*, *Emberiza sp.*

Layer: 2A

Date: LP IS 3 14C=36,280 ± 540, 35,760 ± 400 BP, Mousterian

Fauna: *Pyrrhonorax graculus*

Layer: 2B

Date: LP IS 3 14C = 40,660±1600 BP, Mousterian

Fauna: *Falco sp.*, *Columba livia*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: 3

Date: LP IS 3, Eastern Micoquian 14C > 45,000 BP

Fauna: *Coturnix coturnix*, *Pyrrhonorax graculus*

Det.: Baryshnikov & Potapova

### RO 32 Selengiskaja Daurija (Buryat-Mongol Republic)

Type: o

Sources: Burchak-Abramovich 1975, Tugarinov 1930

Date: Pleistocene

Fauna: *Struthio* sp.

Det.: Tugarinov

Notes: Tugarinov's report actually concerns ten different sites with ostrich eggshells along the Selenga, Dschida and Tschikoi rivers.

#### **RO 40 Ust'-Kanskaya Peshchera (Gorno-Altai)**

Type: c

Sources: Derevyanko et al. 2002, Rudenko 1960, 1961, Tseitlin 1979, Potapova in litt. (Abramova 1984,1989, Derevyanko et al. 1998, Rudenko 1960, Vereshchagin & Mel'nikova 1958)

Date: LP Mousterian ca 50 KA BP

Fauna: *Podiceps auritus*, *Podiceps* cf *griseigena*, *Cygnus cygnus*, *Anser indicus*, *Anser anser*, *Anser* sp., *Tadorna ferruginea*, *Anas clypeata*, *Anas acuta*, *Anas crecca*, *Anas querquedula*, *Anas* cf *platyrhynchos*, *Anas strepera*, *Anas* sp., *Aythya fuligula*, *Bucephala clangula*, *Mergus albellus*, *Falco cherrug*, *Falco tinnunculus*, *Falco subbuteo*, *Aquila* cf *nipalensis*, *Circus macrourus*, *Circus* cf *cyaneus*, *Accipiter* cf *nisus*, *Buteo hemilasius*, *Bonasa bonasia*, *Tetrao tetrix*, *Lagopus lagopus*, *Lagopus mutus*, *Coturnix coturnix*, *Perdix perdix*, *Tetraogallus altaicus*, *Alectoris chukar*, *Crex crex*, *Porzana* sp., *Pluvialis squatarola*, *Vanellus vanellus*, *Numenius arquata*, *Limosa limosa*, *Scolopax rusticola*, *Gallinago* cf *solitaria*, *Gallinago gallinago*, *Tringa* cf *totanus*, *Tringa nebularia*, *Tringa* cf *glareola*, *Actitis hypoleucos*, *Calidris minuta*, *Calidris* cf *acuminata*, *Columba rupestris*, *Syrhaptes paradoxus*, *Larus* cf *ichthyaetus*, *Upupa epops*, *Asio flammeus*, *Athene noctua*, *Bubo bubo*, *Apus pacificus*, *Hirundapus caudacutus*, *Alaudidae* sp, *Delichon urbica*, *Turdus* cf *philomelos*, *Turdus pilaris*, *Sturnus vulgaris*, *Oenanthe* sp., *Petronia petronia*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax* cf *graculus*, *Corvus corone*, *Corvus corax*, *Corvus monedula*, *Pica pica*, *Nucifraga caryocatactes*

Det: Vereshchagin, Martynovich

### **SLOVENIA**

#### **SL 4 Potocka Zijalka**

Alt: 1700 Type: c

Sources: Malez 1972,1973,1983b,1984c,1986, Musil 1980b, Rabeder et al. 2004, Withalm 2004 (Rakovec 1956)

Layer: Upper Culture Layer (Layer 1-7)

Date: LP Aurignacian ("W I/II") C14 = 29,130-35,620 BP, Kalabaki II interstadial?

Fauna: *Lagopus mutus*, *Turdus* sp., *Garrulus* cf *glandarius*, *Pyrrhonorax graculus*, *Pyrrhula pyrrhula*, *Emberiza* sp.

Det: Malez, Withalm

Notes: A. k. a. Uschowa-höhle, Pototschnik-höhle

### **SPAIN**

#### **SP 1 Abric Romani (Barcelona)**

Alt 280 Type: c

Sources: Villalta 1964, Sanchez Marco 2004, 2007

Date: LP Mousterian "Würm II-III" U/Th=39-60 KA BP, TL=48±3 (1,4 m depth), 56±3 (4 m depth) KA BP.

Fauna: *Anas platyrhynchos*, *Aquila* sp., *Alectoris barbara*, *Pyrrhonorax graculus*

Det.: Villalta

Date: LP, UP, U/Th 39-43 KA BP

Layer: Pou I, Conjunto II, Capa 2

Fauna: *Alectoris rufa*, *Perdix perdix*, *Pyrrhonorax graculus*

Date: LP Mousterian

Layer: Pou I, Conjunto II, Capa 4

Fauna: *Buteo buteo*, *Buteo rufinus*, *Columba livia/oenas*

Layer: Pou I, Conjunto II, Indefinite

Fauna: *Pyrrhonorax pyrrhonorax*

Layer: Pou I, Conjunto III, N2.1.2

Fauna: *Anas acuta*

Layer: Pou I, Conjunto III, N2.1.8

Fauna: *Delichon urbica*

Date: LP, < 40 KA BP  
Layer: Coveta Ripoli, Conjunto 2, C.2.0-N.3.0  
Fauna: *Oenanthe hispanica*, *Pyrrhonorax pyrrhonorax*  
Date: LP, < 40 KA BP  
Layer: Coveta Ripoli, Conjunto 2, C.2.0-N.4.0  
Fauna: *Pyrrhonorax pyrrhonorax*  
Date: LP, < 40 KA BP  
Layer: Coveta Ripoli, Conjunto 2, C.2.0-N.6.0  
Fauna: *Pyrrhonorax pyrrhonorax*  
Layer: Conjunto II, Terra Negra  
Fauna: *Anas platyrhynchos*, *Anas acuta*, *Alectoris rufa*, *Athene noctua*, *Turdus* sp., *Pica pica*, *Pyrrhonorax pyrrhonorax*  
Layer: Conjunto II, Terra blanca vermella  
Fauna: *Anas acuta*, *Alectoris rufa*, *Hirundo rustica*, *Pyrrhonorax pyrrhonorax*  
Layer: Conjunto II, Terra blanca  
Fauna: *Alectoris rufa*, *Pyrrhonorax pyrrhonorax*  
Layer: Conjunto II, Terra blanca-gris  
Fauna: *Alectoris rufa*, *Pinicola enucleator*, *Pyrrhonorax pyrrhonorax*  
Det: Sanchez Marco  
Notes: A. k. a. El Romani

### SP 5 Ambrona (Soria)

Alt: 1100 Type: o  
Sources: Jánossy 1982a,1983a, Sánchez 1990,1999b,2005, 2007 (Aguirre & Fuentes 1969)  
Date: MP "Late Biharian (Verteszöllös/Uppony) - Early Oldenburgian", "Late Cromerian", >350 Ka BP  
Fauna: *Anser anser*, *Tadorna ferruginea*, *Tadorna* sp., *Anas acuta*, *Anas* sp., *Mergus merganser*, *Fulica* cf *atra*, *Vanellus vanellus*  
Det.: Sánchez-Marco, Jánossy, Fuentes  
Notes: Jánossy ascribed the goose to *Anser subanser*, but Sánchez considers this a synonym of *A. anser*.

### SP 7 Arbreda (Gerona)

Alt: 200 Type: c  
Sources: Vilette 1983, Garcia i Petit 1995a,1997,2002  
Layer: 11-12  
Date: LP LG Epipaleolithic  
Fauna: *Anas platyrhynchos*, *Anas penelope*, *Perdix perdix*, *Columba palumbus*, cf *Turdus merula*, *Pyrrhonorax graculus*  
Layer: 13-16  
Date: LP Solutrean  
Fauna: *Anas platyrhynchos*, cf *Falco subbuteo*, *Falco naumanni*, *Falco tinnunculus*, *Alectoris graeca*, *Perdix perdix*, *Columba oenas*, *Turdus torquatus*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*  
Layer: 17  
Date: LP Transition Gravettian/Solutrean  
Fauna: *Falco tinnunculus*, *Perdix perdix*, *Columba oenas*, *Pyrrhonorax graculus*, *Pyrrhonorax pyrrhonorax*  
Layer: 18-22  
Date: LP Gravettian  
Fauna: *Aythya nyroca*, *Alectoris graeca*, *Perdix perdix*, cf *Limosa limosa*, *Columba oenas*, *Athene noctua*, *Turdus torquatus*, *Pyrrhonorax graculus*, *Pyrrhonorax pyrrhonorax*, *Corvus corax*  
Layer: 23-28  
Date: LP Aurignacian, earliest UP dated to 35480±620-39900±1300 BP  
Fauna: *Podiceps auritus/nigricollis*, *Branta bernicla*, *Anas platyrhynchos*, *Anas crecca*, *Anas querquedula*, cf *Falco subbuteo*, *Alectoris graeca*, *Perdix perdix*, *Coturnix coturnix*, *Charadrius morinellus*, cf *Limosa limosa*, *Columba oenas*, *Asio flammeus*, *Athene noctua*, cf *Galerida cristata*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Corvus corax*  
Det.: Vilette  
Date: LP Mousterian, 14C=34,100±750 - 41,400±1,600 BPFauna: *Anser/Branta* sp., *Anas* sp., *Anas platyrhynchos*, *Accipiter gentilis*, *Falco* sp., *Falco naumanni*, *Falco tinnunculus*, *Falco vespertinus*, *Falco*



*subbuteo*, *Alectoris* sp., *Alectoris graeca*, *Alectoris rufa*, *Perdix perdix*, *Coturnix coturnix*, *Porzana porzana*, *Calidris canutus*, *Chlidonias* cf *nigra*, *Columba livia*, *Columba oenas*, *Athene noctua*, cf *Caprimulgus* sp., *Coracias garrula*, *Picus viridis*, *Turdus viscivorus*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*, *Corvus corone*

Date: LP Basal Aurignacian (upper level 14C=25830±400 BP)

Fauna: *Anser/Branta* sp., *Anas* sp., *Anas platyrhynchos*, *Aquila* cf *chrysaetos*, *Falco* sp., *Falco naumanni*, *Falco columbarius*, *Falco subbuteo*, *Perdix perdix*, *Coturnix coturnix*, *Porzana porzana*, *Tetrax tetrax*, *Gallinago gallinago*, *Columba livia/oenas*, *Columba oenas*, *Bubo bubo*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*

Date: LP Evolved Aurignacian 14C=22130±220 BP

Fauna: *Anser/Branta* sp., *Anas* sp., *Falco* sp., *Falco naumanni*, *Falco tinnunculus*, *Falco vespertinus*, *Alectoris* sp., *Alectoris graeca*, *Alectoris rufa*, *Alectoris barbara*, *Perdix perdix*, *Coturnix coturnix*, *Grus grus*, cf *Charadrius vociferus*, *Gallinago gallinago*, *Gallinago media*, *Larus* cf *melanocephalus*, *Columba livia/oenas*, *Columba oenas*, *Columba palumbus*, *Otus scops*, *Athene noctua*, *Turdus viscivorus*, *Garrulus glandarius*, *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*

Date: LP Lower Gravettian

Fauna: *Anas* sp., *Anas platyrhynchos*, *Falco* sp., *Falco naumanni*, *Falco tinnunculus*, *Falco vespertinus*, *Lagopus* sp., *Alectoris* sp., *Alectoris graeca/rufa*, *Alectoris barbara*, *Perdix perdix*, *Coturnix coturnix*, *Porzana porzana*, *Tetrax tetrax*, *Burhinus oedicephalus*, *Gallinago gallinago*, *Columba livia/oenas*, *Strix aluco*, *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corone/fragilegus*

Date: LP Upper Gravettian 14C=20130±220 BP

Fauna: *Falco subbuteo*, *Coturnix coturnix*, *Pyrrhocorax* sp., *Pyrrhocorax graculus*, *Corvus monedula*

Date LP Solutrean 14C=17720±290, 17320±290 BP

Fauna: *Podiceps* sp., *Anser/Branta* sp., *Anas* sp., *Accipiter gentilis*, *Aquila* sp., *Falco* sp., *Falco tinnunculus*, *Falco columbarius*, *Phasianidae*, *Alectoris* sp., *Alectoris rufa*, *Perdix perdix*, *Coturnix coturnix*, *Grus grus*, *Passeriformes*, *Corvidae*, *Pica pica*, *Pyrrhocorax* sp., *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*

Date: LP Post-Solutrean

Fauna: *Anser/Branta* sp., *Falco tinnunculus*, *Alectoris* sp., *Alectoris graeca*, *Coturnix coturnix*, *Tetrax tetrax*, *Otis tarda*, *Columba livia/oenas*, *Pyrrhocorax* sp., *Pyrrhocorax pyrrhocorax*, *Corvus monedula*

Det: Garcia i Petit

## SP 10 Atapuerca (Burgos)

Type: c

Sources: Sánchez-Marco 1987a,b,1995a,1999c,2004, van der Made et al. 2003

Layer: SU 0

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Perdix palaeoperdix*, *Pyrrhocorax pyrrhocorax*, *Corvus antecorax*

Layer: SU 1

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Perdix palaeoperdix*, *Pyrrhocorax pyrrhocorax*, *Corvus antecorax*

Layer: SU 1/2

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Corvus antecorax*

Layer: SU 2

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Corvus antecorax*

Layer: SU 3

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Perdix palaeoperdix*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus antecorax*

Layer: SU 4

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Corvus antecorax*

Layer: SU 5

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Columba* sp., *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus antecorax*

Layer: SU 5/6

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Tringa totanus*, *Lullula arborea*, *Alauda arvensis*

Layer: SU 6

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Falco tinnunculus*, *Perdix palaeoperdix*, *Otis tarda*, *Limosa limosa*, *Gallinago gallinago*, *Lullula arborea*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus antecorax*

Layer: SU 6/7

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Gallinago media*, *Galerida cristata*, *Turdus merula*

Layer: SU 7/8

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Perdix palaeoperdix*, *Corvus antecorax*

Layer: SU 8

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP) MNQ 24

Fauna: *Pluvialis apricaria*, *Calidris alpina*, *Tringa totanus*, *Gallinago gallinago*, *Gallinago media*, *Sterna albifrons*, *Columba* sp., *Galerida cristata*, *Lullula arborea*, *Alauda arvensis*, *Saxicola rubetra*, *Turdus viscivorus*, *Turdus* sp., *Pyrhcorax pyrrhcorax*, *Corvus antecorax* *Fringilla coelebs*, *Emberiza citrinella*

Layer: SU 9

Date: MP Upper middle Acheulean (U/Th 118 000->350 000 BP), MNQ 24. Probably >200 KA BP

Fauna: *Perdix palaeoperdix*, *Pluvialis apricaria*, *Tringa totanus*, *Gallinago gallinago*, *Alauda arvensis*, *Pyrhcorax graculus*, *Corvus antecorax*

### **La Galeria**

Layer: TG 10A/B/GSU 12

Date: MP, ca 170-350 KA BP, IS 10

Fauna: *Perdix palaeoperdix*, *Corvus antecorax*

Layer: TG 10A

Date: MP, ca 170-350 KA BP, IS 10

Fauna: *Anas platyrhynchos*, *Aegypius monachus*, *Perdix palaeoperdix*, *Coturnix coturnix*, *Pluvialis apricaria*, *Columba livia*, *Athene noctua*, *Pyrhcorax graculus*, *Corvus antecorax*

Layer: TG 10A/TN 7, IS 10/11

Date: MP, ca 170-350 KA BP

Fauna: *Anas platyrhynchos*, *Aegypius monachus*, *Falco naumanni*, *Falco tinnunculus*, *Perdix palaeoperdix*, *Coturnix coturnix*, *Otis tetrax*, *Eudromias morinellus*, *Pluvialis apricaria*, *Actitis hypoleucos*, *Calidris alpina*, *Gallinago gallinago*, *Gallinago media*, *Columba livia/oenas*, *Cuculus canorus*, *Athene noctua*, *Alauda arvensis*, *Oenanthe oenanthe*, *Ficedula hypoleuca*, *Carduelis chloris*, *Pinicola enucleator*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus antecorax*

Layer: TG 10B/TN 6, ca MIS 10/11

Date: MP, ca 170-350 KA BP

Fauna: Anatidae sp., *Falco naumanni*, *Falco tinnunculus*, *Perdix palaeoperdix*, *Coturnix coturnix*, *Rallus aquaticus*, *Himantopus himantopus*, *Glareola pratincola*, *Eudromias morinellus*, *Tringa erythropus*, *Tringa totanus*, *Actitis hypoleucos*, *Gallinago gallinago*, *Gallinago media*, *Calidris alpina*, *Columba livia/oenas*, *Columba palumbus*, *Eremophila alpestris*, *Galerida cristata*, *Lullula arborea*, *Alauda arvensis*, *Prunella collaris*, *Oenanthe oenanthe*, *Turdus* sp., *Turdus* cf *merula*, *Emberiza* sp., *Emberiza citrinella*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus monedula*, *Corvus antecorax*

Layer: TG 10C

Date: MP, ca 170-350 KA BP

Fauna: *Pyrhcorax graculus*, *Corvus antecorax*

Layer: TG 10D/TN 5

Date: MP, ca 170-350 KA BP

Fauna: Anatidae sp., *Haliaeetus albicilla*, *Falco tinnunculus*, *Perdix palaeoperdix*, *Rallus aquaticus*, *Porzana porzana*, *Calandrella* cf *brachydactyla*, *Galerida cristata*, *Lullula arborea*, *Pyrhcorax graculus*, *Corvus antecorax*

Layer: TG 11

Date: MP, ca 170-350 KA BP

Fauna: *Anas crecca*, *Anas platyrhynchos*, *Anas* cf. *querquedula*, *Aegypius monachus*, *Falco tinnunculus*, *Perdix palaeoperdix*, *Coturnix coturnix*, *Rallus* aff *aquaticus*, *Porzana* cf. *pusilla*, *Porzana porzana*, *Otis tarda*, *Himantopus himantopus*, *Vanellus vanellus*, *Pluvialis squatarola*, *Pluvialis apricaria*, *Limosa limosa*, *Tringa glareolas*, *Tringa totanus*, *Gallinago media*, *Gallinago gallinago*, *Calidris* sp., *Calidris alpina*, *Sterna albifrons*, *Columba livia/oenas*, *Cuculus canorus*, *Athene noctua*, *Galerida cristata*, *Lullula arborea*, *Alauda arvensis*, *Saxicola* cf *rubetra*, *Turdus merula*, *Turdus pilaris/viscivorus*, *Turdus* cf *philomelos*, *Turdus viscivorus*,

*Emberiza citrinella*, *Fringilla coelebs*, *Passer cf montanus*, *Petronia petronia*, *Sturnus sp.*, *Pica pica*,  
*Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Corvus monedula*, *Corvus antecorax*  
Layer: GSU 0  
Date: MP, ca 170-350 KA BP  
Fauna: *Perdix palaeoperdix*, *Pyrrhonorax pyrrhonorax*, *Corvus antecorax*  
Layer: GSU 1  
Date: MP, ca 170-350 KA BP  
Fauna: *Perdix palaeoperdix*, *Gallinago media*, *Pyrrhonorax pyrrhonorax*, *Corvus antecorax*  
Layer: GSU 1/2  
Date: MP, ca 170-350 KA BP  
Fauna: *Perdix palaeoperdix*, *Columba livia*, *Corvus antecorax*  
Layer: GSU 2  
Date: MP, ca 170-350 KA BP  
Fauna: *Perdix palaeoperdix*, *Coturnix coturnix*, *Pluvialis apricaria*, *Athene noctua*, *Pyrrhonorax pyrrhonorax*,  
*Pyrrhonorax graculus*, *Corvus antecorax*  
Layer: GSU 2/3  
Date: MP, ca 170-350 KA BP  
Fauna: *Perdix palaeoperdix*, *Corvus antecorax*  
Layer: GSU 3  
Date: MP, ca 170-350 KA BP  
Fauna: *Rallus aquaticus*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Corvus antecorax*  
Layer: GSU 4  
Date: MP, ca 170-350 KA BP  
Fauna: *Pyrrhonorax graculus*, *Corvus antecorax*  
Layer: GSU 4/5  
Date: MP, ca 170-350 KA BP  
Fauna: *Anas sp.*, *Tringa totanus*, *Corvus antecorax*  
Layer: GSU 5  
Date: MP, ca 170-350 KA BP  
Fauna: *Columba livia*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Corvus antecorax*  
Layer: GSU 5/6  
Date: MP, ca 170-350 KA BP  
Fauna: *Tringa totanus*, *Lullula arborea*, *Alauda arvensis*, *Corvus antecorax*  
Layer: GSU 6  
Date: MP, ca 170-350 KA BP  
Fauna: *Falco tinnunculus*, *Coturnix coturnix*, *Otis tarda*, *Limosa limosa*, *Gallinago gallinago*, *Columba livia*,  
*Lullula arborea*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Corvus monedula*, *Corvus antecorax*  
Layer: GSU 6/7  
Date: MP, ca 170-350 KA BP  
Fauna: *Pluvialis sp.*, *Gallinago media*, *Calidris canutus*, *Calidris maritima*, *Galerida cristata*  
Layer: GSU 7  
Date: MP, ca 170-350 KA BP  
Fauna: *Falco tinnunculus*, *Pyrrhonorax pyrrhonorax*, *Corvus antecorax*  
Layer: GSU 7/8  
Date: MP, ca 170-350 KA BP  
Fauna: *Perdix palaeoperdix*, *Corvus antecorax*  
Layer: GSU 8  
Date: MP, ca 170-350 KA BP  
Fauna: *Pluvialis sp.*, *Pluvialis apricaria*, cf *Tringa stagnatilis*, *Tringa totanus*, *Gallinago media*, *Gallinago*  
*gallinago*, *Calidris alpina*, *Sterna albifrons*, *Columba livia*, *Galerida cristata*, *Lullula arborea*, *Alauda arvensis*,  
*Saxicola rubetra*, *Turdus sp.*, *Turdus pilaris/viscivorus*, *Emberiza citrinella*, *Fringilla coelebs*, *Pyrrhonorax*  
*pyrrhonorax*, *Corvus antecorax*  
Layer: GSU 9  
Date: MP, ca 170-350 KA BP  
Fauna: *Perdix palaeoperdix*, *Pluvialis apricaria*, *Charadrius cf vociferus*, *Tringa totanus*, *Gallinago gallinago*,  
*Alauda arvensis*, *Pica pica*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Corvus monedula*, *Corvus*  
*antecorax*  
Layer: GSU 10  
Date: MP, ca 170-350 KA BP

Fauna: *Anas* cf *querquedula*, *Falco tinnunculus*, *Perdix palaeoperdix*, *Porzana* cf *pusilla*, *Vanellus vanellus*, *Gallinago media*, *Columba livia*, cf *Turdus merula*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus monedula*, *Corvus antecorax*

Layer: GSU 10/11

Date: MP, ca 170-350 KA BP

Fauna: *Anas* sp., *Anas crecca*, *Anas* cf *querquedula*, *Coturnix coturnix*, *Pluvialis* sp., *Tringa totanus*, *Emberiza citrinella*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus monedula*, *Corvus antecorax*

Layer: GSU 11

Date: MP, ca 170-350 KA BP

Fauna: *Anas* sp., *Anas platyrhynchos*, *Anas querquedula*, *Aegyptius monachus*, *Falco tinnunculus*, *Perdix palaeoperdix*, *Coturnix coturnix*, *Himantopus himantopus*, *Pluvialis apricaria*, *Pluvialis squatarola*, *Tringa totanus*, *Columba livia*, *Cuculus canorus*, *Lullula arborea*, *Turdus pilaris*, *Fringilla coelebs*, cf *Passer montanus*, cf *Sturnus* sp., *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus antecorax*

Layer: GSU 12

Date: MP, ca 170-350 KA BP

Fauna: *Perdix palaeoperdix*, *Columba livia*, *Streptopelia* sp., *Cuculus canorus*, *Lullula arborea*, *Turdus* sp., *Turdus philomelos*, *Petronia petronia*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus antecorax*

#### **Boca Norte**

Layer: TN 5

Date: MP, ca 170-350 KA BP

Fauna: *Falco tinnunculus*, *Rallus aquaticus*, *Calandrella* cf *brachydactyla*, *Galerida cristata*, *Lullula arborea*, *Corvus antecorax*

Layer: TN 6

Date: MP, ca 170-350 KA BP

Fauna: *Anas* sp., *Falco naumanni*, *Falco tinnunculus*, *Coturnix coturnix*, *Himantopus himantopus*, *Actitis hypoleucos*, *Gallinago gallinago*, *Columba livia*, *Columba palumbus*, *Lullula arborea*, *Alauda arvensis*, *Prunella collaris*, *Oenanthe oenanthe*, *Turdus* sp., *Turdus* cf *merula*, *Turdus pilaris/viscivorus*, *Emberiza* sp., *Emberiza citrinella*, *Pyrhcorax graculus*, *Corvus monedula*, *Corvus antecorax*

Layer: TN 7

Date: MP, ca 170-350 KA BP

Fauna: *Anas platyrhynchos*, *Tetrax tetrax*, *Actitis hypoleucos*, *Gallinago media*, *Gallinago gallinago*, *Cuculus canorus*, *Oenanthe oenanthe*, *Ficedula hypoleuca*, *Carduelis chloris*, *Pinicola enucleator*, *Pyrhcorax graculus*

Layer: TN

Date: MP, ca 170-350 KA BP

Fauna: *Falco naumanni*

Layer TN 7/GSU 11

Date: MP, ca 170-350 KA BP

Fauna: *Coturnix coturnix*, *Columba livia*, *Corvus antecorax*

Det.: Sánchez-Marco

#### **SP 12 Avenc del Gegant (Barcelona)**

Type: c

Alt: 0

Source: Villalta 1964, Viñas 1972, Sanchez Marco 2004, 2007

Layer: Punto 20

Date: MP/LP

Fauna: *Aquila chrysaetos*, *Falco* sp., *Alectoris graeca*, *Alectoris barbara*, *Coturnix coturnix*, *Columba oenas*, *Turdus merula*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Fringilla coelebs*

Det: Villalta

Date: LP Mousterian, IS 3/IS 5, 40-100 KA BP

Layer: I

Fauna: *Accipitriformes* sp., *Falco tinnunculus/subbuteo*, *Alectoris rufa*, *Coturnix coturnix*, *Columba livia/oenas*, *Athene noctua*, *Anthus spinoletta*, *Emberiza calandra*, *Loxia pytyopsittacus*, *Pyrhula pyrrhula*, *Coccothraustes coccothraustes*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus monedula*

Layer: I-II

Fauna: *Apus apus*, *Pinicola enucleator*, *Pica pica*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus monedula*

Layer: IIA

Fauna: *Accipiter nisus*, *Alectoris rufa*, *Columba livia/oenas*, *Tyto alba*, *Athene noctua*, *Strix aluco*, *Anthus spinoletta*, *Turdus viscivorus*, *Emberiza calandra*, *Fringilla coelebs*, *Carduelis chloris*, *Coccothraustes coccothraustes*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*

Layer: IIB

Fauna: *Puffinus puffinus*, *Alectoris rufa*, *Coturnix coturnix*, *Columba livia/oenas*, *Athene noctua*, *Emberiza calandra*, *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*

Layer: II

Fauna: *Alectoris rufa*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus corone*

Layer: III

Fauna: *Alectoris rufa*, *Coturnix coturnix*, *Columba livia/oenas*, *Pyrrhocorax pyrrhocorax*

Layer: IV

Fauna: *Alectoris rufa*

Layer: Unstratified

Fauna: *Accipitriformes* sp., *Aquila chrysaetos*, *Falco tinnunculus/subbuteo*, *Alectoris rufa*, *Coturnix coturnix*, *Gallus gallus*, *Columba livia/oenas*, *Athene noctua*, *Delichon urbica*, *Turdus merula*, *Coccothraustes coccothraustes*, *Sturnus* sp., *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*, *Corvus corone*

Det: Sanchez-Marco

Notes: A. k. a. Cova del del Gegant.

#### SP 14 Berroberia (Navarra)

Alt: 120 Type: c

Sources: Altuna 1972, Diez Fernandez-Lomana et al. 1995, Sanchez-Marco 2007b, Villalta 1964

Date: LP Magdalenian (14C=11600-13270 BP)

Fauna: *Anas platyrhynchos*, *Clangula hyemalis*, *Aquila* sp., *Lagopus mutus*, *Pyrrhocorax graculus*

Det.: Sánchez-Marco, Villalta

#### SP 15 + 65 Bora Gran d'en Carreras (Gerona)

Alt: 200 Type: c

Sources: Garcia i Petit 1995,1997,2002 , Sanchez-Marco in litt., 2007, Villalta 1964, Vilette 1983, Wolf 1938-41 (Cazurro 1919, Estevez 1979, Harlé 1882, 1909)

Date: LP LG Magdalenian-Azilian

Fauna: *Anser/Branta* sp., *Circus* sp., *Otis tarda*, *Tetrax tetrax*, *Otididae* sp.

Det.: Milne-Edwards

Date: LP LG Magdalenian-Azilian

Fauna: *Columba livia*, *Coturnix coturnix*, *Alectoris graeca*, *Corvus corax*, *Pyrrhocorax graculus*

Det.: Villalta

Date: LP LG Magdalenien superieur 14C=11470±500 BP

Fauna: *Perdix perdix*, *Columba oenas*, *Pyrrhocorax graculus*

Det.: Vilette

Date: LP LG Magdalenien superieur 14C=11470±500 BP

Fauna: *Aquila chrysaetos*, *Perdix perdix*, *Columba livia*, *Pyrrhocorax pyrrhocorax*

Det.: Estevez

Date: LP Late Solutrean 14C=17720±920, 17320±290 BP

Fauna: *Ciconia ciconia*, *Anatidae*, *Anser/Branta* sp., *Anser* sp., *Anser anser*, *Mergus merganser*, *Accipitridae*, *Haliaeetus albicilla*, *Buteo* sp., *Aquila* sp., *Aquila chrysaetos*, *Phasianidae*, *Perdicinae*, *Perdix perdix*, *Grus grus*, *Tetrax tetrax*, *Otis tarda*, *Numenius arquata*, *Larus* sp., *Columba* sp., *Columba livia*, *Bubo bubo*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corone*, *Corvus corax*

Det.: Garcia i Petit

Date: LP

Fauna: *Alectoris/Perdix* sp., *Coturnix coturnix*, *Scolopax rusticola*

Det: Sanchez-Marco

Notes: A. k. a. Gruta de Serinya, La Bora Gran.

#### SP 16 Brechas de la Cantera de l'Altissent (Barcelona)

Type: c

Sources: Daura & Sanz 2003, Villalta 1964, Sanchez-Marco 2002, 2007

Date: LP Early LP IS 5

Fauna: *Hieraaetus fasciatus*, *Columba oenas*, *Columba livia/oenas*, *Strix aluco*, *Athene noctua*, *Asio flammeus*, *Dendrocopos major*, *Certhia cf familiaris*, *Serinus serinus*, *Carduelis flammea*, *Fringilla coelebs*

Det.: Villalta

Notes: A. k. a. Castelldefels, Ca n' Aymerich

### SP 19 Casablanca I (Castello)

Type: c

Sources: Mourer-Chauviré & Sánchez-Marco 1988, Sánchez-Marco 1996,2001, 2007

Date: LPI/EP MN17/18 1.6-2.7 MA "Villafranchien moyen"

Layer: 6

Fauna: *Tyto balearica*

Layer: 6-8

Fauna: *Geronticus eremita*

Layer: 7

Fauna: *Geronticus eremita*

Layer: 8

Fauna: *Geronticus eremita*, *Gypaetus barbatus*, *Pyrrhocorax/Corvus sp.*, *Corvus corone*

Layer: Unknown

Fauna: *Pterocles orientalis*, *Pyrrhocorax/Corvus sp.*

Det.: Mourer-Chauviré, Sánchez-Marco

Notes: A. k. a. Almenara I

### SP 21 Cova Negra de Bellus (Valencia)

Alt: 200 Type: c

Sources: Eastham 1988,1989,1998,2001,2005, Sanchez-Marco 2007b, Villalta 1964

Date: LP probably Mousterian

Fauna: *Aquila chrysaetos*, *Alectoris graeca/rufa*, *Columba livia/oenas*, *Upupa epops*, *Apus melba*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Det.: Vicente, Sanchez-Marco

Date: LP Würm I-II, Mousterian

Fauna: *Phalacrocorax aristotelis*, *Anas penelope*, *Anas platyrhynchos*, *Anas acuta*, *Anas crecca*, *Anas querquedula*, *Falco tinnunculus*, *Falco naumanni*, *Alectoris rufa*, *Coturnix coturnix*, *Scolopax rusticola*, *Gallinago gallinago*, *Columba livia*, *Apus apus*, *Apus melba*, *Asio otus*, *Strix sp.*, *Bubo bubo*, *Glaucidium passerinum*, *Otus scops*, *Athene noctua*, *Aegolius funereus*, *Motacilla alba*, *Oenanthe oenanthe*, *Oenanthe leucura*, *Monticola solitarius*, *Turdus merula/torquatus*, *Turdus philomelos*, *Turdus viscivorus*, *Oriolus oriolus*, *Pica pica*, *Corvus sp.*, *Pyrrhocorax sp.*, *Emberiza calandra*

Det.: Eastham

### SP 24 Cova de Son Maiol (Mallorca)

Type: c

Sources: Alcover et al. 1981, Mourer-Chauviré et al. 1977, Seguí 1996, 1999

Date: LP, Early Würm 70-80 KA BP

Fauna: *Accipiter nisus*, *Corvus monedula*, *Turdus sp.*, *Turdus cf viscivorus*, *Pica cf moureri*

Notes: A. k. a. Cova de Son Mayol.

### SP 28 Cova des Cendres (Alicante)

Alt: 50 Type: c

Sources: Hernandez 1993, Sanchez Marco 2004, Tortosa et al. 2002 (Badal et al. 1991, Villaverde et al. 1997,1999)

Layer: I

Date: LP LG Upper Magdalenian

Fauna: *Coturnix coturnix*, *Calidris ferruginea*, *Columba livia/oenas*, *Pyrrhocorax* sp.

Layer: II

Date: LP LG Upper Magdalenian 14C=12,660-12,950 BP

Fauna: *Falco tinnunculus*, *Haematopus ostralegus*, *Columba livia/oenas*, *Lullula arborea*, *Turdus* sp., *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: III

Date: LP LG Upper Magdalenian 14C=12650±80 BP

Fauna: *Aquila chrysaetos*, *Accipiter nisus*, *Alectoris rufa*, *Coturnix coturnix*, *Columba livia/oenas*, *Bubo bubo*, *Apus apus*, *Turdus* sp., *Turdus* cf *viscivorus*, *Turdus* cf *merula*, *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*, *Corvus corone*

Layer: IX-X

Date: LP LG 14C=13,320±170 BP

Fauna: *Haematopus ostralegus*, *Calidris ferruginea*

Layer: XI

Date: LP, 13,840±85 BPFauna: *Pyrrhocorax graculus*

Layer: Unknown

Fauna: *Anser/Branta* sp., cf *Branta bernicla*, *Falco naumanni*, *Athene noctua*, *Sylvia* sp.,

Notes: A. k a. Cueva de Cendres.

### SP 29 Cova des Moro (Mallorca)

Alt: 10 Type: c

Sources: Alcover 2001, Alcover et al. 1981, Segui 1997

Date: LP

Fauna: *Columba livia/oenas*, Hirundidae sp., *Motacilla alba*, *Erithacus rubecula*, *Turdus* sp., *Sylvia melanocephala/curruca*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus corone/fragilegus*, *Loxia curvirostra*, cf *Miliaria calandra*

Stored: MNMCM

Det: Segui

### SP 30 Cueto de la Mina (Asturias)

Alt: 35 Type: c

Sources: Hernandez in litt., Sanchez-Marco 2007b

Date: LP Magdalenian 14C=11630±120, 11650±190 BP

Fauna: Anatidae, *Aquila* cf *chrysaetos*, *Uria aalge*, *Asio flammeus*

Det.: Hernandez

Layer: B

Date: LP LG

Fauna: *Perdix perdix*, *Pyrrhocorax graculus*

Layer: D

Date: LP Lascaux-Dryas I

Fauna: *Lagopus mutus*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: E

Date: LP Laugerie and stadial between Laugerie and Lascaux

Fauna: *Anas crecca*, *Anas platyrhynchos*, *Melanitta perspicillata*, *Falco tinnunculus*, *Lagopus mutus*, *Perdix perdix*, *Pluvialis squatarola*, *Larus canus*, *Columba livia/oenas*, *Asio flammeus*, *Lanius excubitor*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus corax*

Layer: G

Date: LP Later part of Tursac and the following stadial

Fauna: *Anas platyrhynchos*, *Buteo/Circus* sp., Charadriiformes sp., *Pluvialis apricaria*, *Tringa melanoleuca*, *Strix aluco*, *Turdus pilaris*, *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corax*

Layer: H

Date: LP, Tursac interstadial

Fauna: *Anas* sp., *Anas platyrhynchos*, *Falco tinnunculus*; *Perdix perdix*, *Pluvialis apricaria*, *Pluvialis squatarola*, *Calidris maritima*, *Tringa melanoleuca*, *Asio flammeus*, *Montifringilla nivalis*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corax*

Layer: Unknown

Fauna: *Pterodroma mollis*, *Puffinus* sp., *Cygnus* sp., *Anas crecca*, *Anas platyrhynchos*, *Falco tinnunculus*, *Lagopus mutus*, *Perdix perdix*, *Vanellus vanellus*, *Pluvialis apricaria*, *Calidris ferruginea*, *Uria aalge*, *Asio flammeus*, *Pica pica*, *Pyrrhonorax graculus*, *Pyrrhonorax pyrrhonorax*, *Corvus corax*  
Det: Sanchez-Marco

#### SP 34 Cueva de Ambrosio (Almería)

Alt: 1060 Type: c  
Sources: Sánchez-Marco 1988, 2007  
Layer: I (=Nivel 6.1-6.3)  
Date: LP Solutrean  
Fauna: *Falco naumanni*, *Alectoris rufa*, *Columba livia/oenas*, *Athene noctua*, *Carduelis carduelis*, *Pica pica*, *Pyrrhonorax graculus*  
Layer: II (=Nivel 5)  
Date: LP Solutrean 14C= 16,500±280 BP  
Fauna: *Falco naumanni*, *Alectoris rufa*, *Columba livia/oenas*, *Athene noctua*, *Hirundo rustica*, *Petronia petronia*, *Pica pica/Corvus monedula*, *Pica pica*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*  
Layer: III (=Nivel 4)  
Date: LP Solutrean  
Fauna: *Hirundo rustica*, *Prunella collaris*, *Pyrrhonorax graculus*  
Layer: IV (=Nivel 3)  
Date: LP Solutrean 14C = 16,620±280 BP  
Fauna: *Alectoris rufa*, *Columba livia/oenas*, *Pyrrhonorax graculus*  
Layer: V (=Nivel 2.3)  
Date: LP Solutrean  
Fauna: *Pyrrhonorax graculus*  
Layer: VI (=Nivel 2.2)  
Date: LP Solutrean 14C = 16,590±1,400 BP  
Fauna: *Columba livia/oenas*  
Layer: VIIa (= Nivel 2.1)  
Date: LP Solutrean  
Fauna: *Columba livia/oenas*  
Layer: VIIb (= Nivel 1)  
Date: LP Solutrean  
Fauna: *Columba livia/oenas*  
Det.: Sánchez-Marco

#### SP 44 Cueva de Valdegoba (Burgos)

Alt: 930 Type: c  
Sources: Diez et al. 1988-89, Hernandez 1993, Quam et al. 2001, Sanchez-Marco 2004, 2007  
Date: LP Mousterian, IS 4  
Fauna: *Anser fabalis*, *Anas crecca*, *Anas platyrhynchos*, *Anas platyrhynchos/acuta*, *Anas querquedula*, *Somateria* sp., *Milvus migrans*, *Gypaetus barbatus*, *Gyps fulvus*, *Aegypius monachus*, *Accipiter gentilis*, *Buteo buteo*, *Buteo lagopus*, *Falco naumanni*, *Falco tinnunculus*, *Falco peregrinus*, *Lagopus mutus*, *Tetrao tetrix*, *Alectoris graeca*, *Coturnix coturnix*, *Otis tetrax*, *Columba livia/oenas*, *Columba palumbus*, *Caprimulgus* sp., *Athene noctua*, *Alauda arvensis*, *Hirundo rustica*, *Delichon urbica*, *Anthus spinoletta*, *Prunella collaris*, *Prunella modularis*, *Oenanthe oenanthe*, *Turdus* sp., *Muscicapa striata*, *Emberiza calandra*, *Emberiza citrinella*, *Acanthis* cf. *cannabina*, *Pinicola enucleator*, *Petronia petronia*, *Sturnus* sp., *Pica pica*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*  
Det.: Sánchez-Marco

#### SP 46 Cueva de el Parco (Lérida)

Type: c  
Alt: 420  
Sources: Hernandez 1993, Bergadà Zapata 1998  
Layer: Undifferentiated Date: LP/Hol Epipalaeolithic



Fauna: *Alectoris rufa*, *Perdix perdix*, *Athene noctua*, *Columba livia*, *Turdus* sp., *Turdus viscivorus*, *Fringilla* sp., *Miliaria calandra*, *Pyrrhocorax graculus*

Layer: N. sup

Fauna: *Pica pica*

Layer: N.I

Date: 14C=10,190±100-10,930±100 BP

Fauna: *Alectoris rufa*

Layer: N.II

Date: 14C=10,390±300 BP

Fauna: *Pyrrhocorax graculus*, *Pica pica*

Layer: N.IV Int. cueva

Date: 14C=12,900±130 BP

Fauna: *Alectoris rufa*, *Pyrrhocorax graculus*, cf *Turdus iliacus*

Layer: N.VI. Int. cueva

Date: 14C=13,950±150 BP

Fauna: *Pyrrhocorax graculus*

N.X. Int. cueva

Date: (N.VII) 14c=14,040±140 (N.XI) 14C=14,300±150 BP

Fauna: *Pyrrhocorax graculus*, cf *Miliaria calandra*

Det.: Hernandez

Notes: A. k. a. Cueva del Parco

### SP 50 Cueva del Toll (Barcelona)

Type: c

Sources: Villalta 1964, Sanchez-Marco 2007b, (Estevez 1979)

Date: LP, Würm I-IIb. Mousterian

Fauna: *Aquila* sp., *Lagopus mutus*, *Alectoris barbara*, *Alectoris graeca*, *Perdix perdix*, *Otis tetrax*, *Columba livia/oenas*, *Nyctea scandiaca*, *Strix aluco*, *Luscinia luscinia*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus corax*

Det.: Villalta, Sanchez-Marco

### SP 52 Cueva (Asturias)

Type: c

Sources: Sánchez-Marco 1986, 2007a

Date: LP LG Magdalenian

Fauna: *Gyps melitensis*, *Bubo bubo*

Det.: Sánchez-Marco

Stored: MNCN

Notes: A. k. a. La Cueva

### SP 53 Devil's Tower (Gibraltar)

Type: c

Sources: Breuil 1922, Cooper 2005, Garrod et al. 1928, Lambrecht 1933, Stewart 2007, Villalta 1964, Wolf 1938-41

Date: LP Mousterian 14C >30 000 BP

Fauna: *Puffinus puffinus*, *Calonectris diomedea*, *Phalacrocorax carbo?*, *Phalacrocorax aristotelis*, *Melanitta fusca?*, *Mergus* cf *serrator*, *Haliaeetus albicilla*, *Hieraaetus fasciatus*, *Hieraaetus pennatus*, *Gyps fulvus*, *Falco naumanni?*, *Falco eleonora*, *Falco peregrinus*, *Falco subbuteo*, *Falco tinnunculus*, *Alectoris barbara*, *Alectoris rufa?*, *Larus fuscus*, *Sterna sandvicensis?*, *Pinguinus impennis*, *Uria aalge*, *Columba livia*, *Columba oenas*, *Columba palumbus*, *Picus viridis*, *Apus melba*, *Hirundo rustica*, *Turdus* sp. *Turdus* cf *merula*, *Turdus viscivorus*, *Pyrrhocorax graculus*, *Fringilla* cf *coelebs*, *Passer* sp., *Pyrrhocorax pyrrhocorax*

Det.: Bate

Fauna: *Branta leucopsis?*, *Aegypius monachus*, *Haliaeetus* sp., *Falco columbarius*, *Falco tinnunculus*, *Alectoris rufa*, *Vanellus vanellus*, *Columba livia*, *Strix aluco*, *Apus melba*, *Hirundo rustica*, *Sturnus vulgaris/unicolor*, *Pyrrhocorax graculus?*

Det.: Newton

Fauna: *Calonectris diomedea*, *Puffinus ?mauretanicus*, cf *Aythya fuligula*, *Somateria* sp., *Melanitta nigra*, *Clangula hyemalis*, *Mergus* cf *merganser*, *Mergus* cf *serrator*, *Alectoris* sp., *Falco naumanni*, *Falco* cf *tinnunculus*, *Columba livia/oenas*, *Alle alle*, *Pinguinus impennis*, *Uria aalge*, *Alca torda*, *Fratercula arctica*, cf *Strix aluco*, *Apus melba*, *Pyrrhonorax pyrrhonorax*

Det: Cooper

Notes: The deposits possibly span the interval c. 30-85 KA BP, A. k. a. Forbes quarry

## SP 55 El Castillo (Santander)

Alt: 175 Type: c

Sources: Cabrera 1984, Sanchez Marco 2006

Layer: 7 Date: LP Magdalenian between "A" and "B"

Fauna: *Aquila* sp., *Corvus monedula*

Layer: 8 Date: LP Magdalenian "Beta" 14C=16850±220 BP

Fauna: *Anas platyrhynchos*, *Athene* sp.?, *Corvus monedula*

Layer: 12 Date: LP Aurignacian "Alfa"

Fauna: *Anas platyrhynchos*, *Falco tinnunculus*, *Lagopus mutus*, *Bonasa bonasia*, *Corvus monedula*

Layer: 13 Date: LP between Aurignacian "Alfa" and "Beta"

Fauna: *Anas* sp., *Anas crecca*, *Falco tinnunculus*, *Lagopus mutus*, *Asio flammeus*, *Pyrrhonorax* sp., *Corvus* sp., *Corvus corax*, *Garrulus glandarius*

Layer: 14 Date: LP Aurignacian "Beta"

Fauna: *Branta bernicla*?, *Anas platyrhynchos*, *Aquila* sp., *Columba livia*, *Pyrrhonorax* sp., *Corvus monedula*, *Corvus corax*

Layer: 16 Upper "Capa de Redores" Date: LP Top of Aurignacian "G"

Fauna: *Anas* sp., *Anas clypeata*, *Anas penelope*, *Anas crecca*, *Melanitta fusca*, *Falco tinnunculus*, *Bonasa bonasia*, *Lagopus mutus*, *Vanellus vanellus*, *Pluvialis squatarola*, *Calidris* sp., *Calidris alpina*, *Larus marinus*, *Columba livia*, *Bubo bubo*, *Strix aluco*, *Asio flammeus*, *Cinclus cinclus*, *Pyrrhonorax* sp., *Garrulus glandarius*, *Corvus monedula*, *Corvus corax*, *Coccothraustes coccothraustes*, *Fringilla montifringilla*, *Miliaria calandra*

Layer: 16 Date: LP Aurignacian "G"

Fauna: *Melanitta nigra*, *Aegyptius monachus*, *Aquila* sp., *Corvus corax*

Date: LP Lower Aurignacian "G"

Fauna: *Anas* sp., *Anas crecca*, *Mergus serrator*, *Falco tinnunculus*, *Bonasa bonasia*, *Lagopus mutus*, *Perdix perdix*, *Crex crex*, *Fulica cristata*, *Vanellus vanellus*, *Calidris canutus*, *Larus ridibundus*, *Sterna hirundo*, *Alle alle*, *Columba livia*, *Bubo bubo*, *Asio flammeus*, *Turdus pilaris*?, *Turdus iliacus*?, *Cinclus cinclus*, *Pyrrhonorax* sp., *Corvus monedula*, *Corvus corax*, *Sturnus vulgaris*, *Coccothraustes coccothraustes*, *Plectrophenax nivalis*

Layer: "Rodent 2" (=16d) Date: LP Base of Aurignacian "G"

Fauna: *Turdus philomelos*, *Corvus* sp., *Coccothraustes coccothraustes*

Layer: 18 Date: LP Aurignacian "Delta" 14C=36200±4100-41100±1700 BP

Fauna: *Anas platyrhynchos*, *Aquila* sp., *Falco tinnunculus*, *Lagopus mutus*, *Perdix perdix*, *Scolopax rusticola*, *Stercorarius pomarinus*, *Pica pica*, *Corvus corax*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Det.: Sanchez Marco, Vaufrey, Fischer & Newton

Layer: 18B Date: LP Aurignacian

Fauna: Anatidae sp., cf *Perdix perdix*, *Columba livia/oenas*, *Riparia riparia*, Corvidae sp., *Corvus monedula*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: 18C Date: LP Aurignacian

Fauna: *Falco* cf *tinnunculus*, *Rallus aquaticus*, *Charadrius dubius*, *Calidris ferruginea*, *Asio* sp., *Columba livia/oenas*, *Galerida cristata*, *Oenanthe leucura*, *Carduelis carduelis*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Det: Sanchez Marco

Layer: 20 Date: LP Mousterian "A" 14C=39300±1900, 43300±2900 BP (layer 20b2)

Fauna: *Falco tinnunculus*, *Corvus monedula*, *Coccothraustes coccothraustes*

Det.: Newton

Layer: 22 Date: LP Mousterian "B" 70100±9400, 70,400±9,600 BP

Fauna: *Aegyptius monachus*?, *Pyrrhonorax* sp.

Det.: Newton

Layer: 24 Date: MP? Acheulean

Fauna: *Corvus monedula*

Notes: A. k. a. Cueva del Castillo.

### SP 58 El Salt (Alicante)

Type: c

Sources: Eastham 1989,1998,2001

Date: LP Mousterian

Fauna: *Anas platyrhynchos*, *Alectoris rufa*, *Columba* sp., *Pyrhcorax graculus*, *Pyrhcorax pyrrhcorax*

Det.: Eastham

Notes: Near Alcoy

### SP 61 Es Pouàs (Eivissa)

Alt: 236 Type: c

Sources: Alcover 2001, Alcover et al. 1981,1992, 2005, Alcover & Bover 2002, Alcover & Mc Minn 1992,1994, Florit et al. 1989, McMinn, Palmer & Alcover 2005, Moyà-Solà et al. 1984, Sondaar et al. 1995, J A Alcover pers. com.

Date: LP, c. 30 KA BP – Holocene c. 6 KA BP

Fauna: *Calonectris diomedea*, *Puffinus mauretanicus*, Procellariidae n. sp., *Hydrobates pelagicus*, *Phalacrocorax aristotelis*, *Anser* n. sp. aff *erythropus*, *Branta* sp., *Anas crecca*, *Haliaeetus albicilla*, *Circus cyaneus*, *Pandion haliaetus*, *Falco eleonora*, *Falco naumanni*, *Falco tinnunculus*, *Coturnix coturnix*, *Rallus eivissensis*, *Crex crex*, *Porzana porzana*, *Grus grus*, *Otis tarda*, *Burhinus oedicephalus*, *Charadrius cf morinellus*, *Charadrius* sp., *Pluvialis* sp., *Vanellus vanellus*, *Numenius arquata*, *Gallinago gallinago*, *Scolopax rusticola*, *Columba livia*, *Columba palumbus*, *Cuculus canorus*, *Bubo bubo*, *Otus scops*, *Asio flammeus*, Strigidae n. sp., *Apus apus/pallidus*, *Coracias garrulus*, *Upupa epops*, *Caprimulgus* sp., *Alauda arvensis*, *Galerida cristata/theklae*, *Calandrella* sp., *Hirundo* sp., *Phoenicurus* sp., *Erithacus rubecula*, *Turdus* n. sp., *Ficedula* sp., *Lanius minor*, *Lanius excubitor*, *Lanius senator*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus cf corone*, *Corvus monedula*, *Corvus corax*, *Coccothraustes coccothraustes*, *Carduelis cannabina*, *Carduelis chloris*, *Montifringilla nivalis*, *Fringilla* sp., *Petronia petronia*, *Passer domesticus*, *Miliaria calandra*

Det: Alcover

Stored: MNIB

### SP 62 Genista Cave (Gibraltar)

Type: c

Sources: Hernandez 1993, 2001, Wolf 1938-41

Date: LP/Hol Middle Palaeolithic-Holocene

Fauna: *Gavia* sp., *Puffinus puffinus*, *Aegypius* sp., *Phasianus* sp., *Columba livia*

### SP 64 Gorham's Cave (Gibraltar)

Type: c

Sources: Cooper 2005, Eastham 1968,1989, Finlayson et al 2006, 2007, Sanchez-Marco 2007a.

Layer: A Date: LP/Hol

Fauna: *Aythya fuligula*, *Gyps fulvus*, *Milvus milvus*, *Falco peregrinus*, *Fulica atra*, *Fratercula arctica*, *Columba livia*, *Sturnus vulgaris/unicolor*, *Corvus corax*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Emberiza* sp.

Layer: A2 Date: LP/Hol

Fauna: *Phalacrocorax aristotelis*, *Fratercula arctica*

Layer: B1 Date: LP UP "Magdalenian"

Fauna: *Puffinus puffinus yelkouan*, *Haliaeetus albicilla*, *Falco tinnunculus*, *Himantopus cf himantopus*, *Charadrius cf dubius*, *Fratercula arctica*, *Columba livia*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Fringilla coelebs*

Layer: B2 Date: LP UP Perigordian

Fauna: *Phalacrocorax aristotelis*, *Gyps fulvus*, *Milvus milvus*, *Falco tinnunculus*, *Alectoris rufa*, *Columba livia*, *Corvus corone*

Layer: D1 Date: LP Aurignacian 14C=27860±300,28710±200 BP

Fauna: *Gyps fulvus*, *Milvus milvus*, *Haliaeetus albicilla*, *Falco peregrinus*, *Alectoris rufa*, *Larus fuscus*, *Larus argentatus*, *Columba livia*, *Bubo bubo*, *Sturnus vulgaris/unicolor*, *Corvus corone*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Fringilla coelebs*

Layer: D2 Date: LP Aurignacian 14C=27860±200,28710±200 BP

Fauna: *Gyps fulvus*, *Milvus milvus*, *Haliaeetus albicilla*, *Alectoris rufa*, *Columba livia*, *Hirundo rustica*, *Corvus monedula*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Sturnus vulgaris/unicolor*, *Fringilla coelebs*

Layer: E Date: LP UP

Fauna: *Gyps fulvus*, *Milvus milvus*, *Alectoris rufa*, *Fratercula arctica*, *Columba livia*, *Turdus viscivorus*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Emberiza* sp.

Layer: F1 Date: LP UP

Fauna: *Gyps fulvus*, *Hieraaetus fasciatus*, *Milvus milvus*, *Columba livia*, *Corvus corone*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Sturnus vulgaris/unicolor*

Layer: F2 Date: LP earliest UP (F2 is the lowest Upper Paleolithic layer)

Fauna: *Ciconia ciconia*, *Alectoris rufa*, *Gyps fulvus*, *Hieraaetus fasciatus*, *Milvus milvus*, *Columba livia*, *Corvus corone*, *Pyrrhocorax graculus*, *Sturnus vulgaris/unicolor*

Layer: G Date: LP Mousterian 14C=49200±3200,47700±1500,>47000 BP, Würm II, IS 3

Fauna: *Phalacrocorax aristotelis*, *Ciconia ciconia*, *Clangula hyemalis*, *Gyps fulvus*, *Milvus milvus*, *Haliaeetus albicilla*, *Falco peregrinus*, *Alectoris graeca*, *Alectoris rufa*, *Fulica atra*, *Columba livia*, *Turdus viscivorus*, *Sturnus vulgaris/unicolor*, *Corvus corax*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: J/J2 Date: LP Würm I/II, mid IS 3?

Fauna: *Corvus corax*, *Pyrrhocorax pyrrhocorax*

Notes: Cave uninhabited due to high sea level.

Layer: K Date: LP Mousterian, Würm I, IS 3?

Fauna: *Gavia stellata*, *Phalacrocorax aristotelis*, *Ardea cf. purpurea*, *Tadorna ferruginea*, *Netta rufina*, *Aythya fuligula*, *Clangula hyemalis*, *Gyps fulvus*, *Milvus milvus*, *Alectoris rufa*, *Haematopus ostralegus*, *Larus fuscus*, *Pinguinus impennis*, *Alle alle*, *Columba livia*, *Bubo bubo*, *Strix* sp., *Corvus monedula*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: M Date: LP Mousterian, Würm I, IS 3?

Fauna: *Phalacrocorax aristotelis*, *Aythya nyroca*, *Clangula hyemalis*, *Melanitta fusca*, *Gyps fulvus*, *Milvus milvus*, *Falco tinnunculus*, *Fulica atra*, *Anthropoides virgo*, *Haematopus ostralegus*, *Larus ridibundus*, *Columba livia*, *Bubo bubo*, *Corvus corax*, *Corvus corone*, *Corvus monedula*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: N Date: LP Mousterian, Würm I, IS 3?

Fauna: *Netta rufina*, *Milvus milvus*, *Columba livia*, *Pyrrhocorax pyrrhocorax*

Layer: P Date: LP Mousterian, Würm I, IS 3?

Fauna: *Anas platyrhynchos*, *Gyps fulvus*, *Fulica atra*, *Columba livia*, *Corvus corax*, *Corvus corone*, *Pyrrhocorax pyrrhocorax*

Layer: Q Date: LP Mousterian, Würm I, late IS 4?

Fauna: *Milvus milvus*, *Alectoris rufa*, *Hirundo rustica*, *Pyrrhocorax pyrrhocorax*

Layer: R Date: LP Mousterian, Würm I, IS 4?

Fauna: *Gavia stellata*, *Phalacrocorax aristotelis*, *Gyps fulvus*, *Milvus milvus*, *Alectoris rufa*, *Larus fuscus*, *Columba livia*, *Pyrrhocorax pyrrhocorax*

Layer: S Date: LP Mousterian, Würm I, early IS 4?

Fauna: *Phalacrocorax aristotelis*, *Anas platyrhynchos*, *Hieraaetus fasciatus*, *Strix* sp., *Corvus corone*

Det.: Eastham

Stored: A. Eastham private coll.

Layer: unknown

Fauna: *Fulmarus glacialis*, *Pterodroma* sp., *Calonectris diomedea*, *Puffinus ?mauretanicus*, *Hydrobates pelagicus*, *Tadorna tadorna*, cf *Aythya fuligula*, *Somateria* sp., *Melanitta fusca*, *Melanitta nigra*, *Clangula hyemalis*, *Falco naumanni*, *Alectoris* sp., *Falco naumanni*, *Pinguinus impennis*, *Alca torda*, *Fratercula arctica*, *Columba cf livia*, *Columba livia/oenas*, *Bubo bubo*, *Apus apus/pallidus*, *Upupa epops*, *Hirundo* sp., *Cyanopica cyanus*, *Pyrrhocorax pyrrhocorax*, *Corvus corone/fragileus*

Det: Cooper

Stored: Department of Palaeontology, The Natural History Museum, London

Layer: III Date: UP Solutrean, 14C 16,420-18,440 BP

Fauna: *Coturnix coturnix*, *Alectoris rufa*, *Gyps fulvus*, *Gyps melitensis*, *Buteo buteo*, *Falco tinnunculus*, *Falco naumanni*, *Apus apus*, *Galerida cristata*, *Lullula arborea*, *Hirundo rustica*, *Pyrrhocorax pyrrhocorax*, *Fringilla coelebs*

Layer: IV Date: LP Mousterian, 14C 23.780-32,560 BP

Fauna: *Gavia stellata*, *Calonectris diomedea*, *Sula bassana*, *Phalacrocorax aristotelis*, *Plegadis falcinellus*, *Geronticus eremita*, *Melanitta nigra*, *Milvus migrans*, *Milvus milvus*, *Buteo buteo*, *Buteo lagopus*, *Haliastur albicilla*, *Aquila chrysaetos*, *Gyps melitensis*, *Gyps fulvus*, *Falco naumanni*, *Falco tinnunculus*, *Falco peregrinus*, *Coturnix coturnix*, *Alectoris rufa*, *Numenius phaeopus*, *Limosa limosa*, *Calidris maritima*, *Himantopus himantopus*, *Pinguinus impennis*, *Columba livia*, *Apus apus*, *Apus melba*, *Otus scops*, *Galerida cristata*, *Lullula arborea*, *Hirundo rustica*, *Ptyonoprogne rupestris*, *Motacilla alba*, *Anthus spinoletta*, *Anthus*

*campestris*, *Anthus pratensis*, *Prunella collaris*, *Erithacus rubecula*, *Phoenicurus ochruros*, *Oenanthe hispanica*, *Ficedula hypoleuca*, *Parus major*, *Fringilla coelebs*, *Carduelis chloris*, *Acanthis flammea*, *Pyrrhula pyrrhula*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Emberiza citrinella*, *Emberiza calandra*

Det: Sanchez Marco

Notes: The stratigraphy at this site as published is questionable (J Cooper pers. com.).

#### **SP 66 Huéscar-1 (Granada)**

Type: o?

Sources: Sánchez-Marco 1989, 2002, 2004

Date: EP/MP, MNQ 20/21

Fauna: *Tachybaptus ruficollis*, *Tadorna* sp., *Anas crecca*, *Anas querquedula*, *Anas clypeata*, *Anas acuta/strepera*, cf *Netta rufina*, *Aythya* sp., *Aythya nyroca*, *Melanitta nigra*, *Mergus serrator*, cf *Perdix* sp., *Coturnix coturnix*, *Bubo bubo*

Det.: Sánchez-Marco

#### **SP 67 Barranca de la Barca, Jandia Peninsula, Fuerteventura (Canaries)**

Alt: 40 Type: o

Sources: Walker, Wragg & Harrison 1990, Michaux, Hutterer & Lopez-Martinez 1991

Date: LP 14C=32100±1100 BP

Fauna: *Puffinus holeae*

Det.: Walker

#### **SP 68 La Riera (Asturias)**

Alt: 30 Type: c

Sources: Eastham 1986b, Sanchez-Marco 2007b

Layer: 27

Date: LP LG Azilian/Terminal Magdalenian 14C=10,690-12,270 BP

Fauna: *Anser fabalis/brachyrhynchus*, *Anas platyrhynchos*, *Anas querquedula*, *Aquila chrysaetos*, *Falco tinnunculus*, *Perdix perdix*, *Garrulus glandarius*, *Miliaria calandra*

Layer: 26

Date: LP LG Upper Magdalenian 14C=11,450±85 BP

Fauna: *Phalacrocorax carbo*, *Anser fabalis/brachyrhynchus*, *Anas platyrhynchos*, *Anas crecca*, *Anas acuta*, *Anas querquedula*, *Somateria mollissima*, *Strix aluco*, *Turdus merula*, *Turdus philomelos*, *Turdus viscivorus*

Layer: 25

Date: LP LG Upper Magdalenian

Fauna: *Anas acuta*

Layer: 24

Date: LP LG Upper Magdalenian 14C=10,890-11,480 BP

Fauna: *Anser fabalis/brachyrhynchus*, *Anas platyrhynchos*, *Anas acuta*, *Anas querquedula*, *Lagopus mutus*, *Parus major*, *Garrulus glandarius*

Det.: Eastham

Layer: Unknown

Date: LP, 10-25 KA BP

Fauna: *Falco tinnunculus*, *Lagopus mutus*, *Perdix perdix*, *Pluvialis apricaria*, *Sturnus* sp., *Pyrrhocorax pyrrhocorax*, *Corvus corax*

Det: Sanchez-Marco

#### **SP 74 Pedrera de S'Onix (Mallorca)**

Type: c

Sources: Alcover et al. 1981, 2005, Mourer-Chauviré et al. 1980, Seguí 1996, 1999, 2001, Sondaar et al. 1995

Date: LPI/EP 1.64-1.80 MA BP

Fauna: cf *Calonectris diomedea*, *Cygnus* cf *cygnus*, *Bucephala* cf *clangula*, *Aegypius* cf *monachus*, *Coturnix* cf *coturnix*, cf *Porzana porzana*, *Scolopax rusticola*, *Tyto balearica*, *Otus scops*, *Dendrocopos* cf *major*, *Melanocorypha* cf *calandra*, cf *Lullula arborea*, *Troglodytes* cf *troglodytes*, *Prunella* cf *modularis*, *Erithacus* cf *rubecula*, *Turdus* cf *merula*, *Turdus* cf *iliacus/philomelos*, *Turdus iliacus*, *Muscicapa* cf *striata*, *Sylvia* sp.,

*Sylvia cf atricapilla*, cf *Phylloscopus* sp., *Regulus cf ignicapillus*, *Aegithalos cf caudatus*, *Parus cf cristatus*, *Parus cf ater*, *Parus cf major*, *Fringilla cf coelebs*, *Carduelis cf carduelis*, *Carduelis carduelis/cannabina*, *Carduelis chloris*, *Coccothraustes cf coccothraustes*, *Pica moureri*, cf *Nucifraga caryocatactes*, *Pyrrhonorax cf pyrrhonorax*, *Corvus pliocaenus*

Det.: Mourer-Chauviré, Alcover, Seguí

Stored: Museum d'Histoire Naturelle des Baléares

### **SP 75 Pinilla del Valle (Madrid)**

Alt: 1100      Type: c

Sources: Sánchez pers com., Bochenski 2007

Date: MP Late MP, IS 7

Fauna: *Anas platyrhynchos*, *Anas crecca*, *Tadorna ferruginea*, *Falco tinnunculus*, *Falco naumanni*, aff *Lagopus* sp., *Alectoris cf rufa*, *Coturnix coturnix*, *Lullula arborea*, *Galerida cristata*, *Galerida cf theklae*, *Galerida* sp., *Ptyonoprogne rupestris*, *Anthus spinoletta*, *Lanius senator*, cf *Prunella collaris*, *Oenanthe* sp., *Turdus cf torquatus*, *Turdus viscivorus*, *Emberiza cf melanocephala*, *Corvus corone*, *Corvus* sp.

Det.: Bochenski

Stored: Departamento de Paleontología de la Universidad Complutense de Madrid

### **SP 76 Reclau Viver (Gerona)**

Type: c

Sources: Villalta 1964, Garcia i Petit 2002

Date: LP Solutrean 14C=13300±600 BP, 14C=14750-18700 BP (Perigordien-Aurignacian) (too young?)

Fauna: *Ardea cinerea*, *Gyps fulvus*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco vespertinus*, *Falco subbuteo*, *Alectoris graeca*, *Alectoris barbara*, *Perdix perdix*, *Otis tarda*, *Columba livia*, *Otus scops*, *Bubo bubo*, *Garrulus glandarius*, *Pica pica*, *Corvus corax*, *Corvus monedula*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Det.: Villalta, Garcia i Petit?

### **SP 82 Torralba (Soria)**

Type: o

Sources: Mourer-Chauviré 1979b, Sánchez 1990, 1999, 2005, 2007 (Aguirre & Fuentes 1969)

Date: MP Acheulean, IS 9/11?

Fauna: *Tadorna ferruginea*, Anatidae sp. *Mergus serrator*, *Porphyrio porphyrio*

Det.: Sánchez-Marco, Fuentes

### **SP 84 Barranc de Binigaus (Minorca)**

Type: c

Sources: Alcover et al. 1981, McMinn et al. 1997, Mourer-Chauviré et al 1980

Date: EP/LPI MN 18

Fauna: *Coturnix cf coturnix*, cf *Lymnocyptes minimus*, *Tyto balearica*

Det: Mourer-Chauviré, Alcover

Stored: Museum de Histoire Naturelle des Baléares

### **SP 87 Davant Pau (Serinya)**

Type: c

Sources: Garcia i Petit 1995b,c

Date: LP UP, Post-Solutrean

Fauna: *Pyrrhonorax* sp./*Corvus monedula*

Det: Garcia Petit

Notes: A. k. a. Cova d'en Pau, cau d'en Paquito, Pau II-IV

### **SP 90 Jarama VI (Guadalajara)**

Type: c

Sources: Alvarez et al. 1995, Arribas Herrera & Jordá Pardo 1999, Sanchez-Marco 2007b

Layer: 1 Date: LP 14C=23380±500 BP

Fauna: *Falco* sp., *Alectoris rufa*, *Perdix perdix*, *Columba livia/oenas*, *Bubo bubo*, *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus corax*

Layer: 1-2

Fauna: *Falco* sp.

Layer: 2

Date: LP Mousterian 14C=32600±1860, 29500±2700 BP (upper part)

Fauna: *Falco* sp., *Alectoris rufa*, *Pica pica*, *Pyrrhocorax graculus*

Unstratified

Fauna: *Coccothraustes coccothraustes*

Det: Sánchez Marco

### SP 91 Tossal de la Roca (Alicante)

Type: c Alt: 668

Sources: Sánchez Marco 1995b, 2007

Layer: I

Date: LP LG Epipalaeolithic, Alleröd?

Fauna: *Alectoris rufa*, *Tyto alba*, *Bubo bubo*, *Strix aluco*, *Sturnus* sp., *Pyrrhocorax graculus*

Layer: II

Date: LP LG 14C=12480±210, 12390±250 BP, Late Magdalenian

Fauna: *Alectoris rufa*

Layer: III

Date: LP Bölling, Late Magdalenian

Fauna: *Alectoris rufa*, *Athene noctua*, *Strix aluco*, *Hirundo rupestris*, *Corvidae* sp.

Layer: IV

Date: LP UP 14C=15360±100 BP

Fauna: *Pica pica*

Det: Sánchez Marco

## SYRIA

### SY 2 Tell Mureybet

Alt: 290 Type: o

Sources: Gourichon 2004, Pichon 1984

Layer: IA

Date: LP, Late Natufian 10200-10590 BP

Fauna: *Podiceps nigricollis*, *Ardea cinerea*, *Egretta garzetta*, *Anser albifrons*, *Anser anser*, *Anser* sp., *Anas penelope*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Anas querquedula*, *Anas clypeata*, *Marmaronetta angustirostris*, *Netta rufina*, *Aythya ferina*, *Aythya nyroca*, *Aythya fuligula*, *Aythya marila*, *Bucephala clangula*, *Mergus albellus*, *Milvus* sp., *Haliaetus albicillas*, *Circus* sp., *Circus aeruginosus*, *Accipiter nisus/brevipes*, *Accipiter gentilis*, *Buteo buteo*, *Buteo rufinus*, *Aquila clanga*, *Aquila chrysaetos*, *Aquila* sp., *Falco naumanni*, *Falco tinnunculus*, *Falco subbuteo*, *Falco* sp., *Francolinus francolinus*, *Porzana porzana*, *Grus grus*, *Abnthropoides virgo*, *Otis tarda*, *Tringa totanus*, *Tringa nebularia*, *Philomachus pugnax*, *Columba livia/oenas*, *Columba oenas*, *Streptopelia* sp., *Bubo bubo*, *Asio flammeus*, *Asio* sp., *Athene noctua*, *Strigidae* sp., *Pica pica*, *Corvus corone/fragilegus*

Layer: IB, IIA-IIB

Date: LP, Khiamian 10,000-10200 BP

Fauna: *Podiceps cristatus*, *Podiceps nigricollis*, *Botaurus stellaris*, *Ardea cinerea*, *Anser albifrons*, *Anser anser*, *Anser* sp., *Anas penelope*, *Anas crecca*, *Anas platyrhynchos*, *Anas acuta*, *Anas querquedula*, *Anas clypeata*, *Marmaronetta angustirostris*, *Netta rufina*, *Aythya ferina*, *Aythya nyroca*, *Aythya fuligula*, *Aythya marila*, *Bucephala clangula*, *Mergus albellus*, *Mergus* sp., *Pandion haliaetus*, *Milvus migrans*, *Milvus* sp., *Neophron percnopterus*, *Gyps fulvus*, cf *Circaetus gallicus*, *Circus* sp., *Circus aeruginosus*, *Accipiter nisus/brevipes*, *Accipiter gentilis*, *Buteo buteo*, *Buteo rufinus*, *Buteo* sp., *Aquila clanga*, *Aquila chrysaetos*, *Aquila* sp., *Hieraetus fasciatus*, *Falco tinnunculus*, *Falco columbarius*, *Falco subbuteo*, *Falco peregrinus*, *Falco* sp., *Perdix perdix*, *Alectoris chukar*, *Francolinus francolinus*, *Coturnix coturnix*, *Porzana porzana*, *Fulica atra*, *Grus grus*, *Anthropoides virgo*, *Tetrax tetrax*, *Otis tarda*, *Vanellus spinosus*, *Philomachus pugnax*, *Gallinago gallinago*,

*Limosa limosa*, *Numenius arquata*, *Columba oenas*, *Columba livia/oenas*, *Columba palumbus*, *Streptopelia turtur*, *Streptopelia sp.*, *Bubo bubo*, *Asio flammeus*, *Asio sp.*, *Athene noctua*, *Strigidae sp.*, *Coracias garrulus*, *Pica pica*, *Corvus corone/fragilegus*, *Passeriformes sp.*  
Det.: Gourichon, Pichon

## UNITED KINGDOM

### UK 3 Bacon Hole (Glamorgan)

Alt: 12 Type: c  
Sources: Harrison 1977a,1987, Stringer et al. 1986, Stewart 2007  
Layer: H, I  
Date: MIS 5a or 5c  
Fauna: *Sturnus cf unicolor*  
Det: Stewart  
Layer: 2 (G) Date: LP IS 5e Ipswichian s. s. later part, >87 KA BP  
Fauna: *Anser fabalis*, *Falco subbuteo*, *Pluvialis apricaria*, *Sturnus vulgaris*  
Layer: D-F (3-4) Date: LP Ipswichian s. s. (IS 5e) U/Th 116-129 KA BP  
Fauna: *Calonectris diomedea*, *Milvus milvus*, *Calidris alpina*, *Arenaria interpres*, *Alca torda*, *Alauda arvensis*, *Hirundo rustica*, *Oenanthe oenanthe*, *Turdus merula/torquata*, *Sturnus vulgaris*, *Corvus corone/fragilegus*  
Det.: Harrison Stored: BMNH  
Notes: *Clangula hyemalis* mentioned by Harrison 1977a but not 1987

### UK 17 Creag nan Uamh cave (Sutherland)

Type: c  
Sources: Eastham 1995a, Lambrecht 1933, Newton 1917, Stewart 1999, 2007, Wolf 1938-41  
Layer: 3 or 5  
Date: LP LG?  
Fauna: *Cygnus cf olor*, *Branta leucopsis*, *Anas cf platyrhynchos*, *Clangula hyemalis*, *Melanitta fusca*, *Melanitta nigra*, *Lagopus mutus*, *Pluvialis apricaria*, *Fratercula arctica*  
Layer: 5  
Date: LP LG?  
Fauna: *Anas penelope*, *Anas crecca*, *Clangula hyemalis*, *Aythya fuligula*, *Melanitta nigra*, *Somateria mollissima*, *Lagopus mutus*, *Pluvialis squatarola*, *Alle alle*, *Fringilla cf coelebs*  
Layer; ?  
Date; LP  
Fauna: *Uria aalge*, *Cephus grylle*, *Alle alle*, *Fratercula arctica*  
Det.: Newton, Eastham Stored: Geological Survey Museum  
Notes: A. k. a. Alt nan Uamh. 14C date on reindeer antler in one of the Creag Nan Uamh caves gave a date of 10080±70 BP but recent, as yet unpublished, 14C-dates indicates that some of the remains may be of Mid-Devensian age (Anne Eastham *in litt.*).

### UK 44 Minchin Hole (Glamorgan)

Alt: 15 Type: c  
Sources: Harrison 1977a,1987, Stewart 2007  
Layer: Bone Horizon Date: LP Ipswichian s. s. (IS 5e), 107-127 KA BP  
Fauna: *Calidris alpina*, *Alca torda*, *Alauda arvensis*, *Sturnus cf unicolor*  
Det.: Harrison, Stewart  
Stored: BMNH

### UK 48 Ossom's Cave (Staffordshire)

Alt: 250 Type: c  
Sources: Bramwell 1960b, Jackson 1962, Stewart 1999, Stuart 1982  
Layer: C  
Date: LP LG Late Devensian, Dryas 3 14C=10590±70,10780±160,10600±140 BP.



Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Buteo cf buteo*, *Crex crex*, *Bubo bubo*, *Turdus viscivorus*, *Corvus monedula*

Det.: Bramwell Stored: Stoke City Museum

Notes: Bramwell and Jackson also report *Pluvialis* sp., *Calidris alpina*, *Strix aluco*, *Anthus* sp. and *Corvus corax* but these are probably Holocene. A. k. a. Ossum's Cave

#### UK 68 West Runton (Suffolk)

Alt: 5 Type: o

Sources: Bell 1915, Harrison 1979c, 1985, Lambrecht 1933, Mlíkovský 2002, Newton 1880, 1891, Stewart 1999, Stuart 1975

Layer: Upper Freshwater Bed

Date: MP Cromerian s. s., pollen zone Cr II, 450-500 KA BP (IS 15?)

Fauna: *Phalacrocorax carbo*, *Cygnus columbianus*, *Anser anser*, *Anas platyrhynchos*, *Anas penelope*, *Netta rufina*, *Aythya fuligula*, *Aythya ferina*, *Bucephala clangula*, *Mergus serrator*, *Mergus albellus*, *Aix galericulata*, *Somateria mollissima*, *Gallinula chloropus*, *Tringa ochropus*, *Turdus cf merula*, *Turdus philomelos*, *Turdus iliacus*, *Sitta europaea*, *Sturnus/Turdus* sp. *Garrulus cf glandarius*

Det.: Newton, Harrison, Stewart

#### UK 69 Westbury-sub-Mendip (Somerset)

Alt: 240 Type: c

Sources: Andrews 1990, Stewart 1999

Layer: 11/4

Date: MP Post-Cromerian, probably IS 12/13

Fauna: *Athene noctua*, *Asio flammeus*

Layer: 15/5

Date: MP Post-Cromerian, probably IS 12/13

Fauna: *Anas platyrhynchos*, *Lagopus cf lagopus*, *Bonasa bonasia*, *Gallinago media*

Layer: ?

Date: MP Post-Cromerian, probably IS 12/13

Fauna: *Lagopus cf lagopus*, *Athene noctua*, *Hirundo rustica*, *Sturnus/Turdus* sp.

Det.: Harrison, Stewart

## New Sites

### ALGERIA

#### AL 5 Wadi Seguen (Constantine)

Type: o  
Alt: 600  
Sources: Thomas 1884  
Date: LP?  
Fauna: cf *Struthio* sp.

#### AL 6 Wadi Djelfa (Constantine)

Type: o  
Alt: 1100  
Sources: Thomas 1884  
Date: LP?  
Fauna: cf *Struthio* sp.

### AUSTRIA

#### AU 28 Gamssulzenhöhle (Oberrösterreich)

Type: c            Alt: 1300  
Sources: Döppes & Rabeder 1997 (Frank et al. 1995)  
Date: LP ca 25--38 KA BP  
Fauna: *Lagopus mutus*, *Lagopus* sp., *Gallinula chloropus*, *Gallinago media*, Corvidae, Turdidae  
Det: Mlíkovský  
Stored: Inst. Paläont. Univ. Wien

#### AU 29 Griffener Tropfsteinhöhle (Kärnten)

Type: c            Alt: 484  
Sources: Döppes & Rabeder 1997 (Thenius 1960)  
Date: LP  
Fauna: *Tetrao urogallus*, *Tetrao tetrix*, *Pyrrhocorax graculus*  
Stored: Kärntner Landesmuseum, Klagenfurt  
Notes: A. k. a. Tropfsteinhöhle des Schlossberges bei Griffen

#### AU 30 Grosse Peggauerwandhöhle (Steiermark)

Type: c            Alt: 510  
Sources: Döppes & Rabeder 1997  
Layer: 18-20  
Date: LP Mid-Würmian 31,800+5,600-3,300 BP (l. 18), 42,400±1,500 BP (layer 20)  
Fauna: *Coturnix coturnix*, *Gallinula chloropus*, Corvidae  
Layer: 7-10, 12, 14, 15  
Date: LP Mid-Würmian 14C=32,570±380 BP (layer 7b), 14C=37,400+1,800-1,500 BP (layer 10), 22,600+4,500-1,900 BP (l. 14-15)  
Fauna: *Lagopus mutus*, *Lagopus* sp., *Tetrao urogallus*  
Det: Mlíkovský  
Stored: Inst. Paläont. Univ. Wien, Landesmuseum Joanneum, Naturhist. Mus. Wien  
Notes: A. k. a. Peggauer Höhle, Grosse Peggauer Felsenhöhle

### **AU 31 Kamegg (Niederösterreich)**

Type: o            Alt: 274  
Sources: Döppes & Rabeder 1997  
Date: LP Late Würm, Magdalenien, 14C=14,130±110, 13,840±120 BP  
Fauna: *Lagopus* sp.  
Stored: Höbarth-Museum in Horn

### **AU 32 Kleine Peggauerwandhöhle (Steiermark)**

Type: c            Alt: 511  
Sources: Döppes & Rabeder 1997  
Layer: 7  
Date: LP Mid-Wurmian? 14C > 27,200 BP  
Fauna: *Lagopus* sp., *Corvus corax*  
Det: Mlíkovský  
Stored: Inst. Paläont. Univ. Wien  
Notes: A. k. a. Peggauer-Wandhöhle III, Kleine Peggauer Höhle

### **AU 33 Köhlerwandhöhle (Niederösterreich)**

Type: c            Alt: 591  
Sources: Döppes & Rabeder 1997  
Date: LP U/Th = 18±6 KA BP  
Fauna: *Pica pica*  
Stored: Inst. Paläont. Univ. Wien, Nat. Hist. Mus. Wien  
Notes: A. k. a. Nixhöhle, Nixlucke

### **AU 34 Langmannersdorf (Niederösterreich)**

Type: o            Alt: 205  
Sources: (Angeli 1953), Döppes & Rabeder 1997  
Date: LP Late Aurignacien 14C=20,580±170, 20,260±200 BP  
Fauna: *Aquila* sp.  
Det: Hauck, Sieber & Thenius  
Stored: Nat. Hist. Mus. Wien

### **AU 35 Lettenmayerhöhle (Oberösterreich)**

Type: c            Alt: 380  
Sources: Döppes & Rabeder 1997  
Date: LP "Jungwürm"  
Fauna: *Turdus iliacus*  
Det: Rabeder  
Stored: Nat. Hist. Mus. Wien

### **AU 36 Lurgrotte (Steiermark)**

Type: c            Alt: 419  
Sources: Döppes & Rabeder 1997, Mottl 1975 (Fladerer 1994)  
Layer: Graue Schicht  
Date: LP  
Fauna: *Pyrrhocorax graculus*  
Det: Mottl  
Stored: Landesmuseum Joanneum, Landesverein für Höhlenkunde in der Steiermark

### **AU 37 Marchegg (Niederösterreich)**

Type: o            Alt: 143

Sources: Döppes & Rabeder 1997, (Rabeder 1992)  
Date: LP UP?  
Fauna: *Tetrao urogallus*  
Det: Rabeder  
Stored: Private collections of A. Panucek & H. Preisl

#### **AU 38 Rittersaal (Steiermark)**

Type: c            Alt: 505  
Sources: Döppes & Rabeder 1997, (Fladerer & Fuchs 1992)  
Layer: 4  
Date: LP 14C > 29,600 BP, Mid-Würmian?  
Fauna: cf *Pica* sp., *Pyrrhocorax graculus*  
Layer: Unstratified  
Date: LP  
Fauna: Accipitridae sp  
Stored: Inst. Paläont. Univ. Wien

#### **AU 39 Teufelsrast-Knochenfuge (Niederösterreich)**

Type: c            Alt: 597  
Sources: Döppes & Rabeder 1997  
Date: LP LG?  
Fauna: *Coturnix coturnix*, *Lagopus* sp., *Gallinago media*, *Falco vespertinus*, *Parus major*, *Parus* cf *ater*,  
*Pyrrhula pyrrhula*, *Alauda arvensis*, *Corvus corax*, *Corvus monedula*, *Pyrrhocorax graculus*  
Det: Jánosy  
Stored: Naturhist. Mus. Wien  
Notes: A. k. a. Knochenfuge

#### **AU 40 Zigeunerhöhle (Steiermark)**

Type: c            Alt: 395  
Sources: Fladerer 2000  
Date: LP LG Younger Dryas?  
Fauna: *Lagopus mutus*

#### **AU 41 Bärenhöhle (Steiermark)**

Type: c            Alt: 1980  
Sources: Mottl 1953b  
Layer: c = "Dunkelbraune Phosphaterde"  
Date: LP Early Würm?  
Fauna: *Lagopus mutus*  
Det: Mottl?  
Notes: A. k. a. Hermann-Bock-Höhle

#### **AU 42 Grub/Kranawetberg (Niederösterreich)**

Type: o  
Sources: Antl & Fladerer 2003  
Date: LP Gravettian, 14C=24,620-25.450 BP  
Fauna: *Lagopus* sp.

### **BELGIUM**

#### **BE 17 Grotte du Bois Laiterie (Namur)**

Type: c            Alt: 120

Sources: Deville & Gautier 1997  
Date: LP LG Magdalenian, Bölling 14C=12,625-12,665 BP  
Layer: BD  
Fauna: *Lagopus lagopus*, cf *Turdus* sp.  
Layer: BR  
Fauna: cf *Anas platyrhynchos*, *Lagopus lagopus*, *Tetrao tetrax*  
Layer: GBS  
Fauna: *Lagopus lagopus*  
Layer: UGS  
Fauna: cf *Anas platyrhynchos*, *Lagopus lagopus*, cf *Turdus* sp.  
Layer: LBS  
Fauna: cf *Anas crecca*, *Lagopus lagopus*, *Tetrao tetrax*, *Hirundo rustica*  
Layer: TT  
Fauna: *Anser anser*?, cf *Aythya fuligula*, *Buteo* sp., *Falco* sp., *Lagopus lagopus*, *Tetrao tetrax*, *Perdix perdix*, *Numenius phaeopus*?, *Bubo bubo*, *Hirundo rustica*, *Corvus monedula*, *Pica pica*/*Garrulus glandarius*, Passeriformes  
Layer: YSS  
Fauna: *Anser anser*?, cf *Anas platyrhynchos*, *Buteo* sp., *Falco* sp., *Lagopus lagopus*, *Perdix perdix*, *Numenius phaeopus*, *Bubo bubo*, *Corvus monedula*, Passeriformes  
Layer: BSC  
Fauna: *Perdix perdix*, *Asio* sp., *Hirundo rustica*, Passeriformes  
Layer: RS  
Fauna: *Falco* sp., *Lagopus lagopus*, Passeriformes  
Det: Laville

## **BULGARIA**

### **BU 7 Mirizlivka**

Type: c            Alt: 750  
Sources: Boev 1995,1997,1998,1999a,2002  
Date: LP Late Würm, Late Palaeolithic  
Fauna: *Tetrao tetrax*, *Pica pica*  
Det: Boev  
Stored: National Museum of Natural History, Sofia

### **BU 8 Tsareva tsarkva**

Type: c            Alt: 900  
Sources: Boev 1995,1998,1999a,2001b  
Date: LP  
Fauna: *Falco subbuteo*, *Coturnix coturnix*, *Corvus monedula*, *Pyrrhocorax graculus*  
Det: Boev  
Notes: A. k. a. Tsareva tsarkva

### **BU 9 Kozarnika cave**

Type: c            Alt: 250  
Sources: Boev 1998a,b,1999a,2001a,d,2002  
Layer: III-IV  
Date: LP, EUP (Gravettian), ca 19-26 KA BP  
Fauna: *Anas crecca*, Anserini sp., *Falco tinnunculus*, *Falco vespertinus*, *Tetrao tetrax*, *Tetrao urogallus*, *Lagopus lagopus*, *Lagopus* sp., *Tetrastes bonasia*, *Perdix paleoperdix*, *Perdix perdix*, *Coturnix coturnix*, *Alectoris graeca/chukar*, *Crex crex*, *Gallinula chloropus*, *Porzana* cf *parva*, cf *Charadrius* sp., *Tringa totanus*, *Tringa stagnatilis*, *Tringa* sp., *Apus apus*, *Nyctea scandiaca*, *Aegolius funereus*?, *Athene noctua*, *Eremophila alpestris*, *Hirundo daurica*, *Ptyonoprogne rupestris*, *Riparia riparia*, *Anthus trivialis*, *Lanius collurio*, cf *Erithacus* sp., *Turdus merula*, *Turdus viscivorus*, *Monticola saxatilis*, *Carduelis cannabina*, *Carduelis carduelis*,

*Coccothraustes coccothraustes*, cf *Pyrrhula pyrrhula*, *Fringilla coelebs*, *Loxia curvirostra*, *Pyrrhonorax* cf *pyrrhonorax*, *Pyrrhonorax graculus*, *Garrulus glandarius*, *Corvus monedula*, *Corvus corone*, *Corvus* sp.

Det: Boev

Stored: NMNHS

#### **BU 10 Cherdzhenitsa**

Type: c Alt: 200

Sources: Boev 1998,1999a,2000b,2006b,2006c

Layer: Trench Pr VI

Date: EP MNQ 20, 1.0-1.2 MA BP

Fauna: *Coturnix coturnix*, *Dendrocopos minor*, *Anthus* sp., *Phylloscopus sibilatrix*, *Sylvia atricapilla*, *Pyrrhula pyrrhula*, *Carduelis cannabina*, *Pyrrhonorax pyrrhonorax*

Det: Boev

Stored: NHNMS

Notes: A. k. a. Cave N15. Sometimes regarded as part of Temnata Cave (BU 4).

#### **BU 11 Devetashka Cave**

Type: c Alt: 250

Sources: Boev 1998a,d,1999a,c,2002

Date: LP Middle Paleolithic, ca 70 KA BP

Fauna: *Podiceps cristatus*, *Podiceps grisegena*, *Anser* cf *erythropus*, *Branta ruficollis*, *Anas strepera*, *Anas clypeata*, *Anas penelope*, *Anas crecca*, *Anas platyrhynchos*, *Anas querquedula*, *Anas acuta*, *Aythya fuligula*, *Aythya ferina*, *Aythya nyroca*, *Netta rufina*, *Accipiter nisus*, *Accipiter gentilis*, *Circus aeruginosus*, *Buteo buteo*, *Buteo lagopus*, *Aquila pomarina*, *Falco subbuteo*, *Falco tinnunculus*, *Falco vespertinus*, *Tetrao tetrix*, *Tetrao urogallus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrastes bonasia*, *Perdix paleoperdix*, *Perdix perdix*, *Coturnix coturnix*, *Phasianus colchicus*, *Alectoris graeca*, *Crex crex*, *Rallus aquaticus*, *Gallinula chloropus*, *Porzana pusilla*, *Tetrax tetrax*, *Recurvirostra avosetta*, *Himantopus himantopus*, *Vanellus vanellus*, *Tringa totanus*, *Tringa glareola*, *Tringa stagnatilis*, *Tringa ochropus*, *Actitis hypoleucos*, *Scolopax rusticola*, *Gallinago gallinago*, *Gallinago media*, *Pluvialis squatarola*, *Limosa limosa*, *Philomachus pugnax*, *Larus* cf *canus*, *Larus* cf *ridibundus*, *Sterna hirundo*, *Apus apus*, *Columba livia*, *Cuculus canorus*, *Strix* cf *uralensis*, *Strix aluco*, *Asio otus*, *Asio flammeus*, *Aegolius funereus*, *Athene noctua*, *Glaucidium passerinum*, *Surnia ulula*, *Dendrocopos major*, *Dendrocopos minor*, *Alauda arvensis*, *Eremophila alpestris*, *Lullula arborea*, *Hirundo rustica*, *Hirundo daurica*, *Anthus trivialis*, *Ficedula* cf *albicollis*, *Turdus merula*, *Turdus philomelos*, *Turdus iliacus*, *Turdus viscivorus*, *Lanius collurio*, *Sylvia communis*, *Coccothraustes coccothraustes*, *Pyrrhula pyrrhula*, *Sturnus vulgaris*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Pica pica*, *Nucifraga caryocatactes*, *Garrulus glandarius*, *Corvus monedula*, *Corvus corone*, *Corvus frugilegus*, *Corvus corax*

Det: Boev

Stored: NMNHS

Note: A. k. a. Devetashkata and Devetatska peshchera.

#### **BU 12 Filipovska Cave**

Type: c Alt: 850

Sources: Boev 1998,1999a,2001a,b,2002

Date: LP (Late Würmian)

Fauna: *Falco* cf *tinnunculus*, *Tetrao tetrix*, *Lagopus* cf *lagopus*, *Coturnix coturnix*, *Phasianus colchicus*, *Perdix perdix/palaeoperdix*, Charadriiformes sp., *Athene noctua*, *Hirundo rustica*, *Erithacus rubecula*, *Prunella modularis*, Muscicapidae sp., *Sitta europaea*, *Pyrrhula pyrrhula*, *Sturnus vulgaris*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Pica pica*, *Corvus monedula*, *Corvus* sp., *Carduelis* sp.

Det: Boev

Stored: NMNHS

Notes: A. k. a. Mishlovishka Cave

#### **BU 13 Kozarskata Cave**

Type: c Alt: 550

Sources: Boev 1998, 1999a,2001c

Date: LP, »Pleniglacial 2«

Fauna: *Perdix perdix*, *Turdus merula*, *Turdus iliacus*, *Lanius cf collurio*, *Corvus monedula*  
Det: Boev  
Stored: NMNHS  
Notes: A. k. a. Kozarska cave

#### **BU 14 Mechata Dupka Cave**

Type: c  
Sources: Boev 1998,1999a  
Date: LP  
Fauna: *Perdix perdix*  
Det: Boev  
Notes: A. k. a. Mechata Douпка.

#### **BU 15 Razhishkata Cave**

Type: c            Alt: 500  
Sources: Boev 1998,1999a,2000c,2002  
Date: LP LG "transition Late Pleistocene to Holocene"  
Fauna: *Anser sp.*, *Anas sp.*, *Tetrao tetrax*, *Tetrastes bonasia*, *Perdix paleoperdix*, *Perdix perdix*, *Coturnix coturnix*, *Crex crex*, *Tringa cf stagnatilis*, *Apus melba*, *Asio otus*, *Athene noctua*, *Melanocorypha sp.*, *Anthus cf trivialis*, *Anthus sp.*, *Ptyonoprogne rupestris*, *Parus major*, *Sylvia sp.*, *Petronia petronia*, *Carduelis chloris*, *Coccothraustes coccothraustes*, *Fringilla montifringilla*, *Loxia curvirostra*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, cf *Garrulus glandarius*, *Corvus monedula*, *Corvus corone/fragilegus*, *Corvus sp.*  
Det: Boev  
Stored: NMNHS  
Notes: A. k. a. Rezhishkata, Razhiskatsa, Razhishka, Razhitska peshchera

#### **BU 16 Toplya Cave**

Type: c            Alt: 450  
Sources: Boev 1998,1999a,2002  
Date: LP, Würm  
Fauna: *Tetrao tetrax*, *Monticola saxatilis*, *Corvus monedula*  
Det: Boev  
Stored: NMNHS

#### **BU 17 Balsha**

Type: c            Alt: 600  
Sources: Boev 2001,2002  
Date: EP, MNQ 18/19.  
Fauna: *Lagopus sp.*, cf *Lagopus sp.*  
Det: Boev  
Stored: NMNHS

#### **BU 18 Kunino**

Type: c            Alt: 250  
Sources: Boev 2001,2002,2006a,2006c  
Date: EP, Waalian-Menapian (1.0-1.2 Ma BP) to Middle Pleistocene  
Fauna: *Falco cf cherrug*, cf *Tetrao urogallus*, *Tetrao/Lagopus sp.*, *Coturnix coturnix*, *Alectoris graeca*, *Sylvia cf atricapilla*, *Coccothraustes coccothraustes*, *Acanthis cf cannabina*, *Pyrrhocorax pyrrhocorax*, *Coccothraustes coccothraustes*  
Det: Boev  
Stored: NMNHS

#### **CHINA**

**CI 58 Jiulengshan (Guangxi)**

Type: c  
Sources: Zhao, Liu & Wang 1981  
Date: LP  
Fauna: Phasianidae sp.

**CI 59 Luobidang Cave (Hainan)**

Type: c  
Sources: Hou 1998  
Date: LP  
Fauna: *Leptoptilos javanicus*, *Buteo sanya*, *Francolinus* sp., *Lophura* sp., *Gallus gallus*, *Coturnix coturnix*, *Phasianus colchicus*, *Polyplectron bicalcaratum*, *Pavo muticus*, *Strix leptogrammica*, *Halcyon pileata*, *Pitta soror*, *Luscinia sibilans*, Muscicapidae sp., *Hirundo rustica*  
Det: Hou

**CI 60 Dongfang Plaza, Wangfujiang (Beijing)**

Type: o  
Sources: Li, Feng & Yu 2000  
Date: LP UP 14C=24,240±300-24,890±350 BP  
Fauna: *Struthio anderssoni*, Phasianidae

**CI 61 Locality 73118, Heshui (Gansu)**

Type: o  
Sources: Anon. 1975  
Date: LP?  
Layer: 7  
Fauna: *Struthio anderssoni*

**CI 62 Shuidonggou, Loc. 2 (Ningxia)**

Type: o  
Sources: Madsen et al. 2001  
Date: LP 24,000-29,000 BP  
Fauna: *Struthio* sp.

**CI 63 Tengger Lakes area (Ningxia)**

Type: o  
Sources: Madsen et al. 2003  
Date: LP Late Glacial?  
Fauna: *Struthio* sp.

**CI 64 Heitakou (Nei Monggol)**

Type: o  
Sources: Chow & Rozhdestvensky 1960  
Date: EP  
Fauna: *Struthio* sp.

**CI 65 Majuangou (Hebei)**

Type: o  
Sources: Zhu et al. 2004  
Date: EP 1.32-1.66 MA BP



Fauna: *Struthio* sp.

**CI 66 Dabusu Lake (Jilin)**

Type: o

Sources: Tang, Liu, Lin & Liu 2003

Date: LP

Fauna: *Struthio anderssoni*.

**CI 67 Houhecun (Shaanxi)**

Type: o

Sources: Wang 1988

Date: EP, "Middle Villafranchian"

Fauna: *Struthio* sp.

**CI 68 lower Fenhe River (Shaanxi)**

Type: o

Sources: Wang, Shao, Hu & Sun 2006

Date: EP, Sanmen formation

Fauna: *Shanxiornis fenyinis*

**CI 69 Panxian Dadong (Guizhou)**

Type: c            Alt: 1630

Sources: Bekken et al 2004

Date: MP

Fauna: *Aquila* sp., *Gruidae* sp.

**CZECHIA**

**CZ 56 Chlum Komín (Bohemia)**

Type: c

Sources: Diedrich & Zák 2006.

Date: LP Weichselian

Fauna: *Lagopus lagopus*

**CZ 57 Koneprusy, Prosek dome (Bohemia)**

Type: c

Sources: Diedrich & Zák 2006.

Date: LP Weichselian

Fauna: *Nyctea scandiaca*

**EGYPT**

**EG 40 Nabta Playa, Site E-77-3**

Type: o

Sources: Gautier 1980

Date: LP/Hol Terminal Palaeolithic

Fauna: *Struthio* sp.

#### **EG 41 Dakhleh Oasis**

Type: o            Alt: 150  
Sources: Churcher, Kleindienst & Schwarcz, 1999.  
Date: MP, IS 7  
Layer: Locality 348  
Fauna: *Struthio camelus*, *Grus grus*  
Layer: Locality 357  
Fauna: *Anas platyrhynchos*, *Anas* sp., *Arenaria interpres*  
Det: Churcher

#### **EG 42 Gebel Silsila X**

Type: o  
Sources: Churcher & Smith 1972 (Churcher 1972)  
Date: LP LG  
Fauna: *Ardea cinerea*, *Anas crecca*  
Det.: Churcher  
Notes: A. k. a. Kom Ombo GS X, ETE Locality 1348. Many identifications strongly questioned by Boessneck (1986)

#### **EG 43 Gebel Silsila XIII, Sector 2**

Type: o  
Sources: Churcher & Smith 1972 (Churcher 1972)  
Date: LP LG  
Fauna: *Anas acuta*  
Det.: Churcher  
Notes: A. k. a. Kom Ombo GS XIII, Sec 2, ETE Locality 1351, Gabal Silsila XIII. Many identifications strongly questioned by Boessneck (1986)

#### **EG 44 Gebel Silsila IX**

Type: o  
Sources: Churcher & Smith 1972 (Churcher 1972)  
Date: LP LG  
Fauna: *Platalea leucorodia*  
Det.: Churcher  
Notes: A. k. a. Kom Ombo GS IX, ETE Locality 1347. Many identifications strongly questioned by Boessneck (1986)

#### **EG 45 Makhadma 2**

Type: o  
Sources: van Neer 2002, van Neer, Paulissen & Vermeersch 2000  
Det: LP LG, Esnan, 12,100-12,500 cal BC (12,060±100, 12,270±280 BP)  
Fauna: Anatidae sp., Passeriformes sp.  
Det: Van Neer

#### **EG 46 Makhadma 4**

Type: o  
Sources: van Neer 2002, van Neer, Paulissen & Vermeersch 2000  
Det: LP LG, 12,150-12,500 cal BC (12,320-12940 BP)  
Fauna: Anatidae sp., *Fulica atra*  
Det: Van Neer

#### **FRANCE**

### FR 258 Castiglione 1 (Haute-Corse)

Type: c Alt: 120

Sources: Ferrandini et al. 1995, Louchart 2002, Mourer-Chauviré et al. 1997, Vigne, Bailon & Cousin 1997

Layer: Site A, layers 3-4.

Date: MP, probably late Middle pleistocene

Fauna: Accipitridae sp., *Coturnix coturnix*, *Columba livia*, *Columba palumbus*, *Tyto alba* cf *ernesti*, *Bubo insularis*, *Athene angelis*, *Turdus* sp., *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*

Det.: Louchart, Mourer-Chauviré

Stored: Musée de Sartène (Corse du Sud)

Notes: A. k. a. Oletta, Cast 1

### FR 259 Castiglione 3 (Haute-Corse)

Type: c

Sources: Louchart 2002, Louchart, Bedetti & Pavia 2005, Mourer-Chauviré et al. 1997, Salotti et al. 1997,2000

Layer: Locus CG (sites 3CG1-3CG9)

Date: MP 200-400KA BP

Fauna: *Anas* cf *crecca*, cf *Gypaetus barbatus*, *Gyps melitensis*, *Circus aeruginosus*, *Circus* cf *cyaneus*, *Aquila chrysaetos*, *Aquila nipaloides*, *Buteo buteo* cf *arrigonii*, *Buteo rufinus* cf *jansoni*, *Accipiter nisus*, *Accipiter gentilis* cf *arrigonii*, *Falco biarmicus/peregrinus*, *Coturnix coturnix*, *Porzana porzana*, *Porzana* cf *parva*, *Otis tarda*, *Scolopax rusticola*, *Columba livia*, *Columba livia/oenas*, *Columba palumbus*, *Streptopelia turtur*, *Bubo insularis*, *Otus scops*, *Athene angelis*, *Tyto balearica cyrneichnusae*, *Tyto alba* cf *ernestii*, *Merops apiaster*, *Upupa epops*, *Lullula arborea*, *Alauda arvensis*, *Hirundo* sp., *Anthus* sp., *Erithacus rubecula*, *Luscinia luscinia/megarhynchus*, *Turdus* spp., *Hippolais* cf *polyglotta*, *Muscicapa striata*, *Tichodroma muraria*, *Garrulus glandarius*, *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corone*, *Corvus corone/frugilegus*, *Corvus corax*, *Sturnus* sp., *Serinus* sp., cf *Carduelis chloris*, *Coccothraustes coccothraustes*

Layer: Locus Inters (Intersection)

Date: MP >350 Ka BP

Fauna: *Accipiter gentilis*, *Aquila nipaloides*, *Scolopax rusticola*, *Columba livia*, *Tyto alba* cf *ernestii*, *Tyto balearica cyrneichnusae*, *Otus scops*, *Athene angelis*, *Dendrocopos major*, *Turdus iliacus*, *Turdus* sp., *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corone/frugilegus*

Layer: Locus PL (sites G,PL,OA,OB,EF,CY)

Date: LP/Hol ca 17,000-9,000 BP

Fauna: *Gypaetus barbatus*, *Gyps melitensis*, *Aquila chrysaetos*, *Aquila nipaloides*, *Falco* sp., *Columba livia*, *Columba livia/oenas*, *Columba palumbus*, *Streptopelia turtur*, *Tyto alba* cf *ernestii*, *Bubo insularis*, *Athene angelis*, *Lullula arborea*, *Hirundo* sp., *Erithacus rubecula*, *Turdus* spp. *Hippolais* cf *icterina*, *Muscicapa striata*, *Pipra pica*, *Pyrrhocorax graculus castiglionis*, *Pyrrhocorax pyrrhocorax* cf *macrorhynchus*, *Corvus monedula*, *Loxia curvirostra*

Det.: Louchart, Mourer-Chauviré

Stored: Musée de Sartène (Corse du Sud)

Notes: A. k. a. Cast 3PL

### FR 260 Grotte Nord-Ouest de la Grotte de la Coscia (Corse)

Type: c

Alt: 10

Sources: Bonifay et al. 1998, Louchart 2002, Louchart, Bedetti & Pavia 2005

Layer: Grotte Est, layer B

Date: LP ca 60-90 Ka BP

Fauna: *Botaurus stellaris*, Ardeidae sp., *Anas* spp., *Aythya* sp., *Clangula hyemalis*, *Melanitta* sp., *Haliaeetus albicilla*, *Accipiter gentilis*, *Falco tinnunculus/subbuteo*, *Coturnix coturnix*, *Porzana porzana*, Rallidae sp., *Calidris* cf *alpina*, *Scolopax rusticola*, *Columba livia*, *Bubo insularis*, *Asio flammeus*, *Asio flammeus/otus*, *Coracias garrulus*, *Melanocorypha calandra*, cf *Eremophila alpestris*, *Turdus* spp., *Muscicapa striata*, *Pica pica*, *Pyrrhocorax pyrrhocorax macrorhynchus*, *Corvus corone*, *Corvus corone/frugilegus*, *Corvus corax*, *Sturnus* sp., *Petronia petronia/Montifringilla nivalis*, *Coccothraustes coccothraustes*

Layer: Grotte Est, layer C

Date: LP ca 60-90 Ka BP

Fauna: *Botaurus stellaris*, *Anas crecca querquedula*, *Anas platyrhynchos*, *Anas* sp., *Circus cyaneus/pygargus/macrourus*, *Accipiter nisus*, cf *Buteo buteo*, *Aquila nipaloides*, *Falco tinnunculus*, *Falco tinnunculus/columbarius*, *Falco tinnunculus/subbuteo*, *Falco* sp., *Falco peregrinus cyrneus*, *Coturnix coturnix*, *Porzana porzana*, *Crex crex*, *Gallinula chloropus*, *Fulica atra*, *Tetrax tetrax*, cf *Calidris* sp., *Philomachus aff pugnax*, *Gallinago gallinago*, cf *Gallinago media*, *Scolopax rusticola*, *Limosa* sp., *Columba livia*, *Otus scops*, *Bubo insularis*, *Asio flammeus*, *Asio flammeus/otus*, *Apus melba*, *Coracias garrulus*, *Alauda arvensis*, *Motacilla cf flava*, *Turdus* spp., *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax macrorhynchos*, *Corvus monedula*, *Corvus corone/fragilegus*, *Sturnus* sp.

Layer: Grotte Est, structure D

Date: LP ca 60-90 Ka BP

Fauna: *Tachybaptus ruficollis*, *Anas crecca/querquedula*, *Anas* spp., *Anas clypeata/penelope*, *Milvus milvus/migrans*, *Gyps melitensis*, *Accipiter gentilis*, *Buteo buteo*, *Buteo* sp./*Accipiter gentilis*, *Aquila nipaloides*, *Aquila* sp., *Falco tinnunculus*, *Falco subbuteo*, *Falco tinnunculus/vespertinus*, *Falco tinnunculus/subbuteo*, *Falco* sp., *Falco peregrinus cyrneus*, *Coturnix coturnix*, *Porzana porzana*, *Porzana parva/pusilla*, *Crex crex*, *Rallus aquaticus/Gallinula chloropus*, *Tetrax tetrax*, cf *Pluvialis squatarola*, *Vanellus vanellus*, *Philomachus aff pugnax*, cf *Gallinago gallinago*, *Scolopax rusticola*, *Limosa* sp., *Columba livia*, *Columba palumbus*, *Otus scops*, *Bubo insularis*, *Asio flammeus*, *Asio flammeus/otus*, *Caprimulgus europaeus*, *Coracias garrulus*, *Lullula arborea*, *Alaudidae* sp., *Anthus* sp., *Prunella collaris*, *Oenanthe cf oenanthe*, *Turdus* spp., *Turdus* cf *viscivorus*, cf *Lanius senator*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax macrorhynchos*, *Corvus monedula*, *Corvus corone*, *Corvus corone/fragilegus*, *Corvus corax*, *Sturnus* sp., *Petronia petronia/Montifringilla nivalis*, *Serinus* sp., *Coccothraustes coccothraustes*, *Miliaria calandra*

Layer: Grotte Est, layer d'

Date: LP ca 60-90 Ka BP

Fauna: *Ixobrychus aff minutus*, *Anser/Branta* sp., *Anas crecca/querquedula*, *Anas platyrhynchos/acuta*, *Anas* spp., *Anas clypeata/penelope*, *Anas/Aythya* sp., *Gyps melitensis*, *Circus cyaneus/pygargus/macrourus*, *Accipiter gentilis*, *Buteo buteo*, *Buteo rufinus*, *Aquila nipaloides*, *Aquila* sp., *Falco tinnunculus*, *Falco subbuteo*, *Falco naumanni/vespertinus*, *Falco tinnunculus/columbarius*, *Falco tinnunculus/vespertinus*, *Falco tinnunculus/subbuteo*, *Falco biarmicus/peregrinus*, *Falco peregrinus cyrneus*, *Falco* sp., *Coturnix coturnix*, *Rallus aquaticus*, *Rallus aquaticus/Porzana porzana*, *Crex crex*, *Rallus aquaticus/Crex crex*, *Fulica atra*, *Tetrax tetrax*, *Calidris minuta/temminckii*, *Calidris* sp., *Philomachus aff pugnax*, *Scolopax rusticola*, *Limosa* sp., *Tringa nebularia*, *Columba livia*, *Columba palumbus*, *Otus scops*, *Bubo insularis*, *Asio flammeus*, *Asio flammeus/otus*, *Caprimulgus europaeus*, *Caprimulgus cf ruficollis*, *Coracias garrulus*, *Melanocorypha calandra*, *Lullula arborea*, *Alauda arvensis*, *Motacilla cf cinerea/alba*, *Bombicilla garrulus*, *Prunella collaris*, *Turdus* spp., *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax macrorhynchos*, *Corvus monedula*, *Corvus corone*, *Corvus corone/fragilegus*, *Corvus corax*, *Petronia petronia/Montifringilla nivalis*, *Fringillidae* sp., *Emberiza cf citrinella*, *Miliaria calandra*

Layer: Grotte Est, layer E

Date: LP ca 60-90 Ka BP

Fauna: *Anas* spp., *Circus aeruginosus*, *Circus* sp., *Accipiter nisus*, cf *Falco tinnunculus*, cf *Falco naumanni*, *Falco naumanni/vespertinus*, *Falco tinnunculus/columbarius*, *Falco tinnunculus/vespertinus*, *Falco tinnunculus/subbuteo*, *Falco peregrinus cyrneus*, *Falco* sp., *Coturnix coturnix*, *Tetrax tetrax*, *Vanellus vanellus*, cf *Gallinago gallinago*, *Columba livia*, *Bubo insularis*, *Asio flammeus*, *Asio flammeus/otus*, *Caprimulgus europaeus*, *Coracias garrulus*, cf *Melanocorypha calandra*, cf *Alauda arvensis*, *Eremophila alpestris*, cf *Anthus* sp., *Prunella collaris*, *Oenanthe cf oenanthe*, *Turdus* sp., *Muscicapa striata*, *Sitta europaea*, *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax macrorhynchos*, *Corvus corone*, *Corvus corone/fragilegus*, *Corvus corax*, *Sturnus* sp., *Montifringilla nivalis*, *Coccothraustes coccothraustes*, *Emberizidae* sp.

Layer: Grotte Ext, layer 1-3,5

Date: LP ca 60-90 Ka BP

Fauna: *Anas platyrhynchos*, *Anas/Tadorna* sp., *Coturnix coturnix*, *Tetrax tetrax*, *Columba livia*, *Otus scops*

Layer: Grotte Ouest (Grotte W), layer 2

Date: MP, Riss?

Fauna: *Anas/Aythya* sp., *Accipitridae* sp., *Columba livia*, *Pyrrhocorax pyrrhocorax macrorhynchos*, *Pica pica/Corvus monedula*

Layer: Grotte Ouest (Grotte W), layer 3

Date: MP, Riss?

Fauna: *Anser/Branta* sp., cf *Aquila* sp., *Columba livia*, *Pica pica*, *Pyrrhocorax pyrrhocorax macrorhynchos*, *Corvus monedula*, *Corvus corone/fragilegus*

Det.: Louchart

Stored: Département des Sciences de la Terre, Lyon

### FR 261 Champs-Gaillards (Charente)

Type: o

Sources: Boule & Chauvet 1899

Date: LP?

Fauna: *Tadorna ferruginea*

Det: Milne-Edwards

### FR 262 Grotte de Bourrouilla (Pyrénées Atlantiques)

Alt: 75

Type: c

Sources: Eastham 1998b, 2000, 2001

Layer: A

Date: LP Azilian

Fauna: *Nyctea scandiaca*, *Turdus iliacus*

Layer: B2

Date: LP Late Magdalenian 14C=12,395±35, 12,260±120 BP

Fauna: *Anas platyrhynchos*, *Nyctea scandiaca*, *Turdus philomelos*, *Corvus corax*

Layer: C1

Date: LP Middle Magdalenian 14C=12,700±40 BP

Fauna: *Nyctea scandiaca*, *Coccothraustes coccothraustes*

Layer: Unstratified (Déblais)

Date: LP Magdalenian-Azilian

Fauna: *Tachybaptus ruficollis*, *Cygnus cygnus*, *Anas* sp., *Anas platyrhynchos*, *Anas querquedula*, *Netta rufina*, *Mergus serrator*, *Buteo buteo*, *Aquila* sp., cf *Circaetus gallicus*, *Falco peregrinus*, *Lagopus mutus*, *Tetrao tetrix*, *Perdix perdix*, *Coturnix coturnix*, *Haematopus ostralegus*, *Larus canus*, cf *Fratercula arctica*, *Nyctea scandiaca*, *Dendrocopos minor*, *Alauda arvensis*, *Lullula arborea*, *Ptyonoprogne rupestris*, *Hirundo rustica*, *Hirundo* sp., cf *Phoenicurus phoenicurus*, *Saxicola rubetra*, *Turdus merula*, *Turdus iliacus*, *Turdus philomelos*, *Turdus viscivorus*, *Turdus* sp., *Muscicapa striata*, *Parus major*, *Garrulus glandarius*, *Pyrhacorax pyrrhacorax*, *Corvus corax*, *Carduelis chloris*, *Coccothraustes coccothraustes*, *Carduelis cannabina*, *Emberiza* sp.

Det: Eastham

Notes: A. k. a. Arancou.z

### FR 263 Vaison-la-Romaine (Provence)

Sources: Cuisin & Vigne 1998

Date: LP Alleröd

Fauna: *Otis tarda*

### FR 264 Grotte Vaufrey (Dordogne)

Type: c

Sources: Laroulandie 2000,2004 (Rigaud 1988)

Layer: VIII

Date: MP Mousterian IS 6-7

Fauna: *Pyrhacorax graculus*

### FR 265 Aven des Iboussières (Drôme)

Type: c

Sources: d'Errico & Vanhaeren 1999, Laroulandie 2000 (Gély & Morand 2000)

Date: LP LG Epipalaeolithic 14C=10,210±80 BP

Fauna: *Podiceps cristatus*, *Ciconia ciconia*, *Aquila chrysaetos*

### FR 266 Grotte du Tai 2 (Drôme)

Type: c

Sources: Laroulandie 2000, Louchart & Soave 2002a,b (Soave 1998)

Layer: IV  
Date: LP Late Bölling, Magdalenien  
Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Otis tarda*, *Pyrrhocorax graculus*  
Layer: IIIb  
Date: LP Early Alleröd, Magdalenien  
Fauna: *Cygnus cf olor*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Pyrrhocorax graculus*  
Layer: IIIa  
Date: LP Early Alleröd, Magdalenien/Azilien  
Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Pyrrhocorax graculus*  
Layer: IIIb  
Date: LP Middle Alleröd, Azilien  
Fauna: *Aquila cf chrysaetos*, *Lagopus lagopus*, *Lagopus sp.*, *Pyrrhocorax graculus*  
Layer: IIa  
Date: LP Late Alleröd, Azilien  
Fauna: *Anatinae sp.*, *Lagopus sp.*, *Asio flammeus*  
Layer: I  
Date: LP Late Alleröd, Azilien  
Fauna: *Lagopus sp.*  
Notes: A. k. a. Grotte de Thais

#### **FR 267 Gritulu Cave (Corse)**

Type: c            Alt: 150  
Sources: Louchart 2002, Robert & Vigne 2001, 2002a, 2002b, Vigne, Bailon & Cousin 1997  
Layer: Late Middle Deposits (LMD) (SU 49)  
Date: LP Younger Dryas  
Fauna: *Gypaetus barbatus*  
Layer: Early Middle Deposits (EMD) (SU 5 to 2-50)  
Date: LP Bölling?-Alleröd  
Fauna: *Gypaetus barbatus*, *Bubo insularis*  
Layer: Middle Deposits  
Date: LP Bölling?-Younger Dryas  
Fauna: *Circaetus gallicus*, *Buteo cf lagopus*, *Aquila sp.*, *Pandion haliaetus*, *Falco tinnunculus*, *Coturnix coturnix*, *Tringa ochropus*, *Columba livia*, *Turdus spp.*, *Sylvia spp.*, *Parus cf major*, *Lanius collurio/senator*, *Corvus monedula*, *Corvus corax*, *Sturnus sp.*, *Fringillidae sp.*  
Det: Cuisin  
Note: A. k. a. Luru-Gritulu Cave

#### **FR 268 Aven Bouet (Hérault)**

Type: c            Alt: 200  
Sources: Brugal 1982  
Date: LP LG 14C=15,460±190 BP  
Fauna: *Columba livia*  
Det: Mourer-Chauviré

#### **FR 269 Conca (Corse)**

Type: o            Alt: 330  
Sources: Louchart 2002, Pereira, Ottaviani-Spella & Salotti 2001  
Date: MP, Early Middle Pleistocene  
Fauna: *Tyto balearica cyrneichnusae*  
Det: Louchart  
Notes: A. k. a. Punta di Calcina

#### **FR 270 Corte (Corse)**

Type: o            Alt: 320  
Sources: Louchart 2002

Date: MP, Late Middle Pleistocene  
Fauna: *Aquila chrysaetos*, *Bubo insularis*, *Anthus* sp.  
Det: Louchart

#### **FR 271 L'Aven de Romain-La-Roche (Doubs)**

Type: c            Alt: 410  
Sources: Paupe et al. 2001  
Layer: VI-VIIIb  
Date: MP U/Th 150±18 Ka BP  
Fauna: *Anas platyrhynchos*, *Haliaeetus albicilla*, *Circus cyaneus*, *Buteo* cf *rufinus*, *Accipiter gentilis*, *Aquila* sp.,  
*Falco* cf *peregrinus*, *Lagopus lagopus*, *Lagopus* sp., *Tetrao tetrix*, *Perdix perdix*, *Perdix/Alectoris* sp., *Pica pica*  
cf *major*, *Pyrrhocorax graculus* cf *vetus*, *Corvus* sp., *Corvus corax*

#### **FR 272 Marzal II (Ardèche)**

Type: c  
Sources: Debard 2003  
Date: MP/LP ca 30 - 350 KA BP  
Fauna: *Accipiter nisus*, *Falco tinnunculus*, cf. *Circus* sp., *Alectoris graeca*, cf. *Perdix* sp., *Coturnix coturnix*,  
*Otis tarda*, *Scolopax rusticola*, *Columba palumbus*, *Burhinus oedicephalus*, *Asio otus*, *Strix aluco*, *Garrulus*  
*glandarius*, *Corvus corone/fragilegus*, *Corvus pliocaenus/antecorax*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax*  
*graculus*  
Det: Mourer-Chauviré

#### **FR 273 Verberie (Oise)**

Type: o  
Sources: Laroulandie 2003 (David 1994)  
Date: LP Magdalenian  
Fauna: *Lagopus lagopus*

#### **FR 274 Les Petits Guinards (Allier)**

Type: o  
Sources: Fontana et al. 2003  
Date: LP Magdalenian, 14C =13,230-18,100 BP  
Fauna: *Anas crecca*?, *Anas* cf *querquedula*, *Aythya* cf *nyroca*, *Aythya* sp., *Lagopus mutus*, *Lagopus* sp., *Porzana*  
*porzana*, *Pluvialis apricaria*?, *Pluvialis squatarola*?, Charadriidae sp., Scolopacidae sp., *Nyctea scandiaca*,  
*Bubo bubo*?, Passeriformes sp.  
Det: Mourer-Chauviré

#### **FR 275 Grotte du Hyène ( )**

Type: c  
Sources: Fiore et al. 2004  
Date: LP, Mousterian  
Fauna: *Aquila chrysaetos*  
Det: Mourer-Chauviré

#### **FR 276 Unikoté (Pyrénées Atlantiques)**

Type: c  
Sources: Michel 2005  
Layer: Unikoté I, Niveaux 7-9  
Date: LP  
Fauna: *Turdus philomela*, *Turdus merula*, *Pyrrhocorax graculus*  
Layer: Unikoté I, Niveaux 10-12  
Date: LP Early Würmian

Fauna: *Turdus philomela*, *Turdus merula*, *Pyrrhocorax graculus*  
Layer: Unikoté II, Niveau Sup.  
Date: LP Middle Palaeolithic  
Fauna: *Tetrao tetrrix*, *Tetrao urogallus*, *Accipiter gentilis*, *Strix aluco*  
Layer: Unikoté II, Niveau Plan  
Date: LP Middle Palaeolithic, 14C=30,150±700 BP  
Fauna: *Tetrao tetrrix*

#### **FR 277 Baume-Vallée (Haute-Loire)**

Type: c Alt: 840  
Sources: Gala, Raynal & Tagliacozzo 2005  
Date: LP, La Ferrassie-type Mousterian, TL=78,500±7,500 BP, ESR=80,100±10,500 BP  
Fauna: *Anas penelope*, *Anas streperae/clypeata*, *Anas platyrhynchos*, *Anas querquedula*, *Anas* sp., *Aythya nyroca*, Anatinae sp., *Circus* cf *aeruginosus*, cf *Buteo buteo*, Accipitridae sp., *Falco* sp., *Lagopus* sp., *Tetrao tetrrix*, Tetraonidae sp., *Perdix perdix*, *Coturnix coturnix*, Phasianidae sp., Galliformes sp., *Strix* cf *aluco*, *Asio otus*, *Asio* cf *flammeus*, *Asio* sp., Strigiformes sp., *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, Corvidae sp., Passeriformes sp.  
Det: Gala & Tagliacozzo

#### **FR 278 Carrière du Coustal à Noailles (Corrèze)**

Type: o  
Sources: Philippe, Mouret & Raynal 1985  
Layer: 4-5  
Date: MP, Late MP  
Fauna: *Perdix palaeoperdix*, *Coturnix coturnix*, *Pyrrhocorax graculus*, *Corvus antecorax*  
Det: Mourer-Chauviré

#### **FR 279 Coudoulous I (Lot)**

Type: c  
Sources: Jaubert et al. 2005  
Layer: 5-8d  
Date: LP/MP, ca OIS 7- OIS 5e  
Fauna: *Anas/Tadorna* sp., *Falco* cf *tinnunculus*, *Falco* sp., *Tetrao* sp., *Alectoris* cf *graeca*, cf *Alectoris* sp., *Perdix palaeoperdix*, *Coturnix coturnix*, *Porzana porzana*, *Gallinula* cf *gigantea*, *Charadrius morinellus*, *Pluvialis squatarola*, *Tyto alba*, *Glaucidium passerinum*, *Aegolius funereus*, *Caprimulgus* cf *europaeus*, *Apus* cf *submelba*, *Eremophila alpestris*, *Hirundo* sp., *Anthus* sp., *Prunella modularis*, *Erithacus rubecula*, *Turdus* spp., cf *Perisoreus infaustus*, *Pica pica*, *Pyrrhocorax graculus*, *Corvus corax*, *Sturnus* sp., *Carduelis* cf *chloris*, Fringillidae sp.  
Det: Louchart

#### **FR 280 Grotte de Noisetier (Hautes-Pyrénées)**

Type: c  
Sources: Laroulandie 2004c  
Date: LP, Mid-Würmian  
Fauna: cf *Falco tinnunculus*, *Lagopus* sp., *Perdix perdix*, *Pyrrhocorax graculus*, *Corvus corax*, Passeriformes small sp.  
Det: Laroulandie

#### **FR 281 Causse de Martel (Lot)**

Type: c  
Sources: Philippe 1997  
Date: LP Würm  
Fauna: *Pyrrhocorax graculus*



### FR 282 Saint-Césaire ()

Type: c

Sources: Laroulandie 2004d

Layer: EJM (=4)

Date: LP EUP Evolved Aurignacian

Fauna: Gypaetinae sp., Charadriidae sp., Charadriiformes sp.

Layer: EJF (=5)

Date: LP EUP, Aurignacian I

Fauna: cf *Anser* sp., *Anas crecca*, Anseriformes sp., Gypaetinae sp., *Lagopus* sp., *Pluvialis* sp., Charadriiformes sp., Strigiformes sp., *Corvus corax*, Passeriformes sp.

Layer: EJO Sup. (=6) 14C=34,000±3,900, 30800±3,300 BP

Date: LP EUP Aurignacian 0?

Fauna: *Anas acuta*, *Anas* sp., *Aythya* sp., Anseriformes sp., *Alle alle*, *Pluvialis* sp., Strigiformes sp.

Layer: EJO (=6-7)

Date: LP

Fauna: Anseriformes sp., Accipitriformes sp., *Lagopus* sp.

Layer: EJOP Sup. (=8)

Date: LP EUP Chatelperronian 14C = 33,700 – 38,200 BP

Fauna: *Anas* cf *acuta*, Anseriformes sp., Charadriidae sp.

Layer: EJOP inf. (=9)

Date: LP EUP Chatelperronian?

Fauna: Gypaetinae sp., Charadriiformes sp.

Layer: EJOP (=8-9)

Date: LP EUP Chatelperronian

Fauna: *Anser* sp. Passeriformes sp.

Layer: 10

Date: MP Denticulate Mousterian 14C = 41,400±4,200 BP

Fauna: *Aquila chrysaetos*

Det: Laroulandie

### FR 283 Grotte du Bison (Yonne)

Type: c

Sources: David et al. 2006

Layer: C

Date: LP IS 2, 14C = 24,140±310 BP

Fauna: *Mergus serrator*, *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Galerida cristata*, *Alauda arvensis*, *Ptyonoprogne rupestris*, *Hirundo rustica*, *Motacilla alba*, *Cinclus cinclus*, *Prunella modularis*, *Plectrophenax nivalis*, *Montifringilla nivalis*, *Pyrrhocorax graculus*

Layer: D

Date: LP IS 3, Late Chatelperronian, 14C = 33,670 - 34,050 BP

Fauna: *Cinclus cinclus*, *Montifringilla nivalis*, *Pyrrhocorax graculus*

Layer: Unstratified

Date: LP

Fauna: *Lagopus mutus*, *Lagopus* sp., *Strix aluco*, *Ptyonoprogne rupestris*, *Motacilla alba*, *Cinclus cinclus*, *Montifringilla nivalis*

Det: Mourer-Chauviré

### FR 284 Roc de Marsal I (Dordogne)

Sources: Smirnov 1989

Date: LP Mousterian

Fauna: *Alectoris barbara*

### FR 285 Gouffre du Haut de la Coume des Arrat (Hautes Pyrénées)

Type: c Alt: 945

Sources: Clot & Evin 1986

Date: LP 14C = 11,630±280 BP

Fauna: *Accipiter gentilis*, *Falco peregrinus*, *Columba cf livia*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*,

## GERMANY

### BRD 160 Bottrop-Welheim ()

Type: o

Sources: Koenigswald, Sander & Walders 1996, (Koenigswald 1995)

Date: LP Middle Weichselian, <42 KA BP

Fauna: *Anser* sp.

Notes: Bird tracks at a vertebrate tracksite.

### BRD 161 Kettig (Rheinland-Pfalz)

Type: o

Sources: Baales & von Berg 1997.

Date: LP LG Late Alleröd

Fauna: *Parus* sp.

### BRD 162 Miesenheim 4 (Rheinland-Pfalz)

Type: o

Sources: Baales & von Berg 1997, (Baales, M. & Street M. J. 1995).

Date: LP LG Late Alleröd

Fauna: *Tetrao tetrix?*

Det.: Street

### BRD 163 Jungfernhöhle ()

Type: c

Source: Heller 1960a

Layer: d

Date: LP "Würm 3"

Fauna: *Tetrao tetrix*, *Lagopus lagopus*, *Lagopus mutus*, *Crex crex*, *Turdus pilaris*, *Pyrrhocorax graculus*

Det: Soergel

### BRD 164 Lobsing (Bayern)

Type: c

Source: Heller 1960b

Date: LP "letztes Interglazial"

Fauna: *Tetrao urogallus*, *Montifringilla* sp.

Det: Heller?

### BRD 165 Körnersche Kiesgrube, Berlin-Britz ()

Type: o

Source: Lehmann 1941

Date: LP Early Weichsel, "Rixdorfer Stufe"

Fauna: *Anser* sp., *Fulica* sp.

Det: Soergel

### BRD 166 Buhlen Upper Rock Shelter (Hessen)

Type: c

Alt: 250

Source: Eastham 1998

Layer: I

Date: LP

Fauna: *Anas platyrhynchos*, *Lagopus lagopus*, *Gallinago gallinago*, *Pyrrhocorax pyrrhocorax*

Layer: Loessic layers C,D,E,F

Date: IS 2/3, ca 15-40 Ka BP

Fauna: *Tetrao tetrax*, *Lagopus lagopus*, *Lagopus mutus*, *Perdix perdix*, *Gallinago gallinago*, *Bubo bubo*, *Lullula arborea*, *Corvus corone*, *Corvus monedula*

Layer: Loessic layers Z and IIIbx

Date: IS 2/3, ca 15-40 Ka BP

Fauna: *Anas* sp., *Lagopus lagopus*, *Perdix perdix*, *Coccothraustes coccothraustes*

Layer: II

Date: Early IS 3, ca 55 Ka BP, Mousterian

Fauna: *Tetrao tetrax*, *Lagopus lagopus*, *Lagopus mutus*, *Perdix perdix*

Layer: IIIb

Date: Late IS 5a/Early IS 4, ca 70 Ka BP, Middle Palaeolithic ("Keilmesser")

Fauna: *Tetrao urogallus*, *Tetrao tetrax*, *Lagopus lagopus*, *Perdix perdix*, *Turdus viscivorus*, *Coccothraustes coccothraustes*, *Miliaria calandra*

Layer: IIIc

Date: IS 5a, ca 75 Ka BP, Middle Palaeolithic ("Keilmesser")

Fauna: *Cygnus columbianus*, *Anser* sp., *Anser* cf *fabalis*, *Anser* cf *erythropus*, *Anas* sp., *Anas crecca*, *Anas platyrhynchos*, *Mergus serrator*, *Aquila* cf *pomarina*, *Falco tinnunculus*, *Tetrao urogallus*, *Tetrao tetrax*, *Lagopus lagopus*, *Perdix perdix*, *Bubo bubo*, *Columba livia*, *Corvus corone*, *Corvus monedula*, *Coccothraustes coccothraustes*

Layer: IIId

Date: IS 5b, ca 85 Ka BP, Middle Palaeolithic ("Keilmesser")

Fauna: *Anas platyrhynchos*, *Accipiter gentilis*, *Tetrao tetrax*, *Lagopus lagopus*, *Perdix perdix*

Det: Eastham

#### **BRD 167 Kogelstein (Baden-Württemberg)**

Type: c

Sources: Kind 2000, Mörike 2000

Date: LP Mousterian, 45-60 KA BP

Layer: AH 1o

Fauna: *Anser fabalis*, *Branta/Tadorna* sp., *Buteo lagopus*, *Falco columbarius/tinnunculus*, *Tetrastes bonasia*, *Lagopus* sp., *Eudromias morinellus*, *Limosa* sp., *Alauda arvensis*, *Hirundo rustica*, *Bombycilla garrulus*, *Oenanthe oenanthe*, *Turdus iliacus*, *Pica pica*, *Corvus monedula*, *Pinicola enucleator*, *Loxia curvirostra*, *Fringilla* sp., *Pyrrhula pyrrhula*, *Coccothraustes coccothraustes*, *Plectrophenax nivalis*, *Emberiza citrinella*

Layer: AH 1u

Fauna: *Branta/Tadorna* sp., *Falco columbarius/tinnunculus*, *Rallus aquaticus*, *Lagopus* sp., *Perdix perdix*, *Asio flammeus*, *Alauda arvensis*, *Hirundo rustica*, *Bombycilla garrulus*, *Oenanthe oenanthe*, *Turdus viscivorus*, *Turdus philomelos*, *Turdus torquatus*, *Garrulus glandarius*, *Pica pica*, *Corvus corax*, *Pyrrhocorax graculus*, *Loxia curvirostra*, *Fringilla* sp., *Plectrophenax nivalis*

Det: Mörike

#### **BRD 168 Basthöhle bei Höfen (Baden-Württemberg)**

Type: c

Sources: Ambros & Hilpert n. d.

Date: LP

Fauna: *Delichon urbica*, *Corvus corone?*, *Corvus monedula?*

Det: Mörike

#### **BRD 169 Sesselfelsgrötte (Bayern)**

Type: c

Sources: von den Driesch 2005

Layer: A

Date: LP/Hol

Fauna: *Cygnus bewickii*, *Lagopus lagopus*, *Corvus monedula*, *Pyrrhonorax graculus*  
Layer: B  
Date: Younger Dryas, Epipalaeolithic  
Fauna: Strigidae sp.  
Layer: C  
Date: LG, Late Magdalenian  
Fauna: *Lagopus lagopus*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*  
Layer: E  
Date: Late Middle Palaeolithic – Upper Palaeolithic (Gravettian)  
Fauna: *Lagopus* sp., *Philomachus pugnax*, *Bombycilla garrulus*  
Layer: G  
Date: Middle Palaeolithic, MIS 3, Micoquien  
Fauna: *Cygnus cygnus*, *Branta bernicla*, *Aquila chrysaetos*, *Tetrao tetrax*, *Lagopus* sp., *Tetrastes bonasia*, *Bubo bubo*, *Turdus viscivorus*, *Turdus torquatus*, *Turdus iliacus*, *Plectrophenax nivalis/Emberiza citrinella*, *Pyrrhonorax graculus*  
Layer: H  
Date: Middle Palaeolithic, MIS 3, Mousterian  
Fauna: *Bucephala clangula/Aythya marila*, *Haliaeetus albicilla*, *Gyps fulvus*, *Tetrao tetrax*, *Lagopus mutus*, *Aegolius funereus*, *Apus melba*, *Hirundo rustica*, *Turdus iliacus*, *Turdus torquatus/pilaris*, *Acanthis flammea*, *Pyrrhonorax graculus*  
Layer: C-H  
Date: LG – MIS3  
Fauna: *Lagopus mutus*, *Apus melba*  
Layer: I, “Nagerschicht”  
Date: MIS 3, Örel interstadial?, ca 60 KA BP  
Fauna: *Bucephala clangula/Aythya marila*, *Falco tinnunculus*, *Tetrao tetrax*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrastes bonasia*, *Perdix perdix*, *Charadrius dubius*, *Aegolius funereus*, *Strix aluco*, *Apus melba*, *Apus apus*, *Dendrocopos leucotos*, *Dendrocopos* sp., *Alauda arvensis*, *Hirundo rustica*, *Ptyonoprogne rupestris*, *Turdus viscivorus*, *Turdus torquatus*, *Turdus iliacus*, *Turdus torquatus/pilaris*, *Cinclus cinclus*, *Erithacus rubecula*, *Emberizidae* sp., *Plectrophenax nivalis/Emberiza citrinella*, *Fringilla coelebs/montifringilla*, *Pyrrhonorax graculus*  
Layer: H-I-K  
Date: MIS 3-4  
Fauna: *Haliaeetus albicilla*, *Lagopus* sp., *Hirundo rustica*, *Turdus torquatus/pilaris*, *Emberiza citrinella*, *Pyrrhonorax graculus*  
Layer: K/i  
Date: Border between MIS 3 and MIS 4  
Fauna: *Falco tinnunculus*, *Tetrao tetrax*, *Lagopus lagopus*, *Lagopus mutus*, *Tringa totanus*, *Asio flammeus*, *Apus melba*, *Alauda arvensis*, *Turdus viscivorus*, *Turdus torquatus*, *Turdus torquatus/pilaris*, *Emberizidae* sp., *Plectrophenax nivalis/Emberiza citrinella*, *Loxia curvirostra*, *Perisoreus infaustus*, *Corvus monedula*, *Pyrrhonorax pyrrhonorax*  
Layer: K/ii  
Date: MIS 4, stadial  
Fauna: *Tetrao tetrax*, *Lagopus* sp., *Hirundo rustica*, *Turdus torquatus*, *Turdus iliacus*, *Emberizidae* sp., *Plectrophenax nivalis/Emberiza citrinella*, *Pyrrhonorax graculus*  
Layer: K/iii  
Date: MIS 4, stadial  
Fauna: *Lagopus lagopus*, *Turdus viscivorus*, *Turdus torquatus/pilaris*, *Emberizidae* sp.,  
Layer: K/L  
Date: MIS 4, stadial  
Fauna: *Tetrao tetrax*, *Turdus torquatus/pilaris*, *Emberizidae* sp., *Plectrophenax nivalis/Emberiza citrinella*, *Loxia curvirostra*  
Layer: K  
Date: MIS 4 or early MIS 3  
Fauna: *Falco peregrinus*, *Lagopus lagopus*, *Lagopus* sp., *Aegolius funereus*  
Layer: L  
Date: LP MIS 4, c. 70 KA BP

Fauna: *Falco columbarius*, *Tetrao tetrrix*, *Lagopus* sp., *Philomachus pugnax*, *Aegolius funereus*, *Hirundo rustica*, *Turdus torquatus/pilaris*, *Cinclus cinclus*, *Loxia curvirostra*, *Coccothraustes coccothraustes*, *Garrulus glandarius*, *Corvus monedula*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*

Layer: M1

Date: LP Early Würm, border MIS 4/5a

Fauna: *Tetrao tetrrix*, *Hirundo rustica*, *Turdus viscivorus*, *Pyrrhocorax graculus*

Layer: M2

Date: LP Early Würm, MIS 5a

Fauna: *Strix aluco*, *Cinclus cinclus*

Layer: M3

Date: LP Early Würm, MIS 5a

Fauna: *Falco tinnunculus*, *Lagopus* sp., *Bubo bubo*, *Cinclus cinclus*, *Nucifraga caryocatactes*

Layer: N

Date: LP Early Würm, MIS 5a

Fauna: *Tetrao urogallus*, *Dendrocopos major*

Layer: O

Date: LP Early Würm, MIS 5a

Fauna: *Aquila chrysaetos*, *Picoides tridactylus*, *Turdus torquatus/pilaris*

Layer: P

Date: LP Early Würm, MIS 5c

Fauna: *Aquila chrysaetos*

Layer: Q

Date: LP Early Würm, MIS 5c/5e?

Fauna: *Tetrao urogallus*

Layer: S

Date: LP Early MIS 5e?

Fauna: *Tetrao tetrrix*

Layer: West 1-3

Date: LP

Fauna: *Strix aluco*, *Picoides tridactylus*, *Cinclus cinclus*, *Garrulus glandarius*/*Perisoreus infaustus*

Det: von den Driesch

#### **BRD 170 Abri Stendel XVIII (Niedersachsen)**

Type: c

Sources: Staescher 2005.

Date: LP LG Magdalenian, 14C = 13,000 BP (cal)

Fauna: *Anser* sp., *Lagopus* sp.

#### **BRD 171 Kleine Feldhofer Grotte + Feldhofer Kirche (Nordrhein-Westfalen)**

Type: c

Sources: Kalthoff 2006

Date: LP Mousterian - LG (40-10 KA BP)

Fauna: *Lagopus* sp.

#### **BRD 172 Lehmgrube Biedensteg (Hessen)**

Type: o

Alt: 208

Sources: Diedrich 2006, Jacobshagen 1963

Date: LP IS4 ca 65-90 KA BP

Layer: IV

Fauna: *Lagopus lagopus*, *Tetrao tetrrix*, *Otis tarda*

Layer: III

Fauna: *Mergus serrator*, *Lagopus* sp.

Layer: II

Fauna: *Erithacus rubecula*

Layer: I

Fauna: *Anas platyrhynchos*, *Anas penelope*, *Anas* sp., *Mergus serrator*, *Tetrao tetrix*, *Lagopus lagopus*, *Lagopus mutus*, *Scolopax ruaticola*, *Limosa limosa*, *Strix aluco*, *Nucifraga caryocatactes*, *Pyrrhula pyrrhula*  
Det: Soergel

## GEORGIA

### GE 22 Dzydzyana

Type:c  
Sources: Burchak-Abramovich & Burchak 1982, (Bendukidze 1979)  
Date: LP EUP  
Fauna: *Turdus merula*, *Garrulus glandarius*, *Fringilla coelebs*  
Notes: A. k. a. Dzudzuana

## GREECE

### GR 22 Kalamakia Cave (Lakonia)

Type:c  
Sources: Darlas 2007, Roger & Darrias 1999  
Layer: III-V  
Date: LP Early - Middle Weichselian (IS 3-4), c. 40-100 KA BP  
Fauna: *Puffinus* cf *yelkouan*, cf *Coturnix coturnix*, *Alectoris graeca*, *Columba livia*, , *Otus scops* *Corvus monedula*, *Pica pica*

### GR 23 Klisoura Cave I (Argolis)

Type: c  
Sources: Komouzelis et al. 2001, Tomek & Bochenski 2001,2002  
Date: LP Latest Aurignacian 14C=22,500±400, 26,000±500 BP  
Layer: 6a,  
Fauna: *Anser anser*, *Alectoris graeca*, *Alectoris* cf *graeca*, cf *Alectoris* sp., *Otis tarda*, *Turdus* sp., *Corvus corone*  
Date: LP Latest Aurignacian  
Layer: III  
Fauna: *Alectoris graeca*  
Date: LP Latest Aurignacian  
Layer: III'  
Fauna: *Alectoris graeca*, cf *Alectoris* sp., *Asio* sp., *Corvus monedula*  
Date: LP Aurignacian  
Layer: IIIb/c  
Fauna: *Alectoris graeca*  
Date: LP Aurignacian  
Layer: IIIc  
Fauna: *Alectoris graeca*, *Alectoris* cf *graeca*, cf *Alectoris* sp.  
Date: LP Aurignacian, 14C=34,700±1600 BP  
Layer: IIIe  
Fauna: *Alectoris graeca*, cf *Alectoris* sp., *Otis tarda*  
Date: LP Aurignacian  
Layer: IIIe'  
Fauna: *Anas crecca/querquedula*, *Alectoris graeca*, *Otis tarda*  
Date: LP Middle Aurignacian, 14C=31400±1000  
Layer: IIIg  
Fauna: *Alectoris graeca*  
Date: LP Early Aurignacian, 14C=32,400±600 BP  
Layer: IV  
Fauna: *Alectoris graeca*, *Alectoris* cf *graeca*

Det: Bochenski, Tomek

### GR 24 Kalo Choraphi Cave (Crete)

Type: c

Sources: Kuss 1965

Date: LP

Fauna: *Columba* sp.

Notes: A. k. a. Kalo Chorafi

## HUNGARY

### HU 70 Beremend 15 (Villány)

Type: c

Alt: 110

Sources: Jánossy 1987, 1992

Date: EP ca 1.5 MA BP

Fauna: *Ciconia stehlini*, *Anas crecca percrecca*, *Falco tinnunculus atavus*, *Francolinus minor*, *Francolinus capeki*, *Otis khosatzki beremendensis*, *Numenius cf arquata*, *Cuculus* sp., *Anthus* sp., *Serinus* sp., *Corvus janossyi*

Det.: Jánossy

## IRAQ

### IRQ 5 Qermez Dere (Kurdistan)

Type: o

Alt: ca 350

Sources: Dobney, Beech & Jaques 1999

Date: LP/Hol c. 10,000 BP

Layer: Phase 2

Fauna: *Pterocles* sp., cf *Pterocles alchata*, cf *Pterocles orientalis*, Alaudidae sp.

Layer: Phase 2.5

Fauna: *Buteo buteo*, cf *Buteo rufinus*, *Pterocles* sp., cf *Pterocles alchata*, Alaudidae sp.

Layer: Phase 3

Fauna: cf *Pernis apivorus*, *Buteo buteo*, cf *Buteo rufinus*, *Alectoris chukar*, *Chlamydotis undulata*, *Pterocles* sp., cf *Pterocles alchata*, cf *Pterocles orientalis*, Alaudidae sp.

Layer: Phase 4

Fauna: *Buteo buteo*, cf *Ammoperdix griseogularis*, *Pterocles* sp., cf *Pterocles alchata*, cf *Pterocles orientalis*, *Bubo bubo*

Layer: Phase 5

Fauna: cf *Buteo rufinus*, *Aquila rapax*, *Francolinus francolinus*, *Chlamydotis undulata*, *Pterocles* sp., cf *Pterocles alchata*, cf *Pterocles orientalis*

Layer: Phase 6

Fauna: *Neophron percnopterus*, *Buteo buteo*, cf *Buteo rufinus*, cf *Alectoris chukar*, cf *Ammoperdix griseogularis*, cf *Francolinus francolinus*, cf *Anthropoides virgo*, *Chlamydotis undulata*, *Otis tarda*, *Pterocles* sp., cf *Pterocles alchata*, cf *Pterocles orientalis*, *Corvus corone/fragilegus*, Alaudidae sp.

Layer: Phase 7

Fauna: *Neophron percnopterus*, *Buteo* spp. *Buteo buteo*, cf *Buteo rufinus*, *Aquila rapax*, cf *Ammoperdix griseogularis*, *Chlamydotis undulata*, *Otis tarda*, *Pterocles* sp., cf *Pterocles alchata*

## ISRAEL

### IS 37 Ohalo 2 (Galilee)

Type: o

Alt: -210

Sources: Simmons & Nadel 1998

Date: LP Early Epipalaeolithic 14C=19,400 BP

Fauna: *Podiceps auritus*, *Podiceps cristatus*, *Podiceps griseogen*, *Podiceps nigricollis*, *Tachybaptus ruficollis*, *Phalacrocorax aristotelis*, *Phalacrocorax pygmaeus*, *Ardea cinerea*, *Ardea purpurea*, *Ardeola ralloides*, *Egretta garzetta*, *Platalea leucorodia*, *Plegadis falcinellus*, *Cygnus bewickii*, *Cygnus cygnus*, *Anser albifrons*, *Anser anser*, *Anser fabalis*, *Tadorna tadorna*, *Alopochen aegyptiacus*, *Anas acuta*, *Anas capensis*, *Anas clypeata*, *Anas crecca*, *Anas penelope*, *Anas platyrhynchos*, *Anas querquedula*, *Anas strepera*, *Aythya fuligula*, *Aythya marila*, *Netta rufina*, *Mergus merganser*, *Mergus serrator*, *Melanitta fusca*, *Bucephala clangula*, *Haliaeetus albicilla*, *Milvus migrans*, *Circus aeruginosus*, *Circus cyaneus*, *Accipiter nisus*, *Accipiter gentilis*, *Melierax metabates*, *Buteo rufinus*, *Buteo buteo*, *Aquila rapax*, *Falco tinnunculus*, *Falco columbarius*, *Falco biarmicus*, *Falco cherrug*, *Alectoris chukar*, *Ammoperdix heyi*, *Coturnix coturnix*, *Fulica atra*, *Porphyrio porphyrio*, *Tetrax tetrax*, *Otis tarda*, *Himantopus himantopus*, *Recurvirostra avosetta*, *Vanellus vanellus*, *Numenius phaeopus*, *Numenius arquata*, *Arenaria interpres*, *Larus minutus*, *Larus sabini*, *Larus argentatus*, *Bubo bubo*, *Strix aluco/butleri*, *Corvus corone*, *Corvus monedula*, *Corvus frugilegus*

Det: Simmons & Nadel

### IS 38 Tabun (Mount Carmel)

Type: c

Sources: Stewart 1999, 2007

Layer: C, D, Eb

Date: MP? IS 5-9?

Fauna: *Sturnus cf vulgaris*

Det: Stewart

### IS 39 Qumran Cave 24 (Dead Sea)

Type: c

Alt: -285

Sources: Recchi & Gopher 2002

Layer: 2

Date: LP LG Natufian 10,000-11,000 BP

Fauna: *Podiceps nigricollis*, *Anser sp.*, *Columba livia*, *Garrulus glandarius*, *Corvus sp.*, *Corvus corone*, *Corvus monedula*, *Sturnus vulgaris*

Det: Recchi

### IS 40 Upper Besor 6 (Negev)

Type: o

Sources: Horwitz & Goring-Morris 2000

Date: LP LG Terminal Ramonian ca. 12,500 BP

Fauna: *Struthio sp.*

### IS 41 Nahal Rut 48A-D (Negev)

Type: o

Sources: Gilead & Marder 1989

Date: LP Geometric Kebaran

Fauna: *Struthio sp.*

### IS 42 el-Wad terrace (Mount Carmel)

Type: o

Alt: 44

Sources: Bar-Oz et al. 2004

Date: LP LG Late Natufian

Fauna: *Alectoris chukar*



### **IS 43 Amud cave (Galilee)**

Type: c Alt: - 110  
Sources: Rabinovitch & Hovers 2004  
Layer: B1  
Date: LP, Mousterian, c. 55 KA BP  
Fauna: *Anas platyrhynchos*, *Alectoris chukar*, *Vanellus vanellus*, *Scolopax rusticola*, *Corvus corone*, *Corvus monedula*  
Det: Simmons?

### **IS 44 Hayonim terrace (Galilee)**

Type: o Alt: 230  
Sources: Munro 2001,2003  
Date: LP LG Younger Dryas, Late Natufian  
Fauna: *Alectoris chukar*, Strigiformes sp.  
Det: Munro

### **IS 45 Hilazon Tachtit (Galilee)**

Type: c  
Sources: Munro 2001, 2003  
Date: LP LG Younger Dryas, Late Natufian, 14C = 10,750±150 BP  
Fauna: *Anas* sp., *Buteo buteo*, *Alectoris chukar*, *Coturnix coturnix*, *Columba livia*, Strigiformes sp., *Apus* sp.  
Det: Munro

### **IS 46 Hefzibah**

Type: o  
Sources: Munro & Bar-Oz 2004  
Date: LP Geometric Kebaran, 14.5-17 KA BP  
Fauna: *Alectoris chukar*  
Det: Munro?

### **IS 47 Meged Rockshelter (Galilee)**

Type: o  
Sources: Stiner 2005  
Date: LP Kebaran, 18-22 KA BP  
Fauna: *Aquila* sp., *Buteo buteo*  
Det: Stiner?

### **IS 48 Misliya Cave (Mount Carmel)**

Type: c  
Sources: Yeshurun et al. 2007  
Date: MP Early Middle Palaeolithic  
Fauna: *Struthio* sp., *Alectoris chukar*  
Det: Yeshurun?

## **ITALY**

### **IT 125 Castelcivita (Salerno)**

Type: c  
Alt: 100  
Sources: Cassoli & Tagliacozzo 1997b  
Layer: 18,19,20,21,29,30,31,GRA

Date: LP Mousterian, 14C=39,100-42,700 BP

Fauna: *Anas querquedula*, *Anas strepera*, *Anas penelope*, *Alectoris graeca*, *Perdix perdix*, *Coturnix coturnix*, *Limosa limosa*, *Columba oenas*, *Asio otus*, *Delichon urbica*, *Ptyonoprogne rupestris*, *Turdus viscivorus*, *Turdus merula*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: 10,11,11-12,12-13,13-14,14,15,16,17,18

Date: LP Uluzzian, 14C=32,470-33,220 BP

Fauna: *Anas platyrhynchos*, *Anas querquedula*, *Aythya nyroca*, *Falco subbuteo*, *Falco naumanni*, *Alectoris graeca*, *Perdix perdix*, *Coturnix coturnix*, *Crex crex*, *Arenaria interpres*, *Gallinago media*, *Philomachus pugnax*, *Burhinus oedipnemus*, *Larus ridibundus*, *Columba oenas*, *Otus scops*, *Athene noctua*, *Strix aluco*, *Asio otus*, *Coracias garrulus*, *Ptyonoprogne rupestris*, *Turdus viscivorus*, *Turdus iliacus*, *Nucifraga caryocatactes*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: 8,9,10,11

Date: LP Protoaurignacian with Dufour blades 14C=31,950-32,930 BP

Fauna: *Anas crecca*, *Anas strepera*, *Buteo buteo*, *Alectoris graeca*, *Perdix perdix*, *Crex crex*, *Pluvialis squatarola*, *Numenius phaeopus*, *Columba oenas*, *Strix aluco*, *Ptyonoprogne rupestris*, *Turdus viscivorus*, *Nucifraga caryocatactes*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: 1,2,8

Date: LP Protoaurignacian

Fauna: *Anas crecca*, *Alectoris graeca*, *Perdix perdix*, *Coturnix coturnix*, *Crex crex*, *Larus ridibundus*, *Columba oenas*, *Strix aluco*, *Caprimulgus europaeus*, *Turdus viscivorus*

Det: Cassoli & Tagliacozzo

### IT 126 Contrada Fusco (Siracusa)

Type: o Alt: 5

Sources: Cassoli & Tagliacozzo 1996, Pavia 2000, 2001

Date: Late MP - Early LP "Elephas mnaidrensis faunal complex", ESR = 146,800±28.700 BP

Fauna: *Tachybaptus ruficollis*, *Podiceps cristatus*, *Podiceps auritus*, *Phalacrocorax carbo*, *Pelecanus crispus*, *Ixobrychus minutus*, *Botaurus stellaris*, *Egretta garzetta*, *Ardea cinerea*, *Plegadis falcinellus*, *Cygnus falconeri*, *Anser* sp., *Anas crecca/querquedula*, *Anas platyrhynchos*, *Anas clypeata*, *Anas* sp., *Aythya* sp., *Mergus merganser*, *Oxyura leucocephala*, Anatidae indet., *Buteo buteo*, *Gyps melitensis*, *Accipiter gentilis*, *Aquila* sp., *Pandion haliaetus*, *Falco columbarius*, *Fulica atra*, *Grus grus*, *Grus* cf *melitensis*, *Tetrax tetrax*, *Otis tarda*, *Limosa limosa/lapponica*, *Numenius* cf *phaeopus*, *Scolopax rusticola*, *Tringa* sp., *Pterocles orientalis*, *Columba livia/oenas*, *Bubo bubo*, *Strix aluco*, *Athene noctua*, *Apus melba*, *Coracias garrulus*, *Sturnus vulgaris/unicolor*, *Corvus corone*

Det: Pavia, Cassoli, Tagliacozzi

Stored: Museo Archeologico "P. Orsi" di Siracusa

### IT 127 Capo Figari (Sardegna)

Type: o

Alt: 313

Sources: Louchart 2002, Pavia 1999

Date: Late MP or early LP

Fauna: Scolopacidae sp., *Bubo insularis*, *Turdus* sp.

Det: Pavia

### IT 128 Grotta Breuil (Latina)

Type: c

Sources: Recchi 1996

Date: LP, Mousterian/Pontinian, ESR=37,000 BP

Layer: 3

Fauna: *Circus macrourus*, *Alectoris barbara*, *Alectoris graeca*, *Alectoris rufa*, *Perdix perdix*, *Coturnix coturnix*, *Columba livia*, *Columba oenas*, *Columba palumbus*, *Streptopelia turtur*, *Apus apus*, *Caprimulgus europaeus*, *Hirundo rustica*, *Prunella collaris*, *Prunella modularis*, *Turdus iliacus*, *Turdus merula*, *Turdus philomelos*, *Turdus viscivorus*, *Monticola solitarius*, *Garrulus glandarius*, *Corvus corone*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Sturnus vulgaris*, *Coccothraustes coccothraustes*,

Layer: 4

Fauna: *Accipiter gentilis*, *Falco tinnunculus*, *Alectoris rufa*, *Coturnix coturnix*, *Columba livia*, *Columba oenas*, *Columba palumbus*, *Apus apus*, *Hirundo rustica*, *Prunella modularis*, *Turdus iliacus*, *Turdus merula*, *Turdus philomelos*, *Garrulus glandarius*, *Nucifraga caryocatactes*, *Pica pica*, *Corvus monedula*, *Corvus corone*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Fringilla coelebs*, *Coccothraustes coccothraustes*, *Carduelis chloris*, *Loxia curvirostra*

Layer: 5

Fauna: *Columba livia*, *Columba oenas*, *Columba palumbus*, *Streptopelia turtur*, *Caprimulgus europaeus*, *Hirundo rustica*, *Turdus iliacus*, *Turdus merula*, *Turdus philomelos*, *Nucifraga caryocatactes*, *Corvus corone*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: 6

Fauna: *Alectoris graeca*, *Alectoris rufa*, *Coturnix coturnix*, *Columba livia*, *Columba oenas*, *Hirundo rustica*, *Turdus merula*, *Garrulus glandarius*, *Pica pica*, *Nucifraga caryocatactes*, *Corvus corax*, *Corvus corone*, *Corvus frugilegus*, *Corvus monedula*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Coccothraustes coccothraustes*

Layer: 7

Fauna: *Alectoris rufa*, *Columba livia*, *Columba oenas*, *Columba palumbus*, *Turdus merula*, *Garrulus glandarius*, *Corvus monedula*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: 8

Fauna: *Columba livia*, *Columba oenas*, *Columba palumbus*, *Athene noctua*, *Merops apiaster*, *Corvus corone*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: 9

Fauna: *Columba livia*, *Columba oenas*, *Columba palumbus*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Det: Recchi

### IT 129 Acquedolci (Sicilia)

Type: o Alt: 140

Sources: Pavia 2000, 2001

Date: Late MP/Early LP "*Elephas mnaidrensis* faunal complex"

Fauna: *Gyps melitensis*

Det: Pavia

### IT 130 Site K22 (Trapani)

Type: c Alt: 55

Sources: Pavia 2000,2001

Layer: 1-3

Date: Late MP/Early LP "*Elephas mnaidrensis* faunal complex"

Fauna: *Anas crecca/querquedula*, *Accipiter nisus*, *Coturnix coturnix*, *Columba palumbus*, *Strix aluco*, *Anthus sp.*, *Erithacus rubecula*, *Turdus sp.*, *Sylvia sp.*, *Sturnus unicolor/vulgaris*

Layer: Unstratified

Date: MP/LP

Fauna: *Anas platyrhynchos*, *Scolopax rusticola*, *Athene noctua*

Det: Pavia

### IT 131 Cretone (Roma)

Type: o

Sources: Bedetti 2003, Di Canzio et al. 2002

Layer: 3

Date: MP, probably IS 7

Fauna: *Anser cf anser*, *Corvus monedula*, *Pica pica*, Passeriformes sp.

Det: Bedetti

### IT 132 Grotta dei Fiori (Sardegna)

Type: c

Sources: Pavia & Bedetti 2002, 2003

Date: LP

Fauna: *Ciconia nigra*, *Gypaetus barbatus*, *Aquila* sp., *Columba livia*, *Turdus viscivorus*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Corvus corone/fragilegus*, *Corvus corax*, *Emberiza cirulus/schoeniclus*  
Det: Pavia & Bedetti

### IT 133 Grotta delle Mura (Bari)

Type: c  
Sources: Bedetti & Pavia 2003, Pavia 2000  
Date: LP LG Epigravettian  
Fauna: *Phalacrocorax carbo*, *Anser anser*, *Anser* sp., *Branta* sp., *Perdix perdix*, *Tetrax tetrax*, *Otis tarda*, *Columba livia/oenas*, *Bubo bubo*, *Athene noctua*, *Upupa epops*, *Galerida cristata*, *Alauda arvensis*, *Sturnus vulgaris*  
Det: Pavia  
Stored: Sezione di preistoria del Dipartimento di Archeologia dell'Università di Siena

### IT 134 Cava Nuzzo (Lecce)

Type: c  
Sources: Pavia 2000  
Date: LP IS 5  
Fauna: *Tadorna tadorna*, *Anas* sp., *Perdix perdix*, *Columba palumbus*  
Det: Pavia

### IT 135 Cava L di San Sidero (Lecce)

Type: c  
Sources: Bedetti, Pavia & Sardella. 2004, Pavia 2000, (de Giuli 1983)  
Date: LP IS 5  
Fauna: *Alectoris rufa*, *Perdix perdix*, *Tetrax tetrax*, *Otis tarda*, Charadriiformes sp., *Athene noctua*, Strigiformes indet., *Pica pica*, *Corvus corone*  
Det: Pavia  
Stored: Museo di Geologia e Paleontologia dell'Università di Torino

### IT 136 Grotta del Cavallo (Lecce)

Type: c  
Sources: Pavia 2000  
Date: LP Uluzzian  
Fauna: *Branta* sp., *Anas platyrhynchos*, *Anas crecca/querquedula*, *Anas* sp., *Aythya* sp., *Falco columbarius*, *Perdix perdix*, *Tetrax tetrax*, *Scolopax rusticola*, *Columba livia/oenas*, *Columba palumbus*, *Athene noctua*, *Alauda arvensis*, *Turdus* sp., *Pyrrhonorax pyrrhonorax*  
Det: Pavia

### IT 137 Grotta della Serratura (Salerno)

Type: c  
Sources: Pavia 2000  
Date: LP Tardiglacial  
Layer: 8E  
Fauna: *Anser* sp., *Anas* sp., *Accipiter gentilis*, *Fulica atra*, *Tetrax tetrax*, *Columba livia/oenas*, *Turdus* sp.  
Layer: 8F  
Fauna: *Anser* sp., *Anas platyrhynchos*, *Buteo buteo*, *Aquila* sp., *Falco tinnunculus*, *Porphyrio porphyrio*, *Fulica atra*, *Tetrax tetrax*, *Otis tarda*, *Numenius arquatus*, *Columba livia/oenas*, *Strix aluco*, *Bubo bubo*, *Athene noctua*, *Pyrrhonorax pyrrhonorax*, *Coccothraustes coccothraustes*.  
Layer: 9  
Fauna: *Falco tinnunculus*, *Coturnix coturnix*, *Perdix perdix*, *Columba livia/oenas*, *Strix aluco*, *Hirundo daurica/rustica*, *Monticola* sp., *Turdus* sp., *Sturnus vulgaris*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Corvus corax*  
Det: Pavia

Stored: Sezione di preistoria del Dipartimento di Archeologia dell'Università di Siena

### IT 138 Grotta Vascio o'funno (Napoli)

Type: c

Sources: Pavia 2000

Date: LP Tardiglacial

Layer: 1

Fauna: *Coturnix coturnix*, *Rallus aquaticus*, *Columba livia/oenas*, *Turdus* sp., *Garrulus glandarius*

Layer: 2

Fauna: *Coturnix coturnix*, *Rallus aquaticus*, *Turdus* sp., Turdidae sp., Sylviidae sp.

Layer: 4

Fauna: *Anas crecca/querquedula*, *Coturnix coturnix*, *Rallus aquaticus*, *Turdus* sp.

Det: Pavia

### IT 139 Grotta di Poggio Schinaldi (Palermo)

Type: c Alt: 125

Sources: Pavia 2000

Date: MP "*Elephas falconeri* faunal complex"

Fauna: *Buteo buteo*, *Falco eleonora*, *Scolopax rusticola*, *Columba livia/oenas*, *Columba palumbus*, *Tyto* n. sp., *Athene trinacriae*, Turdidae sp., *Pica pica*, *Corvus corax*

Det: Pavia

Stored: Museo Geologico "G. G. Gemmellaro" di Palermo

### IT 140 Grotta Marasà (Palermo)

Type: c

Sources: Pavia 2000, 2004, 2007

Date: MP, Early MP, "*Elephas falconeri*" faunal complex

Fauna: *Phalacrocorax aristotelis*, *Anser anser*, *Branta* cf *ruficollis*, *Tadorna tadorna*, *Anas platyrhynchos*, *Anas crecca/querquedula*, *Anas clypeata*, *Anas* sp., *Aythya* cf *nyroca*, *Aythya* sp., Anatidae indet., *Accipiter nisus*, Accipitridae indet., *Falco subbuteo*, *Falco* sp., *Alectoris graeca*, *Coturnix coturnix*, *Rallus aquaticus*, *Crex crex*, *Scolopax rusticola*, *Columba livia/oenas*, *Columba palumbus*, *Streptopelia turtur*, *Tyto mourerchauvireae*, *Bubo bubo*, *Strix aluco*, *Athene trinacriae*, *Aegolius martae*, *Asio* sp. *Apus apus/pallidus*, *Picus viridis*, *Dendrocopos leucotos*, *Hirundo daurica/rustica*, *Delichon urbica*, *Turdus viscivorus*, *Turdus* sp., *Pyrrhocorax pyrrhocorax*, *Corvus corone*, *Corvus corax*, Corvidae n. sp., *Sturnus unicolor/vulgaris*, *Carduelis* sp., Passeriformes indet.

Det: Pavia

Stored: Museo Geologico "G. G. Gemmellaro" di Palermo, Museo di Geologia e Paleontologia of the University of Torino (PU)

### IT 141 Grotta del Ponte (Palermo)

Type: c Alt: 90

Sources: Pavia 2000

Date: MP "*Elephas falconeri* faunal complex"?

Fauna: *Falco tinnunculus*, *Limosa limosa/lapponica*, *Columba livia/oenas*, *Columba palumbus*, *Athene trinacriae*, *Turdus* sp., *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, Corvidae n. sp., *Sturnus unicolor/vulgaris*, *Carduelis chloris*

Det: Pavia

Stored: Museo Geologico "G. G. Gemmellaro" di Palermo

### IT 142 Contrada Annunziata (Ragusa)

Type: c

Sources: Pavia 2000

Date: MP "*Elephas falconeri* faunal complex"

Fauna: *Cygnus equitum*, *Anser* sp., Anatidae indet., *Grus grus*, *Grus melitensis*, *Scolopax rusticola*, Charadriiformes indet., *Turdus* sp., Passeriformes indet.

Det: Pavia  
Stored: Museo Civico di Storia Naturale di Comiso

#### **IT 143 Comiso (Ragusa)**

Type: o  
Sources: Pavia 2000  
Date: MP "*Elephas falconeri* faunal complex", probably early MP  
Fauna: *Cygnus* cf *cygnus*, *Anser* sp., *Tadorna tadorna*, *Anas platyrhynchos*, *Anas crecca/querquedula*, *Anas* sp., *Aythya* sp., Anatidae indet., *Fulica atra*, *Grus* cf *melitensis*, *Numenius* cf *phaeopus*, *Columba palumbus*, *Streptopelia turtur*, Corvidae n. sp., Passeriformes indet.  
Det: Pavia  
Stored: Museo Civico di Storia Naturale di Comiso

#### **IT 144 Casa Musenna (Ragusa)**

Type: o  
Sources: Pavia 2000  
Date: MP "*Elephas falconeri* faunal complex" ?  
Fauna: *Tachybaptus ruficollis*  
Det: Pavia  
Stored: Museo Civico di Storia Naturale di Comiso

#### **IT 145 Contrada Pianetti (Ragusa)**

Type: c  
Sources: Pavia 2000  
Layer: Fessura B  
Date: LP, IS 3?  
Fauna: Anatidae indet., *Vanellus vanellus*, *Pluvialis* cf *apricaria*, *Columba livia/oenas*, *Athene noctua*, *Pyrhacorax pyrrhacorax*  
Det: Pavia  
Stored: Museo Civico di Storia Naturale di Comiso

#### **IT 146 Grotta di S. Teodoro (Messina)**

Type: c            Alt: 150  
Sources: Pavia 2000  
Layer: Unit B  
Date: LP, IS 2-4?  
Fauna: *Branta* sp., *Falco tinnunculus*, *Falco columbarius*, *Coturnix coturnix*, *Scolopax rusticola*, *Columba livia/oenas*, Hirundinidae indet., *Turdus* sp., *Pyrhacorax pyrrhacorax*, *Pyrhacorax graculus*  
Det: Pavia

#### **IT 147 Grotta della Za Minica (Palermo)**

Type: c  
Sources: Pavia 2000  
Date: LP, IS 3?  
Fauna: *Alectoris graeca*, *Rallus aquaticus*, *Columba livia/oenas*, *Athene* cf *noctua*, Corvidae indet.  
Det: Pavia

#### **IT 148 Grotta delle Stalattiti o delle Pecore (Trapani)**

Type: c  
Sources: Pavia 2000  
Layer: Level 2  
Date: LP?

Fauna: *Calonectris diomedea*, *Puffinus yelkouan*, *Phalacrocorax aristotelis*, *Accipiter gentilis*, Accipitridae indet., *Falco naumanni*, *Falco tinnunculus*, *Falco* sp., *Alectoris graeca*, *Tetrax tetrax*, *Cuculus canorus*, *Columba livia/oenas*, *Columba palumbus*, *Athene noctua*, *Apus apus/pallidus*, *Picus viridis*, *Hirundo daurica/rustica*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus corone*, Corvidae indet., *Sturnus unicolor/vulgaris*, *Carduelis chloris*, *Emberiza* sp.

Det: Pavia

Stored: Dipartimento di Scienze della Terra (Università "La Sapienza") di Roma.

Notes: A. k. a. Grotta del Faraglione

#### **IT 149 San Maria d'Agnano (Puglia)**

Type: c

Sources: Angelone et al. 2004.

Date: LP, 24-80 KA BP

Fauna: Ardeidae sp., *Anser* sp., *Tadorna tadorna*, *Anas platyrhynchos*, *Anas crecca*, *Anas* sp., *Buteo buteo*, *Falco* sp., *Falco tinnunculus*, *Falco subbuteo*, *Falco columbarius*, *Alectoris* cfr. *A. graeca*, *Perdix perdix*, *Coturnix coturnix*, *Rallus aquaticus*, *Fulica atra*, *Columba livia*, *Columba palumbus*, *Asio* sp., *Athene noctua*, *Stix aluco*, *Coracias garrulus*, *Picus viridis*, *Sturnus vulgaris*, *Pica pica*, *Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus corone*, *Corvus corax*, Passeriformes indet.

Det: Pavia

#### **IT 150 Caverna Generosa (Lombardia)**

Type: c Alt: 1450

Sources: Bona 2004, Bona et al. 2007

Date: LP, 38-50 KA BP

Layer: Galerie 3

Fauna: *Tetrao tetrix*

Det: Pavia

Note: A. k. a. Grotta dell'Orso, Grotta Generosa

#### **IT 151 Riparo Mochi (Liguria)**

Type: c

Sources: Stiner, Munro & Surovell 2000

Date: LP UP Early Aurignacian, 14C=32,280±580 BP

Fauna: Anseriformes, *Perdix perdix*, *Coturnix coturnix*, *Columba livia*

Det: Recchi

#### **IT 152 Pietrafitta (Perugia)**

Type: o

Sources: Bedetti 2003, Bedetti & Pavia 2004a, Zucchetta, Gentile & Pavia 2004

Date: EP, MN 18, ca 1.5 MA BP

Fauna: *Podiceps griseigena*, *Phalacrocorax* cf *carbo*, *Ixobrychus* sp., *Cygnus* aff *columbianus*, *Anas penelope*, *Anas clypeata*, *Anas crecca/querquedula*, *Aythya sepulta*, *Aythya aretina*, *Mergus merganser*, *Mergus serrator*, Anatidae sp., Rallidae sp., *Gallus* nov. sp.

Det: Bedetti, Pavia

Stored: stabilimento del'Enel di Pietrafitta.

#### **IT 153 Torre Picchio (Terni)**

Type: o Alt: 300

Sources: Bedetti 2003, Girotti et al. 2003

Date: EP, MN 18, ca 1.7-1.8 MA BP, S. Maria di Ciciliano Formation

Fauna: *Ciconia nigra*, *Hieraaetus* nov. sp.

Det: Bedetti

Stored: Museo Paleontologico "Ex Chiesa di S. Tommaso", Terni

Note: A. k. a. Torre di Picchio

### IT 154 Bacino Tiberino (Terni)

Type: o

Sources: Bedetti 2003

Date: EP, MN 18, ca 1.7-1.8 MA BP

Fauna: *Phalacrocorax* sp., *Bubo bubo*

Det: Bedetti

Stored: Museo Paleontologico "Ex Chiesa di S. Tommaso", Terni

### IT 155 Monte Riccio (Viterbo)

Type: o

Sources: Bedetti 2003

Date: EP, MN 18, ca 1.7-1.8 MA BP

Fauna: *Bubo bubo*

Det: Bedetti

Stored: Museo civico di Tolfa.

### IT 156 Cave Pirro-dell'Erba (Foggia)

Type: o

Sources: Bedetti 2003

Date: EP, MNQ 19, ca 1.3-1.7 MA BP

Fauna: *Geronticus eremita*, *Ciconiiformes* sp., *Anseriformes* sp., *Anatidae* sp., *Anser albifrons*, *Anser* sp., *Branta bernicla*, *Tadorna ferruginea*, *Anas penelope/clypeata*, *Anas clypeata*, *Anas crecca/querquedula*, *Anas* sp., *Aythya* sp., *Oxyura* sp., *Falco subbuteo*, *Falco peregrinus*, *Alectoris rufa*, *Alectoris* sp., *Alectoris/Perdix* sp., *Perdix* nov. sp., *Paleocryptonyx donnezanii*, *Galliformes* sp., *Grus grus*, *Otis tarda*, *Tetrax tetrax*, *Vanellus vanellus*, *Pluvialis apricaria*, *Scolopax rusticola*, *Numenius phaeopus/tenuirostris*, *Tringa totanus*, *Tringa* sp., *Philomachus pugnax*, *Larus canus*, *Charadriiformes* sp., *Pterocles orientalis*, *Columba livia*, *Tyto aff. alba*, *Bubo bubo*, *Athene noctua*, *Jynx torquilla*, *Melanocorypha calandra*, *Calandrella brachydactyla*, *Galerida cristata*, *Alauda arvensis*, *Alaudidae* sp., *Anthus* sp., *Turdus* sp., *Turdidae* indet., *Sylvia* cf. *communis*, *Sylviidae* sp., *Garrulus glandarius*, *Pica pica*, *Pica pica/Garrulus glandarius*, *Pyrrhocorax graculus/Corvus monedula*, *Corvus pliocaenus*, *Corvidae* sp., *Sturnus* sp., *Fringillidae* sp.

Det: Bedetti

Stored: Dipartimento di Scienze della Terra dell'Università di Bari, il Dipartimento di Scienze della Terra dell'Università degli di Roma "La Sapienza", Dipartimento di Scienze della Terra dell'Università di Firenze, Dipartimento di Scienze della Terra dell'Università di Torino.

### IT 157 Monte Peglia (Terni)

Type: c

Sources: Bedetti 2003

Date: EP, MNQ 20, ca 1.0 MA BP

Fauna: *Hieraaetus* nov. sp., *Aquila* sp., *Accipitridae* indet., *Falco antiquus*, *Coturnix coturnix*, *Perdix* sp., *Columba livia minuta*, *Corvus pliocaenus*.

Det: Segre, Bedetti

Stored: l'Istituto di Paleontologia Umana.

### IT 158 Casal Selce (Roma)

Type: o

Sources: Bedetti 2003

Date: MP, Early MP, ca 600-700 KA BP

Fauna: *Egretta garzetta*, *Plegadis falcinellus*, *Platalea leucorodia*, *Tadorna tadorna*, *Anas platyrhynchos*, *Anas penelope/clypeata*, *Aythya nyroca*, *Aythya fuligula*, cf. *Somateria* sp., *Mergus* sp., *Anatidae* sp., *Haliaeetus albicilla*, *Accipiter nisus*, *Buteo buteo*, *Perdix* sp., *Coturnix coturnix*, *Rallus aquaticus*, *Haematopus ostralegus*, *Scolopax rusticola*, *Charadriiformes* sp., *Columba palumbus*, *Alaudidae* sp., *Turdus philomelos/iliacus*, *Turdus* sp., cf. *Sylviidae* sp., *Pica pica*, *Corvus corone/fragilegus*



Passeriformes indet.

Det: Bedetti

Stored: Dipartimento di Scienze della Terra dell'Università di Roma "La Sapienza".

#### **IT 159 Pagliare de Sassa (Abruzzo)**

Type: c

Sources: Bedetti 2003

Date: MP, Early MP, ca 600-700 KA BP

Fauna: *Anas* sp.

Det: Bedetti

#### **IT 160 Colle del Quirinale (Lazio)**

Type: o

Sources: Bedetti 2003

Date: MP, <450 KA BP

Fauna: *Anser anser*, *Anas platyrhynchos*

Det: Bedetti

#### **IT 161 Via Aurelia, KM 18.900 (Lazio)**

Type: o

Sources: Bedetti 2003

Date: MP, late MP

Fauna: *Anser anser*

Det: Bedetti

Stored: Istituto di Paleontologia Umana.

#### **IT 162 Prati Fiscali (Lazio)**

Type: o

Sources: Bedetti 2003

Date: MP, late MP, IS 7

Fauna: *Anser* sp., *Anas platyrhynchos*, *Oxyura leucocephala*, Galliformes sp., *Grus grus*

Det: Bedetti

Stored: Museo di Paleontologia dell'Università degli Studi di Roma "La Sapienza"

#### **IT 163 Monte Tuttavista (Sardegna)**

Type: c            Alt: 836

Sources: Abbazi et al. 2004

Date: EP, *Nesogoral* fauna complex

Layer: Cave VII, Quarry Blocco Strada

Fauna: Strigidae sp.

Date: EP, *Nesogoral* fauna complex

Layer: Cave VI, Quarry 3

Fauna: Anatidae sp., *Aquila* sp., Accipitridae sp., Rallidae sp. 1, Rallidae sp. 2, *Athene* sp., Aves indet.

Date: Latest EP – Early MP

Layer: Cave X, Quarry 3 uccelli

Fauna: *Alauda* cf *arvensis*, *Melanocorypha* cf *calandra*, *Carduelis chloris*, Passeriformes sp.

Date: MP/LP, *Praemegaceros-Tyrrhenicola* fauna complex

Layer: Cave XI, Quarry canide

Fauna: Accipitridae sp., *Bubo* cf *insularis*, Strigidae sp., *Pyrhacorax* sp., Passeriformes sp., Aves indet.

Date: MP/LP, *Praemegaceros-Tyrrhenicola* fauna complex

Layer: Cave XI, Quarry dic. 2001

Fauna: Anatidae sp., *Athene* sp., *Pyrhacorax* sp., *Turdus* sp., *Emberiza* sp., Passeriformes sp., Aves indet.

Date: MP/LP, *Praemegaceros-Tyrrhenicola* fauna complex

Layer: Cave XI, Quarry 3

Fauna: Rallidae sp. 2, Hirundinidae sp.

Date: LP, youngest fauna complex

Layer: Cave VI, Quarry Banco 6

Fauna: *Aquila* sp., *Buteo cf buteo*, Accipitridae sp., *Coturnix coturnix*, Rallidae sp., *Columba livia*, *Bubo cf insularis*, *Athene* sp., Strigidae sp., Hirundinidae sp., *Pyrrhocorax graculus*, *Pyrrhocorax* sp., *Corvus cf corone*, Corvidae sp., *Turdus* sp., *Muscicapa* sp., Sylviidae sp., *Sturnus* sp., Passeriformes sp., Aves indet.

Date: LP, youngest fauna complex

Layer: Cave 7, Quarry 2

Fauna: *Aquila* sp., *Coturnix coturnix*, *Bubo cf insularis*, *Pyrrhocorax* sp., Corvidae sp., *Sturnus* sp., *Carduelis chloris*, Passeriformes sp., Aves indet.

Det: Pavia

Stored: Soprintendenza par Beni Archeologici, Nuoro and Archaeological Museum of Nuoro

### **IT 164 Riparo Dalmeri (Trento)**

Type: c Alt: 1240

Sources: Fiore & Tagliacozzi 2006

Date: LP, LG Epigravettian 14C = 11,000±115 BP (layer 26b)

Layer: 26c

Fauna: *Tetrao tetrax*, *Lagopus cf lagopus*, *Lagopus cf mutus*, *Coturnix coturnix*

Det: Gala & Tagliacozzo

### **IT 165 Grotta Continenza (L'Aquila)**

Type: c Alt: 710

Sources: Alhaique et al. 2004

Date: LP-Hol Final Epigravettian-Sauveterrian, 14C= 9,300 – 11,500 BP

Fauna: *Anas platyrhynchos*, *Aythya ferina*, *Fulica atra*

### **IT 166 Tane delle Iene (Brindisi)**

Type: c

Sources: Petronio et al. 2006

Date: LP ca 50 KA BP

Layer: US 8

Fauna: *Otis tarda*, *Falco* sp., Accipitridae sp.

Det: Gala & Tagliacozzo

### **IT 167 Avetrana (Taranto)**

Type: c

Sources: Sardella et al. 2003

Date: LP?

Layer: 1

Fauna: *Perdix perdix*, *Columba livia*, *Athene noctua*, *Pyrrhocorax graculus*

Det: Pavia

### **IT 168 Riparo Cogola (Trento)**

Type: c Alt: 1070

Sources: Fiore & Tagliacozzi 2004

Date: LP-Hol 14C =9,820 – 10,640 BP

Layer: US 18,19,25

Fauna: Anseriformes sp., *Tetrao tetrax*, Galliformes sp., Passeriformes sp.

Det: Fiore & Tagliacozzo

### **IT 169 Grotta di Ortucchio (Aquila)**

Type: c

Sources: Alhaique & Recchi n. d.

Date: LP Upper Palaeolithic

Fauna: Podicipediformes sp., Anseriformes sp., Anatidae sp., *Branta bernicla*, *Aythya* sp., Accipitriformes sp., *Tetrao tetrix*, *Perdix perdix*, Galliformes sp., *Gallinula chloropus*, *Columba livia*, Corvidae sp., Passeriformes sp.

Det: Recchi?

Note: 45 species of birds in all.

## **JAPAN**

### **JA 20 Awa fissure (Okinawa)**

Type: c

Sources: Matsuoka 2000

Date: LP

Fauna: *Gallirallus okinawae*, *Scolopax mira*

Det: Matsuoka

Stored: Chohei Kishaba pers. coll., National Science Museum, Tokyo

### **JA 21 Ihajo fissure (Okinawa)**

Type: c

Sources: Matsuoka 2000

Date: LP

Fauna: *Grus* sp. nov., *Sapheopipo noguchi*

Det: Matsuoka

Stored: Chohei Kishaba pers. coll., National Science Museum, Tokyo

### **JA 22 Yudore B fissure (Okinawa)**

Type: c

Sources: Matsuoka 2000

Date: LP

Fauna: *Scolopax mira*

Det: Matsuoka

Stored: Chohei Kishaba pers. coll., National Science Museum, Tokyo

### **JA 23 Kami-kurukubaru fissure (Okinawa)**

Type: c

Sources: Matsuoka 2000

Date: LP

Fauna: *Grus* sp. nov., *Rallina eurizonoides*

Det: Matsuoka

Stored: Chohei Kishaba pers. coll., National Science Museum, Tokyo, Department of Earth and Environmental Sciences, Faculty of Science, Kagoshima University

### **JA 24 Garabi-dou cave (Okinawa)**

Type: c

Sources: Matsuoka 2000

Date: LP

Fauna: *Gallirallus okinawae*

Det: Matsuoka

Stored: Chohei Kishaba pers. coll., National Science Museum, Tokyo

### **JA 25 Ishisukuyama fissure (Ishigaki)**

Type: c

Sources: Matsuoka 2000

Date: LP

Fauna: Anatidae sp., *Rallina eurizonoides*, *Amaurornis phoenicurus*, *Streptopelia orientalis*, Columbidae sp., cf *Otus manadensis*, cf *Strix uralensis*, *Hypsipetes amaurotis*, *Turdus pallidus*, Fringillidae sp., *Corvus connectens*

Det: Matsuoka

Stored: Okinawa Prefectural Museum

### JA 26 Kuzuü (Aso)

Type: c

Sources: Shikama 1937

Layer: Upper Kuzuü frm

Date: LP?

Fauna: *Phasianus* sp.

Notes: From sites Miyata Cave 1-2, Tuidi, Iduruhara

## JORDANIA

### JO 11 Wadi Mataha (Petra)

Type: o

Sources: Whitcher et al. 2000

Date: LP 10,300-14,500 BP

Fauna: *Alectoris* sp.

## LIBYA

### LB 2 Haua Fteah (Cyrenaica)

Type: c

Sources: MacDonald 1998, McBurney 1967

Layer: XI-XV

Date: LP, Iberomaurusian, 10,600-20,000 BP

Fauna: *Struthio camelus*, *Geronticus eremita*, *Anas* sp. *Buteo buteo*, *Falco tinnunculus*, *Alectoris barbara*, *Tringa* cf *nebularia*, *Columba livia/oenas*, *Turdus* sp.

Layer: XIV-XVII

Date: LP, Early Iberomaurusian – Late Dabban, 16,000-32,000(?) BP

Fauna: *Alectoris barbara*, *Columba livia/oenas*, *Corvus monedula*

Layer: XVI-XXI

Date: LP, Late Dabban, 20,000-40,000(?) BP

Fauna: *Falco* cf *naumanni*, *Numenius* cf *phaeopus*, *Columba livia/oenas*, *Sturnus* sp.

Layer: XXII-XXV

Date: LP, Early Dabban, 40,000-60,000(?) BP

Fauna: *Columba livia/oenas*, *Turdus* sp., *Turdus/Sturnus* sp.

Layer: XXV-XXVIII

Date: LP, Early Dabban – Late Mousterian, 32,000-70,000(?) BP

Fauna: *Geronticus eremita*, *Alectoris barbara*, *Columba livia/oenas*

Layer: XXVI-XXX

Date: LP, Late Mousterian, 60,000-70,000(?) BP

Fauna: *Circaetus gallicus*, *Columba livia/oenas*, *Turdus* sp., *Corvus albus/ruficollis*

Layer: XXXI-XXXV

Date: LP, Early Mousterian, 70,000-105,000(?) BP

Fauna: *Anas clypeata*, *Aythya* cf *nyroca*, *Falco tinnunculus*, *Falco eleonora*, *Falco cherrug*, *Alectoris barbara*, *Vanellus vanellus*, *Columba livia/oenas*, *Columba palumbus*, *Apus melba*, *Turdus* sp., *Loxia curvirostra*

Layer: DS 49-179

Date: LP, Pre-Aurignacian, >105,000(?) BP

Fauna: *Anas* sp., *Falco* sp., *Alectoris barbara*, *Columba livia/oenas*, *Columba palumbus*, *Apus apus/pallidus*, *Turdus* sp.  
Det: MacDonald

### **LB 3 El Greifa E, Wadi el Adjal (Fezzan)**

Type: o  
Sources: Bednarik 1997  
Date: MP U/Th ca 200 KA BP  
Fauna: *Struthio* sp.  
Notes: Eggshell

## **MALTA**

### **MA 11 Mista Cavern**

Type: c  
Sources: Borg 1999  
Fauna: *Corvus monedula*  
Stored: BMNH

### **MA 12 Zebbug fissure**

Type: c  
Sources: Borg 1999  
Fauna: *Cygnus falconeri*

## **MOLDOVA**

### **MO 6 Vykhatintsy cave**

Type: c  
Sources: Ganya 1971  
Fauna: *Falco tinnunculus*, *Perdix perdix*, *Columba* cf *livia*, *Turdus merula*, *Corvus monedula*  
Det: Ganya?

### **MO 7 Chishmikoi**

Type: o  
Sources: David et al. 1990  
Date: EP  
Fauna: *Ardea* sp., *Tetrao tetrix*, *Palaeoperdix* sp., Charadriiformes 2 spp., Rallidae 2 spp., *Strix aluco*, *Corvus* sp.

## **MONTENEGRO**

### **MN 3 Trebacki krs**

Type: c  
Sources: Dimitrijevic, Gál & Kessler 2000  
Date: LP, LUP Epigravettian  
Layer: Ib  
Fauna: *Falco* sp., *Lagopus lagopus*, *Gallinago gallinago*, *Apus apus*, *Galerida cristata*, *Lullula arborea*, *Lanius minor*, *Turdus viscivorus*, *Turdus merula*, *Turdus pilaris*, *Turdus philomelos*, *Turdus* cf *torquatus*, *Turdus* sp., *Luscinia luscinia*, *Sturnus vulgaris*, *Pyrrhula pyrrhula*, *Coccothraustes coccothraustes*, *Pinicola enucleator*, *Emberiza citrinella*, Passeriformes sp.

Layer: II

Fauna: *Tetrao tetrix*, *Crex crex*, *Alauda arvensis*, *Hirundo rustica*, *Delichon urbica*, *Sturnus vulgaris*, *Fringilla montifringilla*, *Fringilla cf coelebs*, *Carduelis chloris*, *Pyrrhula pyrrhula*, *Emberiza citrinella*, *Passer domesticus*, Passeriformes sp.

Det: Gál & Kessler

## MOROCCO

### MR 6 Ain Maarouf

Type: o

Sources: Geraads & Amani 1997, Geraads, Amani & Hublin 1992

Date: MP, Early MP, 700-800 KA BP

Fauna: *Struthio* sp.

### MR 7 El Harhoura 1

Type: o

Sources: Aouraghe 2000

Date: LP Aterian, IS 3, TL=41,160±3,500 BP

Fauna: *Struthio camelus*

## NETHERLANDS

### NE 4 't Hospes (Overijssel)

Type: o

Sources: Bosscha Erdbrink 1998

Date: LP 14C=38,300±900 BP

Fauna: *Cygnus bewickii*

Det.: Bosscha Erdbrink

### NE 5 Losser (Overijssel)

Type: o

Sources: Geel et al. 2006, Hanneke Meijer 2003, pers. com. and n. d.

Date: LP Middle Weichselian 14C=42,000-44,000 BP

Fauna: *Gavia stellata*, *Cygnus cf bewickii*, *Anser anser*, *Anser albifrons*, *Branta leucopsis*, *Anas platyrhynchos*, *Anas sp.*, *Aythya cf marila*, *Aythya sp.*, *Mergus sp.*, *Melanitta nigra*, *Haliaeetus albicilla*, *Haematopus ostralegus*, *Vanellus vanellus*, *Gallinago megala*, *Uria cf aalge*, Tetraonidae sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus sp.*

Det.: Meijer

Notes: Also known as Holt-und-Haar.

## NORWAY

### NO 3 Hamnsundhelleren (Sunnmøre)

Type: c

Alt: 60

Sources: Valen et al. 1996

Date: LP Ålesund interstadial 14C=28-32 KA BP

Fauna: *Fulmarus glacialis*, *Branta/Anser sp.*, *Somateria mollissima*, *Somateria spectabilis*, *Melanitta nigra*, *Melanitta fusca*, *Clangula hyemalis*, *Lagopus lagopus*, *Lagopus mutus*, *Alle alle*, *Alca torda*, *Uria sp.*, *Cephus grylle*, *Fratercula arctica*, *Plectrophenax nivalis*

Det: Hufthammer.

Note: A few birds (probably including *Alle alle*) also from Hamnsund interstadial (ca 24.5 KA BP)

#### **NO 4 Norcemgrotta (Nordland)**

Type: c

Sources: Huffhammer 2001, Lauritzen et al. 1996

Date: LP Early Weichselian >70 KA BP

Layer: *Ursus*-horizon

Fauna: *Phalacrocorax carbo*, *Somateria* sp., *Lagopus mutus*

#### **NO 5 Endletvatn (Andöya)**

Type: o

Sources: Elverland et al. 2005

Date: LP Late Weichselian 18 KA BP

Fauna: *Alle alle*

Date: LP Late Weichselian 13 KA BP

Fauna: *Alle alle*

Det: Huffhammer.

### **OUTER MONGOLIA**

#### **MG 3 Tsagan-Agui Cave (Gobian Altai)**

Type: c

Sources: Derevianko & Petrin 1995, Martynovich 2001,2002, Panteleyev 1997, 1998, 1999

Layer: Terrace Zone, Layer VI

Date: LP Latest Middle Palaeolithic or Earliest Upper Palaeolithic

Fauna: *Anas platyrhynchos*, *Aythya fuligula*, *Perdix daurica*, *Charadrius mongolus*, *Syrnhaptes paradoxus*, *Athene noctua*, *Eremophila alpestris*, *Melanocorypha* sp., *Lanius* sp., *Oenanthe* sp., *Petronia petronia*, Fringillidae/Ploceidae sp., *Pyrrhonorax pyrrhonorax*, *Podoces hendersoni*

Layer: Terrace Zone, Layer V

Date: LP Latest Middle Palaeolithic or Earliest Upper Palaeolithic

Fauna: *Anas* sp., *Anas* cf *querquedula*, *Falco tinnunculus*, *Charadrius mongolus*, *Scolopax rusticola*, *Syrnhaptes paradoxus*, *Columba rupestris*, *Cuculus canorus*, *Athene noctua*, *Apus apus*, *Eremophila alpestris*, *Calandrella cinerea*, *Melanocorypha* sp., *Turdus* sp., *Petronia petronia*, *Bucanetes mongolicus*, Fringillidae/Ploceidae sp., *Pyrrhonorax pyrrhonorax*, *Podoces hendersoni*

Layer: Terrace Zone, Layer III

Date: LP

Fauna: *Perdix daurica*, *Syrnhaptes paradoxus*, *Athene noctua*, *Eremophila alpestris*, *Calandrella cinerea*, *Turdus* cf *ruficollis*, *Petronia petronia*, Fringillidae/Ploceidae sp., *Pyrrhonorax pyrrhonorax*, *Podoces hendersoni*

Layer: Terrace Zone, Layer II

Date: LP

Fauna: *Falco naumanni*, *Perdix daurica*, *Charadrius mongolus*, *Scolopax rusticola*, *Syrnhaptes paradoxus*, *Bubo bubo*, *Athene noctua*, *Asio* cf *flammeus*, *Eremophila alpestris*, *Calandrella cinerea*, *Turdus* cf *ruficollis*, *Monticola saxatilis*, *Petronia petronia*, *Bucanetes mongolicus*, Fringillidae/Ploceidae sp., *Pyrrhonorax pyrrhonorax*, *Podoces hendersoni*

Layer: Entrance Grotto, Layer 8

Date: LP Latest Middle Palaeolithic or Earliest Upper Palaeolithic

Fauna: *Aquila chrysaetos*, *Falco tinnunculus*, *Perdix daurica*, *Charadrius mongolus*, *Syrnhaptes paradoxus*, *Columba rupestris*, *Athene noctua*, *Apus apus*, *Eremophila alpestris*, *Calandrella cinerea*, *Petronia petronia*, Fringillidae/Ploceidae sp., *Pyrrhonorax pyrrhonorax*, *Podoces hendersoni*

Layer: Entrance Grotto, Layer 7

Date: LP Latest Middle Palaeolithic or Earliest Upper Palaeolithic

Fauna: *Charadrius mongolus*, *Scolopax rusticola*, *Syrnhaptes paradoxus*, *Eremophila alpestris*, Fringillidae/Ploceidae sp., *Pyrrhonorax pyrrhonorax*

Layer: Entrance Grotto, Layer 5

Date: LP Latest Middle Palaeolithic or Earliest Upper Palaeolithic

Fauna: *Anas cf querquedula*, *Perdix daurica*, *Charadrius mongolus*, *Scolopax rusticola*, *Syrrhaptes paradoxus*, *Eremophila alpestris*, Fringillidae/Ploceidae sp., *Pyrrhocorax pyrrhocorax*, *Podoces hendersoni*

Layer: Entrance Grotto, Layer 3

Date: LP

Fauna: *Struthio* sp., *Charadrius mongolus*, *Scolopax rusticoila*, *Syrrhaptes paradoxus*, *Athene noctua*, *Apus apus*, *Eremophila alpestris*, *Galerida cristata*, Fringillidae/Ploceidae sp., *Pyrrhocorax pyrrhocorax*, *Podoces hendersoni*

Det.: Martynovich.

Layer: Large Grotto

Date: LP, 32-55 KA BP

Fauna: *Anas platyrhynchos*, *Aquila chrysaetos*, *Falco tinnunculus*, *Falco cherrug*, *Alectoris chukar*, *Syrrhaptes paradoxus*, *Columba rupestris*, *Athene noctua*, *Bubo bubo*, *Apus apus*, *Eremophila alpestris*, *Saxicola torquata*, *Turdus cf naumanni*, *Pyrrhocorax pyrrhocorax*, *Emberiza cf cioides*, *Coccothraustes coccothraustes*, *Petronia petronia*

Det.: Panteleyev

Stored: Dept. of Ornithology, Zoological Institute, St. Petersburg

Notes: A. k. a. Tsagaan Agui

#### **MG 4 Mогоj-Upagijn-Khets (Dornogov')**

Type: o

Source: Mikhailov & Kurochkin 1988

Date: Pleistocene

Fauna: *Struthio* sp.

#### **MG 5 Ongon (Sukhebator)**

Type: o

Source: Mikhailov & Kurochkin 1988

Date: Pleistocene

Fauna: *Struthio* sp.

#### **MG 6 Naran-Bulak (Ömnögov')**

Type: o

Source: Mikhailov & Kurochkin 1988

Date: Pleistocene

Fauna: *Struthio* sp.

#### **MG 7 Tugrikijn-Us (Ömnögov')**

Type: o

Source: Mikhailov & Kurochkin 1988

Date: Pleistocene

Fauna: *Struthio* sp.

#### **MG 8 Bain-Dzak (Ömnögov')**

Type: o

Source: Mikhailov & Kurochkin 1988

Date: Pleistocene

Fauna: *Struthio* sp.

#### **MG 9 Tsagan Nor area (Ömnögov')**

Type: o

Source: AMNH Catalog

Date: Pleistocene



Fauna: *Struthio* sp.

## POLAND

### PO 33 Deszczowa Cave

Type: c

Source: Cyrek et al. 2000

Layer: I/Ia

Date: LP Early Weichselian

Fauna: *Anas clypeata*, *Tetrao tetrrix*, *Lagopus* sp.

Layer: I/II/Ia/IIa

Date: LP Early Weichselian

Fauna: *Lagopus lagopus*, *Lagopus* sp., Scolopacidae sp.

Layer: III/IIIa

Date: LP Early Weichselian

Fauna: *Tetrao urogallus*, *Tetrao tetrrix*, *Lagopus* sp., *Gallinago gallinago*, Scolopacidae sp.

Layer: IV/IVa

Date: LP Early Weichselian, Middle Palaeolithic

Fauna: *Anser anser/albifrons*, *Anas crecca/querquedula*, *Anas platyrhynchos*, *Falco tinnunculus*, *Tetrao tetrrix*, *Lagopus lagopus*, *Lagopus mutus*, *Limosa limosa*, Scolopacidae sp., *Corvus monedula*

Layer: IV/V/IVa/Va

Date: LP Early Weichselian/Interpleniglacial Middle Palaeolithic

Fauna: *Falco tinnunculus*, *Pluvialis squatarola*

Layer: V/Va

Date: LP Interpleniglacial, Middle Palaeolithic

Fauna: *Tetrao urogallus*, *Tetrao tetrrix*, *Lagopus lagopus*, *Larus cf ridibundus*, Scolopacidae sp.

Layer: V/VI/Va/VIa

Date: LP Interpleniglacial/Upper pleniglacial

Fauna: *Anas platyrhynchos*, *Lagopus lagopus*, *Lagopus* sp.

Layer: VI/VIa

Date: LP Upper Pleniglacial, Middle Palaeolithic 14C=44,000 BP

Fauna: *Tetrao urogallus*, *Tetrao tetrrix*, Corvidae sp. (small),

Layer: VII/VIIa

Date: LP Upper Pleniglacial, Aurignacian 14C=26,200 BP

Fauna: *Anas crecca/querquedula*, *Anas platyrhynchos*, *Falco tinnunculus*, *Tetrao urogallus*, *Tetrao tetrrix*, *Lagopus lagopus*, *Lagopus mutus*, *Coturnix coturnix*, *Gallinago media*, *Philomachus pugnax*, Scolopacidae sp., *Strix aluco*, cf *Picus viridis*, *Corvus corax*, *Corvus monedula*, *Garrulus glandarius*

Layer: VIII/VIIIa

Date: LP Upper Pleniglacial, Gravettian 14C=16,150-20,800 BP

Fauna: *Branta bernicla*, *Aythya* sp., *Anas platyrhynchos*, *Falco tinnunculus*, *Tetrao urogallus*, *Tetrao tetrrix*, *Lagopus lagopus*, *Lagopus* sp., *Perdix perdix*, *Limosa limosa*, Scolopacidae sp., *Corvus monedula*

Layer: VIII-IX/VIIIa-IXa

Date: LP Upper Pleniglacial/Late Glacial

Fauna: *Scolopax rusticola*, *Pluvialis squatarola*, *Strix aluco*

Layer: VIII-X/VIIIa-Xa

Date: LP/Hol Upper Pleniglacial/Holocene

Fauna: *Gallus gallus*, *Pluvialis squatarola*, *Strix aluco*, *Asio otus*, *Garrulus glandarius*

Layer: IX/IXa

Date: LP Late Glacial

Fauna: *Falco* sp., cf *Pandion haliaetus*, *Lagopus lagopus*, *Lagopus mutus*, *Limosa limosa*, *Pluvialis apricaria*, *Philomachus pugnax*

Layer: IX-X/IXa-Xa

Date: LP/Hol Late Glacial/Holocene

Fauna: *Perdix perdix*, *Gallus gallus*, Scolopacidae sp.

Layer: X/Xa

Date: LG/Holocene, Late Palaeolithic/Early Mesolithic

Fauna: *Gallus gallus*

Layer: XI/XIa  
Date:  
Fauna: *Pluvialis squatarola*  
Det: Bochenski & Tomek

### PO 34 Deszczowa Upper Rock Shelter

Type: c  
Source: Cyrek et al. 2000  
Layer: III/IV  
Date: LP Early Weichselian  
Fauna: *Tetrao tetrax*  
Layer: IV  
Date: LP Early Weichselian  
Fauna: *Tetrao tetrax*  
Layer: VIII  
Date: LP Upper Pleniglacial  
Fauna: *Branta bernicla*, *Anser anser/albifrons*, cf *Melanitta fusca*, *Melanitta nigra*, *Anas crecca/querquedula*, *Mergus merganser*, *Falco tinnunculus*, *Tetrao tetrax*, *Lagopus lagopus*, *Lagopus* sp., Galliformes sp., *Gallinago gallinago*, *Gallinago media*, Scolopacidae sp., *Corvus monedula*, Corvidae sp. (small)  
Layer: IX  
Date: LP Late Glacial  
Fauna: *Mergus merganser*, *Tetrao tetrax*, *Lagopus lagopus*, *Lagopus* sp.  
Layer: IX/X  
Date: LP Late Glacial/Holocene  
Fauna: *Anas clypeata*, *Mergus merganser*, *Falco tinnunculus*, *Falco naumanni/vespertinus*, *Tetrao tetrax*, *Lagopus lagopus*, *Lagopus* sp., *Crex crex*, Scolopacidae sp., *Corvus corax*, *Corvus monedula*  
Layer: X  
Date: LP Late Glacial/Holocene  
Fauna: *Tetrao tetrax*, *Lagopus* sp.  
Layer: XI  
Date: LP Late Glacial/Holocene  
Fauna: *Anas crecca/querquedula*, *Anas platyrhynchos*, *Falco tinnunculus*, *Falco* sp., *Tetrao tetrax*, *Lagopus lagopus*, *Lagopus* sp., Scolopacidae sp., *Corvus corax*  
Layer: Unstratified  
Date: LP/Holocene  
Fauna: *Anser* sp., cf *Melanitta fusca*, *Anas platyrhynchos*, *Tetrao urogallus*, *Tetrao tetrax*, *Lagopus lagopus*, *Lagopus mutus*, *Gallinago media*, *Scolopax rusticola*, *Corvus corax*, *Turdus philomelos*  
Det: Bochenski & Tomek

### PO 35 Oblazowa Cave (Nowy Sacz)

Type: c            Alt: 670  
Sources: Bochenski 2002, Tomek & Bochenski 1995, Tomek, Bochenski & Bochenski 2003  
Layer: XX-XXI  
Date: LP Early Glacial (XXI ca 100-105 KA BP), Middle Palaeolithic  
Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Asio flammeus*  
Layer: XIII-XIX, Middle Palaeolithic  
Date: LP Early Glacial (including IS 5a)  
Fauna: *Anas crecca*, *Mergus merganser*, *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrax*, *Pluvialis* cf *apricaria*, *Numenius* cf *phaeopus*, *Tringa glareola*, *Aegolius funereus*, *Dendrocopos major*, *Lullula arborea*, *Alauda arvensis*, *Hirundo rustica*, *Anthus* cf *trivialis*, *Anthus* sp., *Oenanthe* sp., *Turdus* cf *philomelos*, *Turdus* sp. *Carduelis chloris*  
Layer: XII-XIX, Middle Palaeolithic  
Date: LP Early Glacial/ Lower Pleniglacial  
Fauna: *Lagopus lagopus*, *Lagopus* sp., *Vanellus vanellus*, *Gallinago media*  
Layer: XII  
Date: LP Lower Pleniglacial (IS 4)  
Fauna: *Lagopus* sp., *Gallinago gallinago*, *Gallinago* sp.

Layer: X-XII

Date: LP Lower Pleniglacial/Interpleniglacial

Fauna: *Anas querquedula/crecca*, *Falco* cf *tinnunculus*, *Lagopus lagopus*, *Lagopus mutus*, Charadriiformes sp., *Turdus iliacus*

Layer: VIII-XI

Date: LP Interpleniglacial, 14C=30,600-32,400 BP (layer VIII), Upper Palaeolithic (VIII,XI)

Fauna: *Cygnus* sp., *Anas platyrhynchos*, *Anas crecca*, *Anas querquedula/crecca*, *Aythya* cf *fuligula*, *Melanitta nigra*, *Falco tinnunculus*, *Falco tinnunculus/subbuteo*, *Falco naumanni/vespertinus*, *Falco rusticolus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Tetrao urogallus*, *Perdix perdix*, *Porzana porzana*, *Crex crex*, *Grus grus*, cf *Glareola* sp., *Vanellus vanellus*, *Pluvialis squatarola*, *Gallinago gallinago*, *Gallinago media*, *Philomachus pugnax*, *Tringa* sp., *Larus canus*, *Cuculus canorus*, *Bubo bubo*, *Lullula arborea*, *Alauda arvensis*, *Hirundo rustica*, *Anthus* cf *trivialis*, *Cinclus cinclus*, *Turdus* cf *pilaris*, *Turdus* cf *philomelos*, *Turdus philomelos/iliacus*, *Turdus viscivorus*, Turdidae sp., *Parus major*, *Garrulus glandarius*, *Pica pica*, *Nucifraga caryocatactes*, *Corvus monedula*, *Corvus corax*, *Sturnus vulgaris*, *Carduelis chloris*, *Carduelis* sp., cf *Montifringilla nivalis*, cf *Emberiza calandra*

Layer: II-XI (mixed)

Date: LP Interpleniglacial/ Late Glacial/Holocene

Fauna: *Mergus merganser*, *Falco* cf *tinnunculus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Gallinago media*, *Tringa* sp., *Corvus monedula*

Layer: VII

Date: LP Upper Pleniglacial

Fauna: *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Porzana porzana*, *Pluvialis squatarola*, *Gallinago gallinago*, *Asio flammeus*, *Dendrocopos major*, cf *Galerida cristata*, *Lullula arborea*, *Alauda arvensis*, *Delichon urbica*, *Anthus* sp., *Turdus merula*, *Parus cristatus*, *Emberiza citrinella*, *Garrulus glandarius*, *Corvus monedula*

Layer: II-VII (mixed)

Date: LP Upper Pleniglacial/Late Glacial/Holocene

Fauna: *Anas* cf *platyrhynchos*, *Falco tinnunculus*, *Falco* cf *tinnunculus*, *Falco* cf *rusticolus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Tetrao urogallus*, *Perdix perdix*, *Scolopax rusticola*, *Tringa* sp., *Stercorarius parasiticus*, *Asio flammeus*, *Alauda arvensis*, *Turdus* sp., *Parus major*

Layer: II-V

Date: LP Late Glacial/Holocene, Upper Palaeolithic (III, V)

Fauna: *Branta leucopsis*, *Branta bernicla*, *Anas* cf *penelope*, *Anas platyrhynchos*, *Anas crecca*, *Anas querquedula/crecca*, *Clangula hyemalis*, *Melanitta nigra*, *Mergus merganser*, *Falco tinnunculus*, *Falco peregrinus*, *Falco* sp., *Bonasa bonasia*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Tetrao urogallus*, *Coturnix coturnix*, *Gallus gallus*, *Porzana porzana*, *Porzana* cf *parva*, *Crex crex*, *Otis tarda*, *Pluvialis apricaria*, *Pluvialis squatarola*, *Philomachus pugnax*, *Gallinago gallinago*, *Gallinago media*, *Numenius phaeopus*, *Tringa erythropus*, *Tringa totanus*, *Tringa glareola*, cf *Arenaria interpres*, *Alle alle*, *Columba palumbus*, *Bubo bubo*, *Strix aluco*, *Asio flammeus*, *Dendrocopos major*, *Galerida cristata*, *Lullula arborea*, *Eremophila alpestris*, *Hirundo rustica*, *Anthus* cf *trivialis*, *Anthus* sp., *Bombycilla garrulus*, *Troglodytes troglodytes*, *Turdus* cf *merula*, *Turdus pilaris*, *Turdus philomelos*, *Turdus philomelos/iliacus*, *Turdus viscivorus*, *Turdus* sp., *Parus ater*, *Parus cristatus*, *Parus major*, *Sitta europaea*, *Pica pica*, *Nucifraga caryocatactes*, *Corvus monedula*, *Corvus corone*, *Corvus corone/fragilegus*, *Loxia* sp., *Pyrrhula pyrrhula*, *Emberiza citrinella*, cf *Emberiza calandra*, *Montifringilla nivalis*, Fringillidae sp.

Layer: I-II (mixed)

Date: LP Late Glacial/Holocene

Fauna: *Anas platyrhynchos*, *Anas crecca*, *Anas querquedula/crecca*, *Melanitta nigra*, *Mergus merganser*, *Falco tinnunculus*, *Falco peregrinus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Gallus gallus*, *Porzana* cf *parva*, *Pluvialis squatarola*, *Gallinago media*, *Numenius phaeopus*, *Tringa totanus*, Charadriiformes sp., *Glaucidium passerinum*, *Apus apus*, *Jynx torquilla*, *Galerida cristata*, *Lullula arborea*, *Eremophila alpestris*, *Hirundo rustica*, *Anthus trivialis*, *Anthus* cf *trivialis*, *Anthus spinoletta*, *Anthus* sp., *Lanius* cf *excubitor*, *Lanius collurio*, *Saxicola rubetra*, cf *Oenanthe* sp., *Turdus merula*, *Turdus philomelos/iliacus*, *Turdus viscivorus*, *Ficedula* cf *parva*, *Parus palustris*, *Parus caeruleus*, *Parus major*, *Sitta europaea*, *Pica pica*, *Corvus monedula*, *Corvus corone*, *Sturnus vulgaris*, *Loxia* sp., *Coccothraustes coccothraustes*, *Pyrrhula pyrrhula*, *Emberiza citrinella*, *Emberiza calandra*, cf *Montifringilla nivalis*

Layer XXII (unstratified)

Date: LP, Middle & Upper Palaeolithic

Fauna: *Falco tinnunculus*, *Lagopus mutus*, *Crex crex*

Layer: Unstratified

Date: LP

Fauna: *Clangula hyemalis*, *Mergus merganser*, *Falco tinnunculus*, *Falco naumanni/vespertinus* *Bonasa bonasia*, *Lagopus mutus*, *Lagopus lagopus*, *Tetrao tetrrix*, *Philomachus pugnax*, *Gallinago gallinago*, *Gallinago media*, *Tringa* sp., *Charadriiformes* sp., *Asio* cf *otus*, *Asio flammeus*, *Hirundo rustica*, *Anthus* cf *trivialis*, *Turdus* cf *merula*, *Turdus* sp., *Sylvia* sp., *Parus major*, *Montifringilla nivalis*, *Loxia* sp., *Sturnus vulgaris*, *Garrulus glandarius*, *Corvus corone*

Layer: 2/88 (Unstratified)

Date: LP Late Glacial/Holocene

Fauna: *Anas platyrhynchos*, *Anas querquedula*, *Aythya fuligula*, cf *Clangula hyemalis*, *Falco* cf *tinnunculus*, *Falco* cf *columbarius*, *Falco naumanni/vespertinus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrrix*, *Coturnix coturnix*, *Gallus gallus*, *Crex crex*, *Gallinago gallinago*, *Gallinago media*, *Numenius phaeopus*, *Numenius arquata*, *Bubo bubo*, *Melanocorypha calandra*, *Parus major*, *Corvus monedula*, *Pyrrhula pyrrhula*

Det: Bochenski, Bochenski & Tomek

### PO 36 Dudka (Masuria)

Type: o

Sources: Tomek & Guminski 2003

Date: LP Alleröd 12,000-11,000 BP

Fauna: *Phalacrocorax carbo*

Date: LP/Hol Younger Dryas - Early Preboreal 10.200-9,700 BP

Fauna: *Anser anser*, *Anser* sp.

Det: Tomek

### PO 37 Krucza Skala (Czestochowa uplands)

Type: c Alt: 360

Sources: Bochenski & Tomek 2004

Layer: 1

Date: LP LG Bölling

Fauna: *Fringillidae* sp., *Corvus monedula*

Layer: 1/2

Date: LP LG Bölling

Fauna: *Lagopus mutus*, *Tetrao tetrrix*, *Galliformes* sp., *Vanellus vanellus*, *Actitis hypoleucos*, *Philomachus pugnax*

Layer: 2

Date: LP LG Bölling

Fauna: *Branta bernicla*, *Anas crecca*, *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus* sp., *Tetrao tetrrix*, *Tetrao urogallus*, *Galliformes* sp., *Fulica atra*, *Pluvialis apricaria/fulva*, *Gallinago media*, *Philomachus pugnax*, *Charadriiformes* sp., *Asio flammeus*, *Lullula arborea*, *Corvus monedula*, *Corvus corone*, *Corvus corax*

Layer: 2/3

Date: LP LG

Fauna: *Anser anser/fabalis*, *Branta bernicla*, *Tadorna tadorna*, *Anas crecca*, *Anas platyrhynchos*, *Anas querquedula/crecca*, *Anatidae* sp., *Accipitridae* sp., *Falco tinnunculus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrrix*, *Tetrao urogallus*, *Perdix perdix*, *Coturnix coturnix*, *Galliformes* sp., *Vanellus vanellus*, *Pluvialis apricaria/fulva*, *Pluvialis squatarola*, *Gallinago media*, *Gallinago gallinago*, *Limosa limosa*, *Numenius phaeopus*, *Tringa totanus*, *Actitis hypoleucos*, *Arenaria interpres*, *Philomachus pugnax*, *Larus* cf *ridibundus*, *Chlidonias hybridus*, *Lullula arborea*, *Hirundo rustica*, *Loxia* cf *curvirostra*, *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*

Layer: 3

Date: LP LG

Fauna: *Tachybaptus ruficollis*, *Anas crecca*, *Anas platyrhynchos*, *Anatidae* sp., *Falco tinnunculus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrrix*, *Galliformes* sp., *Vanellus vanellus*, *Pluvialis squatarola*, *Limosa* sp., *Sterna* cf *hirundo*, *Charadriiformes* sp., *Columba livia/oenas*, *Corvus monedula*, *Corvus corone/fragilegus*, *Passeriformes* sp.

Layer: 3/4

Date: LP LG

Fauna: *Anas platyrhynchos*, *Anatidae* sp., *Falco tinnunculus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrrix*, *Tetrao urogallus*, *Galliformes* sp., *Crex crex*, *Vanellus vanellus*, *Pluvialis*

*apricaria/fulva*, *Pluvialis squatarola*, *Gallinago media*, *Gallinago gallinago*, *Gallinago* sp., *Arenaria interpres*, *Calidris alpina*, *Philomachus pugnax*, *Charadriiformes* sp., *Lullula arborea*, *Alauda arvensis*, *Hirundo rustica*, *Corvus monedula*

Layer: 4

Date: LP LG, Alleröd, 14C=11,450±200 BP

Fauna: *Anser anser/fabalis*, *Branta bernicla*, *Anas crecca*, *Anas platyrhynchos*, *Anas querquedula*, Anatidae sp., *Falco tinnunculus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrix*, *Tetrao urogallus*, *Perdix perdix*, Galliformes sp., *Fulica atra*, *Vanellus vanellus*, *Pluvialis squatarola*, *Numenius phaeopus*, *Arenaria interpres*, *Philomachus pugnax*, *Stercorarius parasiticus/longicaudus*, *Sterna* cf *hirundo*, *Charadriiformes* sp., *Columba palumbus*, *Columba livia/oenas*, *Asio otus/flammeus*, Strigiformes sp., *Alauda arvensis*, *Hirundo rustica*, *Corvus monedula*, *Corvus corone*, *Corvus corone/fragilegus*, Passeriformes sp.

Layer: 4/5

Date: LP LG Alleröd

Fauna: *Anas platyrhynchos*, *Anas querquedula/crecca*, *Aythya marila*, *Falco* sp., *Lagopus lagopus*, *Lagopus* sp., *Tetrao tetrix*, *Tetrao urogallus*, *Coturnix coturnix*, Galliformes sp., *Pluvialis squatarola*, *Philomachus pugnax*, *Charadriiformes* sp., *Strix aluco*, *Emberiza citrinella*, *Corvus corone*

Layer: 5

Date: LP LG Alleröd

Fauna: *Anser anser/fabalis*, *Anas strepera*, *Anas crecca*, *Anas platyrhynchos*, *Anas querquedula*, *Anas querquedula/crecca*, *Anas clypeata*, Anatidae sp., Accipitridae sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrix*, *Tetrao urogallus*, *Perdix perdix*, *Coturnix coturnix*, Galliformes sp., *Porzana porzana*, *Gallinula chloropus*, *Vanellus vanellus*, *Pluvialis squatarola*, *Scolopax rusticola*, *Limosa limosa*, *Stercorarius parasiticus/longicaudus*, *Larus* cf *ridibundus*, *Sterna* cf *hirundo*, *Charadriiformes* sp., *Columba palumbus*, *Columba livia/oenas*, cf *Tyto alba*, *Strix aluco*, *Asio otus/flammeus*, *Asio otus*, Strigiformes sp., *Coracias garrulus*, *Alauda arvensis*, *Oenanthe oenanthe*, *Turdus philomelos*, *Turdus* sp., Sylviidae sp., *Coccothraustes coccothraustes*, *Corvus monedula*, *Corvus fragilegus*, *Corvus corone*, *Corvus corone/fragilegus*, Corvidae sp.

Layer: 5/6

Date: LP LG Alleröd

Fauna: *Anas crecca*, *Anas querquedula*, *Falco tinnunculus*, *Falco peregrinus*, *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrix*, *Perdix perdix*, Galliformes sp., *Pluvialis apricaria/fulva*, *Pluvialis squatarola*, *Philomachus pugnax*, *Sterna* cf *hirundo*, *Charadriiformes* sp., *Columba palumbus*, *Asio flammeus*, *Hirundo rustica*, *Turdus viscivorus*

Layer: 6

Date: LP LG Alleröd, 14C=11,210±80 BP

Fauna: *Anas crecca*, *Anas platyrhynchos*, *Anas clypeata*, cf *Somateria mollissima*, Anatidae sp., *Falco tinnunculus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrix*, *Tetrao urogallus*, Galliformes sp., *Vanellus vanellus*, *Pluvialis squatarola*, *Gallinago* sp., *Arenaria interpres*, *Philomachus pugnax*, cf *Rissa tridactyla*, *Sterna* cf *hirundo*, *Charadriiformes* sp., *Asio flammeus*, *Dendrocopos major*, *Anthus trivialis*, *Turdus philomelos*, *Acrocephalus arundinaceus*, *Corvus monedula*, *Corvus corone*, *Corvus corax*, Corvidae sp.

Layer: 7

Date: LP LG Dryas 3

Fauna: *Anas platyrhynchos*, *Anas querquedula*, *Aythya* cf *nyroca*, *Falco tinnunculus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrix*, *Tetrao urogallus*, *Gallus gallus*, Galliformes sp., *Scolopax rusticola*, *Gallinago media*, *Gallinago gallinago*, *Tringa totanus*, *Columba palumbus*, *Picus canus*, *Lullula arborea*, *Phoenicurus ochruros*, *Turdus philomelos*, *Turdus viscivorus*, *Muscicapa striata*, *Garrulus glandarius*

Layer: 7/8

Date: LP LG Dryas 3

Fauna: *Lagopus* sp., *Hirundo rustica*

Layer: 8

Date: LP LG Dryas 3

Fauna: *Tachybaptus ruficollis*, *Anas crecca*, *Anas platyrhynchos*, *Falco tinnunculus*, *Falco* sp., *Lagopus lagopus*, *Tetrao tetrix*, *Perdix perdix*, *Fulica atra*, *Vanellus vanellus*, *Gallinago gallinago*, *Arenaria interpres*, *Turdus viscivorus*, *Turdus viscivorus/pilaris*, *Corvus corone/fragilegus*

Layer: 8/9

Date: LP LG

Fauna: *Anser anser/fabalis*, *Anas platyrhynchos*, Anatidae sp., Accipitridae sp., *Falco tinnunculus*, *Falco* sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrix*, *Tetrao urogallus*, *Perdix perdix*, *Crex crex*, *Fulica atra*, *Scolopax rusticola*, *Gallinago media*, *Gallinago gallinago*, *Numenius phaeopus*, *Philomachus pugnax*,

Charadriiformes sp., *Columba livia/oenas*, *Strix aluco*, Strigiformes sp., *Caprimulgus europaeus*, *Lullula arborea*, *Hirundo rustica*, *Turdus philomelos*, *Turdus viscivorus*, *Carduelis* sp., *Garrulus glandarius*, *Corvus monedula*, *Corvus frugilegus*, *Corvus corone*, *Corvus corone/frugilegus*, Passeriformes sp.

Layer: Unstratified

Date:

Fauna: *Anas platyrhynchos*, *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus* sp., *Tetrao tetrax*, *Tetrao urogallus*, *Coturnix coturnix*, *Gallus gallus*, Galliformes sp., *Philomachus pugnax*, *Columba palumbus*, *Turdus merula*, *Turdus philomelos*, *Garrulus glandarius*, *Corvus monedula*

Layer: I

Date: LP LG Bölling 14C=12,520±70 BP

Fauna: *Tetrao tetrax*, Galliformes sp.

Layer: I/II

Date: LP LG

Fauna: *Lagopus lagopus*, *Lagopus* sp., Galliformes sp., *Rallus aquaticus*, *Lymnocyrtus minimus*, *Sterna* cf *hirundo*

Layer: II/III

Date: LP LG

Fauna: *Anas platyrhynchos*, *Lagopus lagopus*, *Lagopus* sp., *Tetrao tetrax*, *Lymnocyrtus minimus*, *Philomachus pugnax*

Layer: III

Date: LP LG Dryas 2/Alleröd 14C=11,980±70 BP

Fauna: *Mergus albellus*, *Falco tinnunculus*, *Lagopus lagopus*, *Lagopus* sp., *Tetrao tetrax*, *Perdix perdix*, Galliformes sp., *Crex crex*, *Vanellus vanellus*, *Numenius phaeopus*, Charadriiformes sp., *Columba palumbus*, *Asio flammeus*, *Turdus merula*, *Garrulus glandarius*, *Pyrrhocorax pyrrhocorax*, *Corvus monedula*, *Corvus corone*

Layer: III/IV

Date: LP LG

Fauna: *Anas crecca*, *Anas platyrhynchos*, *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrax*, *Tetrao urogallus*, *Coturnix coturnix*, *Vanellus vanellus*, *Scolopax rusticola*, *Gallinago gallinago*, *Philomachus pugnax*, *Columba palumbus*, *Columba livia/oenas*, *Strix aluco*, *Turdus viscivorus*, *Sturnus vulgaris*, *Corvus monedula*, *Corvus corone/frugilegus*

Layer: IV

Date: LP LG

Fauna: *Podiceps cristatus*, *Anas platyrhynchos*, *Anas querquedula/crecca*, cf *Clangula hyemalis*, *Mergus albellus*, Anatidae sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Tetrao tetrax*, *Tetrao urogallus*, *Perdix perdix*, Galliformes sp., *Fulica atra*, *Vanellus vanellus*, *Scolopax rusticola*, *Philomachus pugnax*, *Columba palumbus*, *Columba livia/oenas*, Strigiformes sp., *Dendrocopos major*, *Oriolus oriolus*, *Garrulus glandarius*, *Corvus monedula*, *Corvus frugilegus*, *Corvus corone*, *Corvus corone/frugilegus*, Corvidae sp.

Layer: IV/V

Date: LP LG

Fauna: *Anas crecca*, *Anas platyrhynchos*, *Anas querquedula*, *Anas querquedula/crecca*, *Anas clypeata*, Anatidae sp., *Lagopus lagopus*, *Lagopus mutus*, *Lagopus* sp., *Perdix perdix*, *Coturnix coturnix*, *Gallus gallus*, *Rallus aquaticus*, *Porzana porzana*, *Vanellus vanellus*, *Scolopax rusticola*, *Gallinago gallinago*, *Philomachus pugnax*, *Columba palumbus*, *Columba livia/oenas*, *Strix aluco*, *Asio flammeus*, *Asio otus*, *Picus viridis*, *Anthus* sp., *Turdus merula*, *Turdus viscivorus*, *Garrulus glandarius*, *Corvus monedula*, *Corvus frugilegus*, *Corvus corone*, *Corvus corone/frugilegus*

Layer: V

Date: LP LG Dryas 3

Fauna: *Tachybaptus ruficollis*, *Podiceps cristatus*, *Podiceps cristatus/griseigena*, *Anser anser/fabalis*, *Anas penelope*, *Anas crecca*, *Anas platyrhynchos*, *Anas querquedula/crecca*, *Anas clypeata*, Anatidae sp., *Buteo buteo*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrax*, *Perdix perdix*, *Gallus gallus*, Galliformes sp., *Porzana parva*, *Porzana porzana*, *Fulica atra*, *Vanellus vanellus*, *Pluvialis apricaria/fulva*, *Pluvialis squatarola*, *Scolopax rusticola*, *Gallinago media*, *Limosa* sp., *Columba palumbus*, *Columba livia/oenas*, *Strix aluco*, *Asio flammeus/otus*, *Dryocopus martius*, *Picus viridis*, *Turdus merula*, *Turdus pilaris*, *Turdus philomelos*, *Turdus viscivorus*, *Turdus viscivorus/pilaris*, *Turdus* sp., *Coccothraustes coccothraustes*, *Sturnus vulgaris*, *Garrulus glandarius*, *Corvus monedula*, *Corvus frugilegus*, *Corvus corone*, *Corvus corone/frugilegus*, Corvidae sp.

Layer: Unstratified

Date: ?

Fauna: *Tachybaptus ruficollis*, *Lagopus* sp., *Tetrao tetrax*, *Perdix perdix*, *Vanellus vanellus*, *Scolopax rusticola*, *Columba palumbus*, *Cuculus canorus*, *Turdus pilaris*, *Turdus philomelos*, *Turdus viscivorus*, *Garrulus glandarius*

Det: Bochenski & Tomek

### PO 38 Komarowa Cave

Alt: 340

Type: c

Sources: Tomek & Bochenski 2005

Layer: Cave B/D

Date: LP Late Glacial - Denekamp

Fauna: *Lagopus lagopus*, *Oenanthe oenanthe*

Layer: Cave D/E

Date: LP Denekamp/Hengelo

Fauna: *Charadrius cf morinellus*

Layer: Cave C

Date: LP LGM, 14C=24,450 BP

Fauna: *Aquila chrysaetos*, *Falco peregrinus*, *Falco* sp., *Lagopus lagopus*, *Tetrao tetrax*, *Tetrao urogallus*,

*Pluvialis squatarola*, *Nyctea scandiaca*, *Tachymarptis melba*, *Turdus viscivorus*, *Turdus* sp., *Corvus monedula*

Layer: Cave D

Date: LP Denekamp, 14C=28,500-35,500 BP

Fauna: *Podiceps auritus / nigricollis*, *Anas platyrhynchos*, *Anas querquedula*, *Buteo* sp., *Aquila chrysaetos*, *Falco tinnunculus*, *Falco subbuteo*, *Falco cherrug*, *Falco peregrinus*, *Falco* sp., *Lagopus lagopus*, *Lagopus muta*, *Lagopus lagopus / muta*, *Tetrao tetrax*, *Tetrao urogallus*, *Perdix perdix*, *Coturnix coturnix*, Galliformes indet., *Rallus aquaticus*, *Crex crex*, *Porzana porzana*, *Gallinula chloropus*, *Tetrax tetrax*, *Vanellus vanellus*, *Pluvialis apricaria*, *Pluvialis squatarola*, *Gallinago media*, *Arenaria interpres*, *Columba palumbus*, cf. *Strix uralensis*, *Tachymarptis melba*, *Lullula arborea*, *Alauda arvensis*, Alaudidae indet., *Hirundo rustica*, *Anthus pratensis*, *Anthus* cf. *trivialis*, *Lanius excubitor*, *Phoenicurus* sp., *Oenanthe oenanthe*, cf. *Monticola saxatilis*, *Turdus merula*, *Turdus pilaris*, *Turdus philomelos*, *Turdus viscivorus*, *Turdus* sp., Turdidae, *Ficedula hypoleuca*, *Sitta europaea*, *Emberiza citrinella*, cf. *Calcarius lapponicus*, cf. *Plectrophenax nivalis*, *Fringilla* cf. *coelebs*, *Carduelis chloris*, *Carduelis carduelis*, *Loxia* cf. *curvirostra*, *Loxia* sp., cf. *Pyrrhula pyrrhula*, *Coccothraustes coccothraustes*, *Montifringilla nivalis*, *Sturnus vulgaris*, *Oriolus oriolus*, *Corvus monedula*, *Corvus corax*, Corvidae (small), Passeriformes indet

Layer: Cave E

Date: LP Hengelo, 14C=39,900 BP

Fauna: *Anas platyrhynchos*, *Anas querquedula*, cf. *Mergellus albellus*, Anatidae (middle sized duck), Accipitridae (size of *Aquila clanga/pomarina*), *Falco tinnunculus*, *Falco columbarius*, *Falco subbuteo*, *Falco* sp., *Lagopus lagopus*, *Lagopus lagopus / muta*, *Tetrao tetrax*, *Tetrao urogallus*, *Tetrao* sp., Galliformes indet., *Tetrax tetrax*, *Pluvialis apricaria*, *Charadrius* cf. *morinellus*, *Charadrius* sp., *Gallinago media*, *Gallinago gallinago*, *Arenaria interpres*, *Philomachus pugnax*, *Bubo bubo*, *Tachymarptis melba*, *Lullula arborea*, *Alauda arvensis*, Alaudidae indet., *Hirundo rustica*, *Delichon urbicum*, cf. *Motacilla alba*, *Lanius excubitor*, *Oenanthe oenanthe*, *Turdus merula*, *Turdus pilaris*, *Turdus* cf. *iliacus*, *Turdus philomelos*, *Turdus* sp., *Sitta europaea*, *Emberiza citrinella*, cf. *Plectrophenax nivalis*, *Carduelis chloris*, *Montifringilla nivalis*, *Sturnus vulgaris*, *Garrulus glandarius*, cf. *Pyrrhocorax graculus*, *Corvus monedula*, *Corvus corax*, Corvidae (small), Passeriformes indet

Layer: Cave F

Date: LP, IS 4

Fauna: *Lagopus lagopus*, *Alauda arvensis*, *Delichon urbica*, *Sturnus vulgaris*

Layer: Cave G

Date: LP, IS 5a

Fauna: *Anas querquedula/crecca*, *Lagopus lagopus*, *Tetrao tetrax*, *Turdus viscivorus*, *Fringilla* cf. *coelebs*, *Loxia* cf. *curvirostra*

Layer: Cave G4

Date: LP, IS 5a

Fauna: *Tetrao tetrax*

Layer: Cave H

Date: LP, IS 5b

Fauna: *Tetrao tetrax*, *Tetrao urogallus*

Layer: Terrace A/B

Date: LP, Late Glacial-Holocene

Fauna: *Aquila chrysaetos*, *Lagopus lagopus*, *Corvus monedula*

Layer: Terrace B

Date: LP, Late Glacial, TL=9.900-16,300 BP

Fauna: *Branta leucopsis*, *Branta bernicla*, *Anas platyrhynchos*, *Anas querquedula / crecca*, *Falco cherrug*, *Falco cherrug / rusticolus*, *Falco rusticolus*, *Falco sp.*, *Lagopus lagopus*, *Lagopus muta*, *Lagopus lagopus/muta*, *Tetrao tetrix*, *Tetrao urogallus*, *Tetrao sp.*, Galliformes indet., *Porzana porzana*, *Fulica atra*, *Pluvialis apricaria / fulva*, *Pluvialis squatarola*, *Charadrius cf. dubius*, *Charadrius cf. morinellus*, *Lymnocyptes minimus*, *Gallinago media*, *Limosa limosa*, *Arenaria interpres*, *Philomachus pugnax*, *Tringa totanus*, *Tringa cf. nebularia*, *Larus ridibundus*, Charadriiformes indet. size of *T. nebularia*, *Caprimulgus europaeus*, *Picus canus*, Piciformes indet., *Alauda arvensis*, *Hirundo rustica*, *Anthus cf. pratensis*, *Anthus sp.*, *Erithacus rubecula*, *Phoenicurus sp.*, *Oenanthe oenanthe*, *Turdus merula*, *Turdus pilaris*, *Turdus viscivorus*, *Turdus sp.*, *Emberiza citrinella*, *Carduelis chloris*, *Coccothraustes coccothraustes*, Fringillidae size of *C. chloris*, *Montifringilla nivalis*, *Pica pica*, *Corvus monedula*, Corvidae (small)

Layer: Terrace B5

Date: LP, Late Glacial, TL=9.900-16,300 BP

Fauna: *Lagopus lagopus*, *Lagopus lagopus/muta*, *Tetrao tetrix*, Galliformes indet., *Lullula arborea*, *Carduelis cf. carduelis*, *Corvus monedula*

Layer: Terrace Z

Date: LP, Hengelo 1, 14C=37,500-43,900 BP

Fauna: *Lagopus lagopus*, *Lagopus lagopus/muta*, *Tetrao tetrix*, *Tetrao urogallus*, Galliformes indet., *Lymnocyptes minimus*, *Tringa erythropus*, *Actitis hypoleucos*, *Alauda arvensis*

Layer: Terrace B/F'

Date: LP, IS 4

Fauna: *Branta leucopsis*, *Anas platyrhynchos*, cf. *Aythya marila*, *Falco cherrug / rusticolus*, *Falco rusticolus*, *Lagopus lagopus*, *Lagopus muta*, *Lagopus lagopus/muta*, *Tetrao tetrix*, *Fulica atra*, *Vanellus vanellus*, *Pluvialis apricaria / fulva*, *Pluvialis squatarola*, *Oenanthe oenanthe*, *Corvus monedula*, Corvidae (small), Passeriformes indet.

Layer: Terrace Ft

Date: LP

Fauna: *Lagopus lagopus*, *Lagopus muta*, *Corvus monedula*

Layer: Terrace Gtx

Date: LP, IS 5b?

Fauna: *Dendrocopos major*, *Turdus sp.*

Det: Tomek & Bochenski

### **PO 39 Bisnik Cave (Czestochowa uplands)**

Alt: 395 Type: c

Sources: Mirosław-Grabowska 2002

Layer: 5

Date: LP Gniew Interstadial (IS 5a), 70-80 KA BP, Micoquo-Prondnikian

Fauna: *Lagopus lagopus*

Det: Wiszniowska, Socha & Stefaniak

### **PO 40 Jaskinia IV (Mount Birow)**

Type: c

Sources: Mirosław-Grabowska et al. 2007

Date: LP UP

Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Pyrrhocorax graculus* + 28 spp.

Note: A. k. a. Schronisko Polnocne

## **PORTUGAL**

### **PG 7 Grotte d'Escoural**



Type: c  
Sources: Deville 1996  
Layer: Es  
Date: Holocene?  
Fauna: *Anas platyrhynchos/Tadorna tadorna*, *Alectoris rufa*, *Turdus* sp.  
Layer: E1  
Date: LP/Hol. Upper Paleolithic and Neolithic  
Fauna: *Alectoris rufa*, *Turdus* sp.  
Layer: E3  
Date: Hol?  
Fauna: *Anas platyrhynchos/Tadorna tadorna*, *Alectoris rufa*  
Layer: E3.PM  
Date: LP Middle Paleolithic  
Fauna: *Anas platyrhynchos/Tadorna tadorna*, *Alectoris rufa*, Passeriformes  
Layer: E3.PS.M  
Date: LP/Hol. Upper Paleolithic and Mesolithic  
Fauna: *Alectoris rufa*, *Turdus* sp., *Pyrrhocorax* sp.  
Layer: E4  
Date: Hol?  
Fauna: *Anas platyrhynchos/Tadorna tadorna*, *Alectoris rufa*, Passeriformes  
Layer: E4.PM  
Date: LP Middle Paleolithic  
Fauna: *Anas platyrhynchos/Tadorna tadorna*, *Alectoris rufa*, *Columba palumbus*, *Turdus* sp., *Pyrrhocorax* sp.  
Layer: E4.PM.PS  
Date: LP Middle and Upper Paleolithic  
Fauna: *Alectoris rufa*, *Columba palumbus*, *Turdus* sp., *Corvus corone/fragilegus*  
Layer: E4.PS.M  
Date: LP/Hol? Upper Paleolithic and Mesolithic(?)  
Fauna: *Anas platyrhynchos/Tadorna tadorna*, *Mergus merganser*, *Alectoris rufa*, *Columba palumbus*, *Turdus* sp., *Pyrrhocorax* sp., *Corvus fragilegus/corone*  
Layer: E4.PM.PS.M.N  
Date: LP/Hol? Middle and Upper Paleolithic and Mesolithic(?)  
Fauna: *Anas platyrhynchos/Tadorna tadorna*, *Alectoris rufa*, *Streptopelia turtur*  
Layer: E4.PS.M.N  
Date: LP/Hol? Upper Paleolithic, Mesolithic(?) and Neolithic  
Fauna: *Alectoris rufa*, *Columba palumbus*, *Columba oenas/livia*, *Athene noctua*, *Turdus* sp., *Pyrrhocorax* sp., Passeriformes  
Layer: E4.N  
Date: LP/Hol. Pleistocene and Neolithic  
Fauna: *Anas platyrhynchos/Tadorna tadorna*, *Alectoris rufa*, *Columba palumbus*, *Turdus* sp., *Pica pica*, *Pyrrhocorax/Corvus* sp.  
Det: Deville

### **PG 8 Gruta de Caldeirao**

Alt: 120  
Type: c  
Sources: Davis 2002, Davis & Robert 2004  
Layer: K-N  
Date: Mousterian, >27,000 BP  
Fauna: *Anas* sp., *Alectoris* sp., *Aegyptius monachus?*, *Bubo bubo*, *Pyrrhocorax pyrrhocorax*  
Layer: Ja-Jb  
Date: Early Upper Palaeolithic, 22,000-27,000 BP  
Fauna: *Aegyptius monachus?*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*  
Layer: Fa,Fb,Fc,H,I  
Date: Solutrean, 18,000-22,000 BP  
Fauna: *Himantopus himantopus*, *Alectoris* sp., *Gyps fulvus*, *Aegyptius monachus*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus corax*

Layer: Eb

Date: Magdalenian, 16,000-10,000 BP

Fauna: *Anas* sp., *Columba* sp., *Alectoris* sp., *Athene noctua*, *Pyrrhocorax pyrrhocorax*?, *Pica pica*, *Corvus corax*

Layer: Unstratified

Date: Mousterian – EUP

Fauna: *Gypaetus barbatus*

Det: Stewart, Moreno Garcia, Davis

### **PG 9 Almonda (Estremadura)**

Type: c

Sources: Altuna 1999, Elorza 2003, Trinkaus et al 2003

Date: MP, Late MP U/Th = 241 +30 -22 KA BP

Fauna: Ardeidae spp., Anatidae spp., *Haliaeetus* sp., Charadriiformes sp., *Tyto balearica*, *Corvus antecorax*

Det: Elorza

### **PG 10 Lagar Velho (Estremadura)**

Type: c

Sources: Moreno-Garcia & Pimenta 2002

Date: 14C=24,950±230 BP

Layer: GC tc

Fauna: cf *Buteo buteo*

Date: 14C > 27,100±900 BP

Layer: GC bs

Fauna: *Falco tinnunculus*

Date: 14C = 22,390-23,130 BP

Layer: GC ms

Fauna: *Pyrrhocorax* sp., *Alectoris* sp., Passeriformes sp.

Date: 14C = 22,720-23,170 BP

Layer: GC ls

Fauna: *Pyrrhocorax* sp., *Alectoris* sp., Passeriformes sp.

Date: 14C= 21,180-22,180 BP

Layer: TP06

Fauna: Accipitridae sp., *Falco tinnunculus*, *Alectoris* sp., *Corvus monedula*, *Pyrrhocorax* sp., Corvidae sp., *Sturnus vulgaris*, Passeriformes sp.

Date: 14C=20.220±180 BP

Layer: TP09

Fauna: *Alectoris* sp., *Pyrrhocorax* sp., Corvidae sp., Passeriformes sp.

## **RUSSIA**

### **RO 45 Strashnaya Cave (Altai)**

Type: c

Sources: Burchak-Abramovich & Burchak 1998.

Date: LP UP 14C >25->45 KA BP (14C = 31,510±2,615 BP (layer 3)

Fauna: *Anas* cf *penelope*, *Anas querquedula*, *Aythya ferina*, *Falco altaicus*, *Lagopus lagopus*, *Lagopus mutus*, *Tetrao tetrix*, *Tetrao urogallus*, *Alectoris chukar*, *Perdix perdix*, *Coturnix coturnix*, *Cuculus canorus*, *Garrulus glandarius*, *Perisoreus infaustus*, *Corvus monedula*

Det: Burchak-Abramovich & Burchak

### **RO 46 Denisova Cave (Altai)**

Type: c            Alt: 800

Sources: Derevyanko et al. 1998, Panteleyev 1997, in press, Olga Potapova in litt.

Layer: Central hall, layer 9

Date: LP Sartanian Stage

Fauna: *Anas penelope*, *Circus* sp., *Tetraogallus altaicus*, *Lagopus mutus*, *Lagopus lagopus*, *Nyctea scandiaca*, *Athene noctua*, *Asio flammeus*, *Hirundo rustica*, *Hirundo daurica*, *Plectrophenax nivalis*, *Leucosticte arctoa*, *Pinicola enucleator*, *Pica pica*, *Pyrrhonorax pyrrhonorax*, Corvidae indet.

Layer: Central hall, layer 11

Date: LP 14C > 37,235 BP

Fauna: *Anas querquedula*, *Anas clypeata*, *Aythya fuligula*, *Falco subbuteo*, *Perdix perdix/dauuricae*, *Coturnix coturnix*, *Lagopus mutus*, *Lagopus lagopus*, *Porzana porzana*, *Tringa glareola*, *Gallinago solitaria*, *Columba rupestris*, *Athene noctua*, *Asio flammeus*, *Dendrocopos minor*, *Picoides tridactylus*, *Calandrella rufescens*, *Eremophila alpestris*, *Hirundo daurica*, *Anthus trivialis*, *Cinclus cinclus*, *Oenanthe oenanthe*, *Turdus ruficollis*, *Emberiza aureola*, *Plectrophenax nivalis*, *Leucosticte arctoa*, *Uragus sibiricus*, *Carpodacus erythrinus*, *Pinicola enucleator*, *Montifringilla nivalis*, *Sturnus vulgaris*, *Pica pica*

Layer: Central hall, layer 12

Date: LP, 40-70 KA BP

Fauna: *Anas platyrhynchos*, *Aythya fuligula*, *Buteo lagopus*, *Tetraogallus altaicus*, *Lagopus mutus*, *Lagopus lagopus*, *Athene noctua*, *Asio flammeus*, *Picoides tridactylus*, *Eremophila alpestris*, *Turdus ruficollis*, *Emberiza cia*, *Plectrophenax nivalis*, *Leucosticte arctoa*, *Montifringilla nivalis*, *Sturnus vulgaris*, *Pica pica*, *Pyrrhonorax pyrrhonorax*, *Corvus monedula/dauuricus*.

Layer: Central hall, layer 13

Date: LP

Fauna: *Aythya fuligula*, *Aegyptius monachus*, *Lagopus lagopus*, *Asio flammeus*, *Apus apus*, *Melanocorypha yeltoniensis*, *Turdus ruficollis*, *Leucosticte arctoa*, *Sturnus vulgaris*, *Pyrrhonorax pyrrhonorax*

Layer: Central hall, layer 14

Date: LP TL = 69±17 KA BP

Fauna: *Anas querquedula*, *Aythya fuligula*, *Tetraogallus altaicus*, *Lagopus mutus*, *Lagopus lagopus*, *Eremophila alpestris*, *Hirundo daurica*, *Cinclus cinclus*, *Turdus ruficollis*, *Leucosticte arctoa*, *Carpodacus erythrinus*, *Sturnus vulgaris*, *Pica pica*, *Corvus monedula/dauuricus*.

Layer: Central hall, layer 16

Fauna: *Lagopus lagopus*

Layer: Central hall, layer 17

Fauna: *Tetrao urogallus*, *Lyrurus tetrrix*, *Eremophila alpestris*, *Pyrrhonorax pyrrhonorax*

Layer: Central hall, layer 19

Fauna: *Buteo lagopus*, *Tetraogallus altaicus*, *Perdix perdix/dauuricae*, *Lagopus lagopus*, *Asio flammeus*, *Calandrella rufescens*, *Eremophila alpestris*, *Turdus ruficollis*, *Emberiza hortulana*, *Plectrophenax nivalis*, *Leucosticte arctoa*, *Carpodacus erythrinus*, *Pica pica*, *Pyrrhonorax pyrrhonorax*, *Corvus corone*.

Layer: Central hall, layer 20

Fauna: *Buteo lagopus*, *Lagopus lagopus*, *Asio flammeus*, *Surnia ulula*, *Apus apus*, *Eremophila alpestris*, *Turdus ruficollis*, *Leucosticte arctoa*, *Pinicola enucleator*.

Layer: Central hall, layer 21

Date: MP TL = 155±31 KA BP

Fauna: *Buteo lagopus*, *Perdix perdix/dauuricae*, *Eremophila alpestris*, *Turdus ruficollis*, *Plectrophenax nivalis*, *Leucosticte arctoa*, *Montifringilla nivalis*.

Layer: Central hall, layer 22

Date: MP TL = 171±43, 182±45, 223±55, 224±45, 282±56 KA BP

Fauna: *Anas querquedula*, *Falco tinnunculus*, *Tetraogallus altaicus*, *Lagopus mutus*, *Lagopus lagopus*, *Asio flammeus*, *Surnia ulula*, *Calandrella rufescens*, *Eremophila alpestris*, *Hirundo rustica*, *Anthus hodgsoni*, *Anthus cf gustavi*, *Tarsiger cyanurus*, *Oenanthe oenanthe*, *Turdus ruficollis*, *Emberiza aureola*, *Plectrophenax nivalis*, *Leucosticte arctoa*, *Carpodacus erythrinus*, *Pinicola enucleator*, *Montifringilla nivalis*, *Pica pica*, *Pyrrhonorax pyrrhonorax*, *Corvus monedula/dauuricus*.

Layer: Central hall, layer 9-22

Date: LP/MP

Fauna: *Aythya fuligula*, *Circus cyaneus*, *Falco tinnunculus*, *Lagopus mutus*, *Lagopus lagopus*, *Tetrao urogallus*, *Eremophila alpestris*, *Hirundo daurica*, *Phoenicurus ochruros*, *Oenanthe oenanthe*, *Turdus ruficollis*, *Emberiza aureola*, *Plectrophenax nivalis*, *Leucosticte arctoa*, *Pyrrhula pyrrhula*, *Sturnus vulgaris*, *Pica pica*, *Pyrrhonorax pyrrhonorax*, *Corvus monedula/dauuricus*.

Layer: In front of the cave, layer 2

Date: LP

Fauna: *Falco tinnunculus*.

Layer: In front of the cave, layer 5

Date: LP

Fauna: *Anas penelope*, *Lagopus mutus*, *Lagopus lagopus*.

Layer: In front of the cave, layer 6

Date: LP

Fauna: *Accipiter nisus*, *Falco tinnunculus*, *Tetraogallus altaicus*, *Lagopus mutus*, *Lagopus lagopus*, *Asio flammeus*, *Surnia ulula*, *Athene noctua*, *Melanocorypha yeltoniensis*, *Hirundo daurica*, *Lanius cristatus*, *Turdus ruficollis*, *Leucosticte arctoa*, *Montifringilla nivalis*, *Sturnus vulgaris*, *Perisoreus infaustus*, *Pyrrhocorax pyrrhocorax*, *Corvus corone*.

Layer: In front of the cave, layer 7

Date: LP

Fauna: *Anas penelope*, *Accipiter nisus*, *Buteo lagopus*, *Circus cyaneus*, *Tetraogallus altaicus*, *Lagopus mutus*, *Lagopus lagopus*, *Asio flammeus*, *Athene noctua*, *Eremophila alpestris*, *Hirundo daurica*, *Pica pica*, *Nucifraga caryocatactes*, *Pyrrhocorax pyrrhocorax*

Layer: In front of the cave, layer 8

Date: LP

Fauna: *Falco tinnunculus*, *Lagopus lagopus*, *Leucosticte arctoa*, *Sturnus vulgaris*.

Layer: In front of the cave, layer 9, TL = 50±12 KA BP, 14C = 46,000±2,300 BP

Date: LP

Fauna: *Accipiter nisus*, *Lagopus mutus*, *Lagopus lagopus*, *Lyrurus tetrrix*, *Leucosticte arctoa*, *Pica pica*, *Pyrrhocorax pyrrhocorax*.

Layer: In front of the cave, layer 10, TL = 66±16 KA BP

Date: LP

Fauna: *Lagopus lagopus*, *Eremophila alpestris*, *Pyrrhocorax pyrrhocorax*.

Layer: In front of the cave, layer 2-10

Fauna: *Podiceps nigricollis*, *Aythya fuligula*, *Falco tinnunculus*, *Tetraogallus altaicus*, *Lagopus lagopus*, *Columba rupestris*, *Asio flammeus*, *Strix nebulosa*, *Pyrrhocorax pyrrhocorax*.

Det: Panteleyev

Layer: Unknown

Date: LP Upper Palaeolithic

Fauna: *Struthio* sp.

#### RO 47 Igetej (Irkutsk)

Type: o

Sources: Mlíkovsky, Chenzychenova & Filippov 1997

Date: MP, Late MP

Fauna: cf *Calidris* sp., Passeriformes

Det: Mlíkovsky

Stored: Buryat Geological Institute, Ulan Ude

Note: A. k. a. Gora Igetei, near Bratsk

#### RO 48 Char'jaska 2 (Buryatia)

Type: o

Sources: Mlíkovsky, Chenzychenova & Filippov 1997

Date: LP, end of LP

Layer: Upper

Fauna: *Fringilla montifringilla*

Layer: Lower

Fauna: Passeriformes

Det: Mlíkovsky

Stored: Buryat Geological Institute, Ulan Ude

#### RO 49 Ust'-Kjakhta 17 (Buryatia)

Type: o

Sources: Mlíkovsky, Chenzychenova & Filippov 1997, (Tashak 1993)

Date: LP, 14C=11,600-12,230 BP

Fauna: *Struthio andersoni*, *Delichon urbica*

Det: Mlíkovsky, Tashak

Stored: Buryat Institute of Social Science, Ulan Ude

Note: Also see site RO 61.

**RO 50 Zasukhino (Buryatia)**

Sources: Imetchenov & Kalmykov 1988 (Dergausova & Kalmykov 1986, Kalmykov 1986)  
Date: MP  
Fauna: *Anas crecca*, *Crex crex*  
Det: Burchak-Abramovich

**RO 51 Akhur (Buryatia)**

Sources: Imetchenov & Kalmykov 1988, (Ivanov 1960)  
Date: LP  
Fauna: *Struthio* sp.

**RO 52 Bilyutaj (Buryatia)**

Type: o  
Sources: Imetchenov & Kalmykov 1988, (Naletov 1961)  
Date: LP  
Fauna: *Struthio* sp.

**RO 53 Guzhirtuj (Buryatia)**

Type: o  
Sources: Imetchenov & Kalmykov 1988, (Ivanov 1961)  
Date: LP  
Fauna: *Struthio* sp.

**RO 54 Kundoj (Buryatia)**

Type: o  
Sources: Imetchenov & Kalmykov 1988, (Antoshchenko-Olenev 1975)  
Date: LP  
Fauna: *Struthio* sp.

**RO 55 Malyj Khayan (Buryatia)**

Sources: Imetchenov & Kalmykov 1988, (Naletov 1961)  
Date: LP?  
Fauna: *Struthio* sp.

**RO 56 Mihajlovskoe (Buryatia)**

Type: o  
Sources: Imetchenov & Kalmykov 1988, (Ivanov 1960)  
Date: LP  
Fauna: *Struthio* sp.

**RO 57 Povorot (Buryatia)**

Sources: Imetchenov & Kalmykov 1988, (Ivanov 1960)  
Date: LP  
Fauna: *Struthio* sp.

**RO 58 Podlopatki (Buryatia)**

Type: o  
Sources: Imetchenov & Kalmykov 1988, (Ivanov 1960)  
Date: LP

Fauna: *Struthio* sp.

### **RO 59 Tarsagataj (Buryatia)**

Type: o

Sources: Imetchenov & Kalmykov 1988, (Ivanov 1960)

Date: LP

Fauna: *Struthio* sp.

### **RO 60 Ulentuj (Buryatia)**

Type: o

Sources: Imetchenov & Kalmykov 1988, (Ivanov 1960)

Date: LP

Fauna: *Struthio* sp.

### **RO 61 Ust'-Kjakhta (Buryatia)**

Type: o

Sources: Imetchenov & Kalmykov 1988, (Naletov 1961)

Date: LP?

Fauna: *Struthio* sp.

Note: Also see site RO 49.

### **RO 62 Ust-Kharlun (Buryatia)**

Sources: Imetchenov & Kalmykov 1988, (Naletov 1961)

Date: LP?

Fauna: *Struthio* sp.

### **RO 63 Ust-Karakol (Altai)**

Type: o

Sources: Baryshnikov 1996

Date: LP Late Paleolithic ca 30 KA BP (14C = 28 700 ± 850 BP (layer 2))

Layer: 3

Fauna: *Tetrao tetrix*

### **RO 64 Sibiryachikha cave (Altai)**

Type: c

Sources: Martynovich 1990, 2002

Date: LP Mousterian, 14C = 28,500 - 44,800 BP

Fauna: Anatidae sp., *Anas platyrhynchos*, *Anas crecca/querquedula*, *Anas* sp., *Anser* cf *anser*, *Aquila chrysaetos*, *Accipiter nisus*, *Accipiter gentilis*, *Circus macrourus*, *Falco subbuteo*, *Falco tinnunculus*, *Falco columbarius*, *Coturnix coturnix*, *Perdix* cf *perdix*, *Tetrastes bonasia*, *Lyrurus tetrax*, *Lagopus lagopus*, *Crex crex*, *Gallinula chloropus*, *Tringa* sp., *Tringa erythropus*, *Vanellus vanellus*, *Gallinago* cf *media*, *Gallinago* sp., *Scolopax rusticola*, *Calidris* cf *minuta*, *Columba livia*, *Syrhaptes paradoxus*, *Cuculus canorus*, *Otus scops*, *Asio flammeus*, *Asio* sp., *Aegolius funereus*, *Bubo bubo*, *Nyctea scandiaca*, *Apus apus* ex. gr. *pacificus*, *Coracias garrulus*, *Dendrocopos* sp., *Picus* cf *canus*, *Alauda* sp., *Delichon urbica*, *Anthus* sp., *Lanius* sp., *Bombycilla* cf *garrulus*, *Oenanthe* sp., *Turdus* sp., *Parus* sp., *Pica pica*, *Corvus monedula*, Corvidae sp., *Emberiza* sp., *Fringilla* sp., *Coccothraustes coccothraustes*, *Sturnus vulgaris*, Passeriformes

Det: Martinovich

Notes: A. k. a. Okladnikov's Cave, Peshchera Okladnikova

### **RO 65 Tonnelnaya Cave (Yenisey)**

Type: c

Sources: Ovodov & Martinovich 1999

Date: LP ca 13,500 BP

Fauna: *Podiceps griseigena*, *Cygnus* sp., *Anser* sp. *Anas acuta*, *Anas* cf *querquedula*, *Anas clypeata*, *Melanitta* sp., *Mergus albellus*, Anatidae sp., *Falco tinunculus*, *Falco cherrug*, *Circus cyaneus*, *Coturnix coturnix*, *Tetrastes bonasia*, *Tetrao urogallus*, *Lyrurus tetrrix*, *Lagopus lagopus*, *Lagopus mutus*, *Scolopax rusticola*, *Gallinago* sp., *Philomachus pugnax*, Charadriidae sp., *Streptopelia* sp., *Columba* sp., *Gallinula chloropus*, *Crex crex*, *Cuculus canorus*, *Nyctea scandiaca*, *Asio flammeus*, *Bubo bubo*, *Apus pacificus*, *Picoides tridactylus*, *Perisoreus infaustus*, *Pyrrhocorax pyrrhocorax*, *Pica* sp., *Turdus* sp., *Coccothraustes coccothraustes*, *Acanthis* sp., *Loxia curvirostra*.

Det: Martinovich

#### **RO 66 Nedostupnaya Cave (Yenisey)**

Type: c

Sources: Ovodov & Martinovich 1999.

Date: LP

Fauna: *Anas* cf *querquedula*, *Anas clypeata*, *Falco tinnunculus*, *Lyrurus tetrrix*, *Lagopus lagopus*, *Aegolius funereus*, *Apus pacificus*, *Picoides tridactylus*, *Picus canus*, *Perisoreus infaustus?*, *Pyrrhocorax pyrrhocorax*, *Pica* sp., *Pica pica*, *Nucifraga caryocatactes*, Corvidae sp., *Turdus* sp.

Det: Martinovich

#### **RO 67 Grotta Dvuglaska (Yenisey)**

Type: c

Sources: Ovodov & Martinovich 1992.

Date: LP Mousterian, 14C = 44,400±1600 BP (layer 5)

Fauna: *Anas platyrhynchos*, *Anas* cf *acuta*, *Anas acuta/penelope*, *Anas querquedula*, *Anas querquedula/ crecca*, Anatidae sp., *Falco tinnunculus*, *Falco cherrug*, *Perdix dauurica*, *Lagopus mutus*, *Lagopus lagopus*, *Asio flammeus*, *Eremophila alpestris*, *Lanius excubitor*, *Pyrrhocorax pyrrhocorax*, *Corvus corone*, *Corvus corax*, Passeriformes sp.

Det: Martinovich

#### **RO 68 Kashtanka I (Yenisey)**

Type: c

Sources: Martinovich 1991.

Date: LP UP 14C=20,800±200 – 29 400±400 BP

Fauna: *Anas penelope*, *Anas querquedula*, *Coturnix coturnix*, *Lagopus lagopus*, *Gallinago* sp., *Eremophila alpestris*, *Turdus* cf *ruficollis*, Corvidae sp., Passeriformes sp.

Det: Martinovich

#### **RO 69 Bliznets (Primorsky krai)**

Type: c

Sources: Panteleyev & Alekseyeva 1993

Date: LP 14C=11,965±65 BP (at 3 m depth, total depth of deposits = 7.5 m)

Fauna: *Coturnix japonica*, *Hirundo rustica*, *Motacilla cinerea*, *Phoenicurus aureoreus*, *Cyanoptila cyanomelana*, *Parus minor*, *Emberiza cioides*, *Pyrrhula griseiventris*, *Corvus corone*.

Det.: Panteleyev

Notes: A k a Bliznets

#### **RO 70 Verkholskaya Gora I (Irkutsk)**

Sources: Panteleyev 1999 (Abramova 1984, Kol'tsov & Medvedev 1989)

Layer: Horizont III

Date: LP 14C=12,570±180 BP

Fauna: *Struthio* sp.

#### **RO 72 Gubs shelter No. 1 (Krasnodar)**

Alt: 900  
Type: c  
Sources: Hoffecker & Baryshnikov 1998  
Date: LP Late Mousterian  
Fauna: *Pyrrhocorax graculus*, *Corvus corax*  
Det: Baryshnikov & Pashtukhova

**RO 73 Kostenki I (Voronezh)**

Type: o  
Sources: Potapova 2001  
Layer: Loess layer  
Date: LP 18,230-24,100 BP  
Fauna: *Nyctea scandiaca*

**RO 74 Kostenki XII (Voronezh)**

Type: o  
Sources: Potapova 2001  
Layer: 1  
Date: LP 23,600-26,300 BP  
Fauna: *Nyctea scandiaca*

**RO 75 Kostenki XIV (Voronezh)**

Type: o  
Sources: Potapova 2001  
Layer: 3  
Date: LP 14,300 BP  
Fauna: *Nyctea scandiaca*

**RO 76 Bol'shaya Slizneva (Krasnoyarsk)**

Type: o  
Sources: Ovodov, Martynovich & Mikheev 2002, Martynovich pers. comm. and 2004  
Date: LP, Upper Palaeolithic, 14C = 13,540±500 BP  
Fauna: *Lagopus lagopus*, *Hirundo rustica*  
Det: Martynovich

**RO 77 Listvenka (Krasnoyarsk)**

Type: o  
Sources: Ovodov, Martynovich & Mikheev 2002, Martynovich 2004  
Date: LP, Upper Palaeolithic, 14C = 13,100±410 BP  
Fauna: *Lagopus lagopus*.  
Det: Martynovich

**RO 78 Zarubino (Transbaikal)**

Type: o  
Sources: Gaidushenko & Tivanenko 1978  
Date: LP Upper Palaeolithic  
Fauna: *Struthio* sp.

**RO 79 Aidashinskaya Cave**

Type: c  
Sources: Ovodov 1980, Olga Potapova in litt.  
Date: LP Late Palaeolithic



Fauna: *Lyrurus tetrrix*, *Tetrao urogallus*, *Strix uralensis?*, *Dendrocopos major*, *Turdus* sp., *Corvus* cf *cornix*  
Det: Ovodov

#### **RO 80 Sava river (Transbaikal)**

Sources: Sosnovskii 1933, Olga Potapova in litt.  
Date: LP Late Palaeolithic  
Fauna: *Struthio* sp.

#### **RO 81 Bolshoi Yakor (Vitim)**

Type: o  
Sources: Belousov et al. 1990, Martynovich 2003  
Date: LP, LG 14C=11,740±140 BP  
Layer: IV  
Fauna: *Lagopus* sp.  
Date: LP LG  
Layer: V  
Fauna: *Anas* cf *querquedula*, *Lagopus* sp., *Lagopus lagopus*, *Lagopus mutus*  
Date: LP LG 14C=12,230±250 BP  
Layer: VI  
Fauna: *Lagopus* sp., *Lagopus lagopus*, *Lagopus mutus*, Passeriformes sp.  
Date: LP LG 14C=12,380±250 BP  
Layer: VII  
Fauna: *Lagopus* sp., Passeriformes sp.  
Date: LP LG 14C=12,630±230 BP  
Layer: VIII  
Fauna: *Lagopus* sp.  
Det: Martynovich

#### **RO 82 Ostantseva peshchera (Sakhalin)**

Type: c  
Sources: Zelenkov 2005, (Panteleyev 1997)  
Date: LP-Early Holocene 14C= 8,040±85 - 12,685±140 BP  
Layer: 1  
Fauna: *Nyctea scandiaca*, *Hirundapus caudacutus*, *Picus canus*  
Layer: 2  
Fauna: *Oceanodroma* sp., *Tetrastes bonasia*, Tetraonidae sp., Galliformes sp., *Hirundapus caudacutus*  
Layer: 3  
Fauna: *Picus canus*, *Nucifraga caryocatactes*, Corvidae sp.  
Layer: 5  
Fauna: *Picus canus*, *Nucifraga caryocatactes*  
Layer: 8  
Fauna: *Lagopus* sp., *Limosa limosa*  
Layer: 9  
Fauna: *Nyctea scandiaca*, *Picus canus*  
Layer: 10  
Fauna: *Picus canus*, *Nucifraga caryocatactes*  
Layer: 11  
Fauna: *Picus canus*, *Nucifraga caryocatactes*  
Layer: 12  
Fauna: *Nucifraga caryocatactes*  
Layer: unstratified  
Fauna: *Falco rusticolus*  
Det: Zelenkov, Panteleyev

#### **RO 83 Shaitanozersko kamenny ostrov (Urals)**

Type: c  
Sources: Borodin et al. 2000a  
Date: LP, Sartanian 14C= 22,460±340 BP  
Layer: 4  
Fauna: *Anas acuta*, *Anas* sp., *Clangula hyemalis*, Aves indet.  
Date: LP, Sartanian 14C= 23,170±1420 BP (layer 5)  
Layer: 4-5  
Fauna: *Corvus cornix*  
Det: Nekrasov

#### **RO 84 Cheremukovo 1 (Urals)**

Type: c  
Sources: Borodin et al. 2000b  
Date: LP, Sartanian  
Layer: 1-3  
Fauna: *Anas* sp., *Lagopus lagopus*, *Tetrao tetrix*, Strigidae sp., Passeriformes sp., Aves indet.  
Date: LP, Sartanian  
Layer: 3  
Fauna: *Cygnus cygnus*, *Anser* sp., *Lagopus lagopus*, *Tetrao tetrix*, *Buteo buteo*, Passeriformes sp., Aves indet.  
Det: Nekrasov

#### **RO 85 Afontova Gora V (Krasnoyarsk)**

Type: o  
Sources: Martynovich 2004  
Date: LP, UP  
Fauna: *Lagopus lagopus*  
Det: Martynovich

#### **RO 86 Karaul'nyi byk (Krasnoyarsk)**

Type: o  
Sources: Martynovich 2004  
Date: LP, UP  
Fauna: *Cygnus* sp., *Lagopus lagopus*  
Det: Martynovich

### **SERBIA**

#### **SR 3 Pecurski kamen**

Type: c  
Sources: Dimitrijevic 1998  
Date: LP?  
Fauna: *Pyrrhocorax pyrrhocorax*  
Det: Dimitrijevic?

#### **SR 4 Ceremosnja**

Type: c  
Sources: Dimitrijevic 1998  
Date: LP?  
Fauna: *Tetrao* cf *urogallus*  
Det: Dimitrijevic?

### **SLOVAKIA**

### **SK 11 Grosse Oruzsiner Höhle**

Type: c  
Sources: Nehring 1881  
Date: LP?  
Fauna: *Lagopus cf mutus*, *Tetrao urogallus*  
Det: Nehring

### **SK 12 Vcelare 4E**

Sources: Mlíkovsky 2002  
Date: EP MNQ 21/22, Late Biharian  
Fauna: *Coturnix coturnix*, *Palaeocryptonyx donnezani*, *Tetrao tetrax*, *Hirundo rustica*  
Det: Mlíkovský

### **SK 13 Hôrka-Ondrej**

Type: o  
Sources: Mlíkovsky 2000c  
Date: LP Eem, IS 5e Middle Palaeolithic  
Fauna: *Anas sp.*, *Tetrao tetrax*, *Tetrao urogallus*, *Coturnix coturnix*  
Det: Mlíkovský  
Stored: Archaeological Institute of the Slovakian Academy of Science

## **SLOVENIA**

### **SL 6 Babja jama**

Type: c  
Sources: Malez 1995  
Date: LP  
Fauna: *Cygnus cygnus*, *Lagopus lagopus*, *Turdus merula*  
Det: Malez

### **SL 7 Ciganska jama**

Type: c  
Sources: Malez 1995  
Date: LP  
Fauna: *Lagopus lagopus*, *Lagopus mutus*  
Det: Malez

### **SL 8 Jama pod Herkovimi pecmi**

Type: c  
Sources: Malez 1995  
Date: LP  
Fauna: *Lagopus lagopus*, *Lagopus mutus*, *Tetrao urogallus*, *Tetrao tetrax*  
Det: Malez

### **SL 9 Lukenjska jama**

Type: c  
Sources: Malez 1995  
Date: LP  
Fauna: *Anas platyrhynchos*, *Aquila chrysaetos*, *Falco subbuteo*, *Lagopus lagopus*, *Lanius excubitor*, *Corvus corax*

Det: Malez

### **SL 10 Zupanov spodmol**

Type: c

Sources: Malez 1995

Date: LP

Layer: C-D

Fauna: *Lagopus mutus*, *Tetrao tetrix*, *Perdix perdix*, *Otis tarda*, *Pyrrhocorax pyrrhocorax*

Det: Malez

## **SOUTH KOREA**

### **KR 1 Sangsi, Abri 1**

Type: c

Source: Pokee Sohn 1985

Date: LP Upper Paleolithic? U/Th = 30,000 BP (layer 7)

Layer: 5

Fauna: *Tetrastes bonasia*

Notes: Three additional unnamed spp. from other layers

## **SPAIN**

### **SP 94 Cueva de Urratxa III (Bizkaia)**

Type: c Alt: 1025

Source: Elorza 1997

Date: LP/Hol Azilian-Subrecent (14C= 10,240±100 - 265±65 BP)

Fauna: *Anser* sp., *Gypaetus barbatus*, *Lagopus lagopus*, *Lagopus* sp., *Coturnix coturnix*, *Gallus gallus*, *Bubo bubo*, *Athene noctua*, *Picus canus*, *Troglodytes troglodytes*, cf *Oenanthe* sp., *Turdus philomelos*, *Turdus pilaris/merula*, *Turdus* sp., *Parus* sp., *Pyrrhocorax graculus*, *Corvus monedula/Pyrrhocorax graculus*, Passeriformes

Det: Elorza

### **SP 95 Moleta Cave (Mallorca, Balearics)**

Type: c

Source: Seguí, Mourer-Chauviré & Alcover 1997

Layer: E 150-250, X 200

Date: LP/Hol 9,000 - 15,000 BP

Fauna: *Otus scops*, Alaudidae sp., *Erithacus rubecula*, *Turdus* sp., *Pyrrhocorax graculus*, *Montifringilla nivalis*, *Coccothraustes coccothraustes*

Layer: Z 200-300, X 200-300

Date: LP ca 15,000 BP

Fauna: *Tadorna* sp., *Porzana porzana*, *Columba* sp., *Tyto alba*, *Athene noctua*, *Apus* cf *pallidus*, *Alauda arvensis*, Motacillidae sp., *Hirundo/Ptyoprogne* sp., *Erithacus rubecula*, cf *Erithacus/Luscinia* sp., *Phoenicurus* sp., *Saxicola rubetra*, *Saxicola torquata*, cf *Saxicola rubetra/Phoenicurus phoenicurus*, *Turdus iliacus*, *Turdus* sp., *Sylvia* sp., *Ficedula hypoleuca*, *Parus ater*, *Lanius* sp., *Pyrrhocorax graculus*, *Pyrrhocorax* sp., *Passer* sp., *Petronia petronia*, *Fringilla* sp., *Carduelis chloris*, *Coccothraustes coccothraustes*, *Emberiza* sp.

Layer: Z 750, X 700

Date: LP ca 30,000 BP

Fauna: *Turdus* sp., *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Coccothraustes coccothraustes*

Det: Seguí, Mourer-Chauviré & Alcover Stored: MNCM

Notes: A. k. a. Muleta cave, Cova de Moleta

### SP 96 Cova des Moro (Mallorca, Balearics)

Type: c

Source: Seguí 1997

Date: LP

Fauna: *Columba livia/oenas*, Hirundinidae sp., *Motacilla alba*, *Erithacus rubecula*, *Turdus* sp., *Sylvia melanocephala/curruca*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus corone/fragilegus*, *Loxia curvirostra*, cf *Miliaria calandra*

Det: Seguí

Stored: MNMCM

### SP 97 Cueva de la Guineu (Barcelona)

Type: c Alt: 735

Source: Bergadà Zapata 1998

Date: Epipalaeolithic (N. III-XII) 14C=9,850±80 BP (N.IIIa)

Fauna: *Falco naumanni*, *Alectoris* sp., *Alectoris graeca/rufa*, *Alectoris barbara*, *Picus viridis*, Passeriformes sp.

Det: García

### SP 98 Cofete 1, Jandia Peninsula, Fuerteventura (Canaries)

Type: o Alt: 150

Sources: Michaux, Hutterer & Lopez-Martinez 1991

Date: LP ca 30,000 BP

Fauna: *Puffinus holeae*

### SP 99 Cañada del Rio, Jandia Peninsula, Fuerteventura (Canaries)

Type: o

Sources: Michaux, Hutterer & Lopez-Martinez 1991

Date: LP?

Fauna: *Puffinus holeae*

### SP 100 Atapuerca, Gran Dolina (Burgos)

Type: c

Sources: Sanchez-Marco 1999a, 2004, 2007, van der Made et al. 2003

Layer: TD 11

Date: MP, IS 10, 174±18 - 244±44 KA BP

Fauna: *Perdix palaeoperdix*, *Charadrius alexandrinus*, *Arenaria interpres*

Layer: TD 10

Date: MP, IS 10, ca 400 KA BP

Fauna: Anatidae sp., *Tadorna* sp., *Milvus milvus*, *Perdix palaeoperdix*, *Coturnix coturnix*, *Pluvialis apricaria*, *Columba oenas/livia*, *Hirundo rustica*, *Turdus* sp., *Turdus* cf *pilaris*, *Corvus antecorax*

Layer: TD8

Date: MP, IS 18

Fauna: *Tadorna* sp., *Perdix palaeoperdix*, *Coturnix coturnix*, *Columba livia/oenas*, *Sylvia* sp., *Corvus antecorax*

Layer: TD6

Date: EP, ca 800 KA BP, IS 21, MNQ 20

Fauna: *Anas crecca*, *Anas* cf *querquedula*, *Melanitta fusca*, *Falco naumanni*, *Perdix paleoperdix*, *Coturnix coturnix*, *Porzana* sp., *Porzana pusilla*, *Eudromias morinellus*, *Limosa limosa*, *Scolopax rusticola*, *Columba livia/oenas*, *Melanocorypha calandra*, *Calandrella* cf *brachydactyla*, *Galerida cristata*, *Lullula arborea*, *Alauda arvensis*, *Eremophila alpestris*, *Hirundo rustica*, *Ptyonoprogne alpestris*, *Motacilla flava*, *Anthus pratensis*, *Cinclus cinclus*, *Prunella collaris*, *Prunella modularis*, *Turdus merula*, *Turdus iliacus*, *Turdus philomelos*, *Sylvia hortensis*, *Muscicapa striata*, *Emberiza citrinella*, *Plectrophenax nivalis*, *Fringilla coelebs*, *Serinus serinus*, *Carduelis chloris*, *Petronia petronia*, *Sturnus* sp., *Corvus antecorax*

Layer: TD5

Date: EP, ca 800 KA BP, IS 21, MNQ 20

Fauna: *Perdix palaeoperdix*, *Columba livia/oenas*

Layer: TD5W

Date: EP, ca 800 KA BP, IS 21, MNQ 20  
Fauna: *Anas querquedula*, *Coturnix coturnix*, *Columba livia/oenas*, *Alauda arvensis*, *Emberiza citrinella*  
Layer: TD4  
Date: EP, ca 800 KA BP, IS 21, MNQ 20  
Fauna: *Perdix palaeoperdix*, *Columba livia/oenas*  
Layer: TD4Wb  
Date: EP, ca 800 KA BP, IS 21, MNQ 20  
Fauna: *Perdix palaeoperdix*, *Columba livia/oenas*  
Layer: TD4W  
Date: EP, ca 800 KA BP, IS 21, MNQ 20  
Fauna: *Perdix palaeoperdix*, *Coturnix coturnix*, *Charadriiformes* sp., *Columba livia/oenas*, *Turdus* sp.,  
*Pyrhcorax pyrrhcorax*, *Pyrhcorax graculus*, *Corvus antecorax*  
Layer: TD3  
Date: EP, ca 800 KA BP, IS 21, MNQ 20  
Fauna: *Tringidae* sp., *Columba livia/oenas*, *Emberiza citrinella*  
Layer: TD3W  
Date: EP, ca 800 KA BP, IS 21, MNQ 20  
Fauna: *Columba livia/oenas*  
Det: Sánchez-Marco

### SP 101 Sierra de Quibas (Murcia)

Type: c  
Source: Montoya et al. 1999, 2001, Sánchez-Marco 1999d, 2002, 2004, 2007  
Date: EP ca 1000-1300 KA BP (MNQ 19/20)  
Fauna: *Geronticus eremita*, *Gypaetus barbatus*, *Coturnix coturnix*, *Columba livia/oenas*, *Cuculus canorus*,  
*Athene noctua*, *Delichon urbica*, *Prunella modularis*, *Anthus pratensis*, *Phoenicurus ochruros*, *Saxicola*  
*torquata*, *Saxicola rubetra*, *Oenanthe hispanica*, *Parus major*, *Carduelis chloris*, *Carduelis carduelis*, *Carduelis*  
*spinus*, *Serinus serinus*  
Det: Sánchez-Marco

### SP 102 Vanguard Cave (Gibraltar)

Type: c  
Source: Cooper 2000, 2005, Cooper & Voous 1999  
Date: LP Mousterian, 45-110 Ka BP  
Fauna: *Fulmarus glacialis*, *Pterodroma* sp., *Puffinus ?mauretanicus*, *Hydrobates pelagicus*, *Clangula hyemalis*,  
*Alectoris* sp., *Gyps fulvus*, *Falco naumanni*, *Uria aalge*, *Alca torda*, *Fratercula arctica*, *Columba* cf *oenas*,  
*Columba livia/oenas*, *Columba palumbus*, *Coracias garrulus*, *Apus melba*, *Apus apus/pallidus*, *Hirundo* sp.,  
*Cyanopica cyanus*, *Pyrhcorax pyrrhcorax*, *Corvus monedula*  
Det: Cooper  
Stored: Department of Palaeontology, The Natural History Museum, London

### SP 103 Cova C-2 (Menorca)

Type: c                      Alt: 25  
Sources: Alcover 2001, Segui et al. 1998  
Date: LP/Hol  
Fauna: *Puffinus* undescr. sp., cf *Branta/Anser* sp., cf *Turdus* sp.  
Stored: MNIB  
Det: Segui

### SP 104 Bobila Ordis (Gerona)

Type: o  
Sources: Mayr & Gregor 1999  
Date: EP? Pleistocene/Pliocene border  
Fauna: *Gallinula* cf *chloropus*  
Stored: Naturmuseum Augsburg  
Det: Mayr

### SP 105 Cueva Negra del Estrecho del Río Quípar (Murcia)

Alt: 750

Type: c

Sources: Eastham 2001, 2005, Walker et al. 1998, Walker 2001, 2003

Layer: Undisturbed sediments

Date: LP Middle Palaeolithic 40-75 KA BP

Fauna: *Tadorna ferruginea*, *Anas penelope*, *Anas platyrhynchos*, *Anas strepera*, *Anas crecca*, *Anas* sp., *Netta rufina*, *Aythya ferina*, *Aythya nyroca*, *Buteo buteo*, *Buteo* cf. *rufinus*, *Aquila* sp., *Falco naumanni*, *Falco peregrinus*, *Alectoris rufa*, *Fulica atra*, *Pluvialis apricaria*, *Vanellus vanellus*, *Calidris minuta*, *Gallinago gallinago*, *Tringa hypoleucos*, *Columba livia*, *Streptopelia turtur*, *Tyto* cf. *alba*, *Apus melba*, *Apus apus*, *Merops apiaster*, *Alauda arvensis*, *Lullula arborea*, *Galerida cristata/theklae*, *Ptyonprogne rupestris*, *Riparia riparia*, *Hirundo rustica*, *Anthus spinoletta/campestris/richardi*, *Motacilla alba/cinerea*, *Monticola saxatilis*, *Monticola solitarius*, *Turdus merula*, *Ficedula hypoleuca*, *Parus major*, *Garrulus glandarius*, *Pica pica*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, *Corvus corax*, *Corvus corone*, *Corvus* sp., *Fringilla coelebs*, *Carduelis chloris*, *Carduelis cannabina*, *Pyrrhula pyrrhula*, *Miliaria calandra*, *Emberiza citrinella*, *Emberiza cirlos/cia*

Layer: Unstratified superficial soil, possibly intrusive

Fauna: *Anser* sp., *Milvus milvus*, *Falco tinnunculus*, *Gallus gallus*, *Alectoris* cf. *barbara*, *Columba palumbus*, *Athene noctua*, *Caprimulgus europaeus*, *Picus viridis*, *Turdus philomelos*, *Acrocephalus arundinaceus*

Det: Eastham

Notes: A k a Cueva Negra de la Incarnación

### SP 106 Sima de las Palomas del Cabezo Gordo (Murcia)

Type: c Alt: 120

Sources: Walker et al. 1998, Walker 2001, Walker & Gibert i Clois 2003

Layer: Undisturbed Pleistocene Breccia

Date: Late MP/Early LP Middle Palaeolithic 50-150? KA BP

Fauna: *Columba livia*, *Pyrrhocorax pyrrhocorax*

Layer: Disturbed sediments

Fauna: *Falco tinnunculus*, *Falco naumanni*, *Alectoris rufa*, *Columba livia*, *Athene noctua*, *Galerida cristata/theklae*, *Saxicola torquata*, *Monticola solitarius*, *Corvus corone*, *Pyrrhocorax pyrrhocorax*, *Passer domesticus*

Layer: Hillside mine rubble (mixed with modern bird species)

Fauna: *Pyrrhocorax graculus*, *Emberiza* sp.

Det: Eastham

### SP 107 Ibex Cave (Gibraltar)

Type: c Alt: 250-300

Sources: Cooper 2005, Stewart 1999, Sanchez Marco 2004, (Cooper 2000b)

Date: LP Middle Palaeolithic, IS 3, ESR=37±3-49±3 KA BP

Fauna: *Puffinus* cf. *puffinus*, *Sula bassana*, *Branta* cf. *bernicla*, *Haliaeetus albicilla*, *Aquila* cf. *chrysaetos*, *Falco naumanni*, *Falco tinnunculus*, *Falco peregrinus*, *Alectoris* cf. *rufa*, *Gallus gallus*, *Larus* cf. *cachinnans*, *Pinguinus impennis*, *Columba livia/oenas*, *Columbus palumbus*, cf. *Bubo bubo*, *Apus melba*, *Alaudidae* indet., cf. *Anthus* sp., *Prunella* cf. *modularis*, *Prunella* cf. *collaris*, cf. *Monticola solitarius*, *Turdus* sp., *Fringillidae* indet., *Coccothraustes/Emberiza* sp., *Pyrrhocorax pyrrhocorax*, *Corvus* cf. *corone*, *Corvus corax*

Det: Cooper, Stewart

Stored: the Gibraltar Museum.

### SP 108 Labeko Koba (Guipuzcoa)

Type: c Alt: 246

Source: Elorza 2000

Layer: Sima

Date: LP

Fauna: *Aegyptius monachus*, *Pluvialis* sp., *Pyrrhocorax graculus*

Layer: IX

Date: LP Chatelperronian, AMS=34,215±1265 BP

Fauna *Anas* sp., *Aegyptus monachus*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*  
Layer: VII  
Date: LP Protoaurignacian, AMS=31,455±915 BP  
Fauna: *Hirundo* sp., *Pyrrhocorax graculus*  
Layer: VI  
Date: LP, Early Aurignacian  
Fauna: *Pyrrhocorax graculus*  
Layer: V  
Date: LP, Early Aurignacian, AMS=30,615±820 BP  
Fauna: *Anas* sp., *Hirundo* sp., *Pyrrhocorax graculus*  
Stored: S. C. Aranzadi  
Det: Elorza

#### **SP 109 La Cueva del Llano (Canaries)**

Type: c  
Source: Castillo, Martín-Gonzalez & Coello 2001  
Date: LP/Early Holocene 14C= 6,950±270 - 16,900±900 BP  
Fauna: *Haliaeetus* sp., *Coturnix gomeræ*, *Turdus* sp., *Sylvia* sp., *Bucanetes githaginea*

#### **SP 110 Pontón de la Oliva (Madrid)**

Source: Sanchez-Marco 2000  
Date: LP?  
Fauna: *Corvus monedula?*, *Pyrrhocorax pyrrhocorax*  
Det: Sanchez-Marco

#### **SP 111 Atapuerca, Sima del Elefante (Burgos)**

Type: c  
Source: Rosas et al. 2001, 2004, 2006, Sanchez Marco 2004, van der Made et al. 2003  
Date: EP, ca 1.3 – 1.4 MA BP  
Layer: TE-14  
Fauna: *Falco tinnunculus*, *Perdix palaeoperdix*, *Coturnix coturnix*, *Columba livia/oenas*, *Corvus antecorax*  
Layer: TE-13  
Fauna: *Anas* sp., *Haliaeetus albicilla*, *Columba livia*, *Turdus* sp., *Corvus antecorax*  
Layer: TE-12  
Fauna: *Perdix/Alectoris* sp., *Perdix* sp., *Coturnix* sp., *Columba livia*, *Turdus* sp., *Corvus* sp., *Corvus antecorax*  
Layer TE-10  
Fauna: *Haliaeetus albicilla*, *Circaetus gallicus*, *Perdix palaeoperdix*, *Columba livia*, *Alaudidae* sp., *Turdus* sp., *Carduelis chloris*, *Corvus antecorax*  
Layer TE-9  
Fauna: *Haliaeetus albicilla*, *Falco* sp., *Perdix palaeoperdix*, *Columba livia/oenas*, *Carduelis chloris*, *Corvus antecorax*  
Layer: Not stratified  
Fauna: *Anas* sp., *Buteo buteo*, *Falco* cf *tinnunculus*, *Lagopus mutus*, *Perdix palaeoperdix*, *Coturnix coturnix*, *Vanellus vanellus*, *Lymnocyptes minimus*, *Columba livia/oenas*, *Phoenicurus ochruros*, *Turdus* spp., *Acanthis flammea*, *Carduelis carduelis*, *Carduelis chloris*, *Pyrrhocorax pyrrhocorax*, *Corvus corone/fragilegus*  
Det: Sanchez-Marco

#### **SP 112 Unnamed fissure on Menorca (Balears)**

Type: c  
Source: Bate 1916  
Fauna: *Branta leucopsis*  
Det: Bate

#### **SP 113 Pala da Vella (Ourense)**



Type: c            Alt: 830  
Source: Fernandez Rodriguez et al. 1996  
Date: LP?  
Layer: 3  
Fauna: *Hirundo* sp., *Pyrrhocorax graculus*  
Det: Elorza

**SP 114 Pedrera de Gènova (Balears)**

Source: Mourer-Chauviré et al. 1977, Segui 1996  
Date: EP, Villafranchian  
Fauna: *Turdus* cf *viscivorus*  
Det: Mourer-Chauviré

**SP 115 Punta Esquitxador 12 (Balears)**

Type: o  
Source: Alcover et al. 2005, Segui 1999  
Date: LP?  
Fauna: *Falco* sp., *Rallus* cf *aquaticus*, *Gallinula chloropus*, Rallidae sp., *Grus grus*, cf *Alauda arvensis*, *Turdus* sp., Passeriformes n. sp.  
Det: Segui

**SP 116 Punta Esquitxador 16 (Balears)**

Type: o  
Source: Segui 1999  
Date: MP?  
Fauna: *Otis tarda*  
Det: Segui

**SP 117 Punta Esquitxador 17 (Balears)**

Type: o  
Source: Segui 1999  
Date: MP?  
Fauna: *Puffinus* n. sp. 1, *Puffinus* n. sp. 2, *Hydrobates pelagicus*, *Coturnix* cf *coturnix*, *Rallus* cf *aquaticus*, *Rallus* sp. 2, *Gallinula chloropus*, *Scolopax rusticola*, *Tyto balearica*, *Athene noctua*, *Erithacus* sp., *Sylvia* sp., Passeriformes sp.  
Det: Segui

**SP 118 Punta des Sac des Blat (Balears)**

Type: c            Alt: 3  
Source: Segui 1999  
Date: LP?  
Fauna: *Puffinus mauretanicus*, *Anas* sp., *Anas platyrhynchos*, *Larus* cf *cachinnans*, *Uria* cf *aalge*, *Turdus* sp., Passeriformes sp.  
Det: Segui

**SP 119 Sa Segonya (Balears)**

Type: o            Alt: 20  
Source: Segui 1999  
Date: MP?  
Fauna: *Accipiter nisus*, *Burhinus oedicephalus*, *Turdus* sp., *Pica* sp., Corvidae sp.  
Det: Segui

**SP 120 Cala'n Blanes B (Balears)**

Type: c Alt: 4

Source: Segui 1999

Date: LP Würm Pleniglacial?

Fauna: *Calandrella* sp., *Prunella modularis*, *Prunella collaris*, *Erithacus rubecula*, *Turdus* sp., *Sylvia* sp., *Sylvia* cf *sarda*, *Lanius excubitor*, *Pica* sp., *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*, cf *Passer domesticus/hispaniolensis*, *Montifringilla nivalis*, cf *Carduelis chloris*, *Carduelis carduelis/cannabina*, *Carduelinae* sp., *Passeriformes* sp.

Det: Segui

### **SP 121 Incarcàl 1 (Girona)**

Type: c

Source: Garcia i Petit 2002, 2003

Date: EP

Fauna: *Aquila chrysaetos*

Det: Garcia i Petit

### **SP 122 Villacastín (Segovia)**

Type: c

Source: Arribas 1994, 1995

Date: MP "Riss II-III"

Fauna: *Perdix* sp., *Passeriformes* sp.

### **SP 123 Gabasa I (Huesca)**

Type: c

Sources: Hernandez-Carrasquilla 2001, Sanchez-Marco 2007a

Date: LP, IS 3, 34-42 KA BP

Layer: Level II, layer g

Fauna: *Gyps melitensis*

Det: Hernandez-Carrasquilla, Sanchez-Marco

Stored: MNCN

### **SP 124 Frontò des Molar (Mallorca)**

Type: o

Sources: Alcover 2001, (Vicens et al. 1998)

Date: LP

Fauna: *Puffinus mauretanicus*

### **SP 125 Cova dels Amengual-Sastre (Mallorca)**

Type: c

Sources: Trias, Bover & Alcover 2001

Date: LP

Fauna: *Turdus* n. sp.

Stored: MNIB

### **SP 126 Cueva de Abautz (Navarra)**

Type: c Alt: 610

Sources: Altuna, Mariezkurrena & Elorza 2002

Layer: f + e limoso

Date: LP Upper Solutrean

Fauna: *Bubo/Nyctea* sp., *Lagopus* sp., *Alectoris rufa*, *Pyrrhocorax pyrrhocorax*

Layer: e

Date: LP Middle Magdalenian ("Medio-Superior inicial") 14C = 13,500±160 BP

Fauna: *Aquila chrysaetos*, *Bubo bubo*, *Bubo/Nyctea* sp., *Lagopus lagopus*, *Lagopus* sp., *Perdix perdix*, *Columba livia/oenas*, *Turdus* sp., *Corvus corax*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*

Layer: 2r

Date: LP Upper Magdalenian ("Superior-final") 14C = 12,340±60, 11,760 ± 90 BP

Fauna: *Aquila* sp., *Gyps fulvus*, *Lagopus lagopus*, *Lagopus* sp., *Perdix perdix*, *Columba livia/oenas*, *Pyrrhocorax graculus*, *Pyrrhocorax pyrrhocorax*

Det: Elorza

### SP 127 Cau d'en Borrás (Castelló)

Type: c

Sources: Sanchez Marco 2004

Date: LP Middle Palaeolithic, IS 4

Fauna: *Tadorna tadorna*, *Anas penelope*, *Haliaeetus albicilla*, cf. *Aegyptius monachus*, *Aquila chrysaetos*, *Falco naumanni*, *Falco tinnunculus*, *Alectoris rufa*, *Columba livia/oenas*, *Bubo bubo*, *Athene noctua*, *Apus melba*, *Anthus spinoletta*, *Oenanthe oenanthe*, *Turdus philomelos*, *Turdus* cf. *viscivorus*, *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*, *Corvus corone*

Det: Sanchez-Marco

### SP 128 Jarama 2 (Castilla – La Mancha)

Type: c

Sources: Arribas Herrera & Jorda Pardo 1999, Sanchez Marco 2004, 2007 (Adan et al. 1995)

Date: LP Early Magdalenian

Layer: II

Fauna: *Falco tinnunculus*, *Perdix perdix*, *Columba livia/oenas*, *Pyrrhocorax graculus*, *Corvus monedula*

Det: Sanchez-Marco

### SP 129 Victoria (Murcia)

Sources: Sanchez Marco 2002, 2004, 2007

Date: EP, ca 1 – 1.3 Ma BP

Site: Utrillas

Fauna: *Cygnus* cf. *olor*, *Tadorna tadorna*, *Falco naumanni*, *Tetrao tetrix*, *Alectoris graeca*, *Himantopus himantopus*, *Syrhaptes/Pterocles* sp., *Columba livia/oenas*, *Columba palumbus*, *Tyto alba*, *Picus viridis*, *Dryocopus martius*, *Calandrella* cf. *brachydactyla*, *Lullula arborea*, *Alauda arvensis*, *Hirundo rustica*, *Anthus spinoletta*, *Turdus* sp., *Sylvia hortensis*, *Sylvia* cf. *atricapilla*, *Ficedula hypoleuca*, *Emberiza* cf. *citrinella*, *Sturnus* sp., *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*

Site: Utrillas II

Fauna: *Cygnus* cf. *olor*, *Alectoris graeca*, *Columba livia/oenas*, *Tyto alba*, *Prunella modularis*, *Emberiza* sp., *Pica pica*, *Pyrrhocorax pyrrhocorax*

Site: La Manga

Fauna: *Tadorna* sp., *Falco peregrinus*, *Columba livia/oenas*, *Sturnus* sp., *Pyrrhocorax pyrrhocorax*

Site: Tarancón

Fauna: *Columba livia/oenas*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus frugilegus*

Site: Sta Maria de Iquique

Fauna: Charadriiformes indet., *Columba livia/oenas*, *Tyto alba*, *Pyrrhocorax pyrrhocorax*, *Corvus antecorax*

Site: Sta Berbara

Fauna: *Columba livia/oenas*, *Pyrrhocorax pyrrhocorax*, *Corvus antecorax*

Site: Descargador

Fauna: *Alectoris graeca*, *Columba livia/oenas*, *Tyto alba*, *Pyrrhocorax pyrrhocorax*

Site: Sala de la Música

Fauna: *Alectoris graeca*, *Columba livia/oenas*, *Pyrrhocorax pyrrhocorax*

Site: Ojos Negros

Fauna: *Columba livia/oenas*, *Emberiza melanocephala*

Site: "Coleccion Villalta"

Fauna: cf *Anas crecca*, *Milvus migrans*, cf *Aegyptius monachus*, *Buteo* cf *buteo*, *Columba livia/oenas*, *Bubo bubo*, *Athene noctua*, *Strix aluco*, *Picus viridis*, *Carduelis carduelis*, Corvidae indet., *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*

Det: Sanchez-Marco  
Note: A. k. a. Cueva Victoria

**SP 130 Barranco de Penescal (Fuerteventura)**

Type: c  
Sources: Sanchez-Marco 2003  
Date: LP  
Fauna: *Puffinus holeae*, *Puffinus puffinus*, *Calonectris diomedea*  
Det: Sanchez-Marco

**SP 131 Venta Micena (Granada)**

Type: o  
Sources: Martinez-Navarro 1992  
Date: EP, c. 1.0-1.4 MA BP  
Fauna: aff Laridae indet.

**SP 132 Cova dels Ermitons (Sales de Llierca, Catalonia)**

Alt: 400            Type: c  
Sources: Garcia Petit 2005, Genover 1993  
Date: LP Mousterian  
Layer: IV  
Fauna: *Accipiter nisus*, *Columba* sp.  
Layer: V  
Fauna: *Columba* sp.  
Layer: VI  
Fauna: *Pyrrhocorax* sp.  
Det: Garcia-Petit

**SP 133 Els Colls (Margalef de Montsant, Catalonia)**

Sources: Garcia Petit 2005  
Date: LP Upper Palaeolithic  
Fauna: *Perdicinae* sp.  
Det: Garcia-Petit?

**SP 134 Balma del Gai (Moia, Catalonia)**

Type: c  
Sources: Garcia Petit 2005  
Date: LP Epipalaeolithic  
Fauna: *Columba palumbus*  
Det: Garcia-Petit?

**SP 135 Font Voltada (Montbrió de la Marca)**

Type: c  
Sources: Garcia Petit 2005  
Date: LP Epipalaeolithic, 14C=10,920±240 BP  
Fauna: Galliformes sp.  
Det: Garcia-Petit?

**SP 136 Cova de la Guineu (Guardiola de Fontrubí, Catalonia)**

Type: c  
Sources: Garcia Petit 2005  
Date: LP/Hol

Fauna: *Falco naumanni*, Galliformes sp., Phasianidae sp., *Alectoris* sp., *Alectoris barbara*, *Columba* sp., *Picus viridis*, Passeriformes sp.  
Det: Garcia-Petit

### SP 137 Cueva de El Esquilleu (Cantabria)

Type: c

Sources: Baena et al. 2005

Layer: III

Date: LP, 14C=12,050±130 BP

Fauna: Anseriformes sp., Charadriiformes sp., *Columba livia*, *Turdus* sp., *Garrulus glandarius*, *Pica pica*, *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*

Layer: VIII

Date: LP, 14C=34,380±670 BP (VIF)

Fauna: *Columba livia/oenas*, *Pyrrhonorax graculus*

Layer: XIF

Date: LP, 14C=36,500±830 BP

Fauna: *Columba livia/oenas*

Det: Sanchez-Marco

### SP 138 La Carihuela (Granada)

Sources: Sanchez Marco 2002

Date: LP

Fauna: *Pyrrhonorax graculus*

Det: Sanchez-Marco

### SP 139 Cau de Olopte (Gerona)

Sources: Sanchez Marco 2002, 2007

Layer: Unstratified

Fauna: *Prunella collaris*, *Pyrrhonorax graculus*

Det: Villalta

Date: LP, Late IS 4

Layer: C.B. III

Fauna: *Alectoris graeca/rufa*, *Anthus spinoletta*, *Sturnus* sp., *Pyrrhonorax pyrrhonorax*, *Pyrrhonorax graculus*, *Pyrrhula pyrrhula*, *Pinicola enucleator*, *Carduelis chloris*, *Passer cf montanus*, *Emberiza calandra*

Layer: Estrato 6

Fauna: *Pyrrhonorax pyrrhonorax*

Layer: Estrato 7

Fauna: *Pinicola enucleator*

Layer: Nivel B-12

Fauna: *Tadorna* sp., *Anas penelope*, *Pyrrhonorax pyrrhonorax*

Layer: Unstratified

Fauna: *Tadorna* sp., *Turdus pilaris*

Det: Sanchez-Marco

### SP 140 Carst de Prádena (Segovia)

Sources: Sanchez Marco 2002

Date: LP, Late IS 4

Fauna: *Tadorna ferruginea*

Det: Sanchez-Marco

### SP 141 Niño (Albacete)

Sources: Eastham 2001

Date: Late Upper Palaeolithic

Fauna: *Pyrrhonorax pyrrhonorax*

Det: Eastham  
Notes: Near Ayna

#### **SP 142 Cova Forada (Alicante)**

Sources: Eastham 2001  
Date: Early Würm, Mousterian  
Fauna: *Pyrrhocorax pyrrhocorax*  
Det: Eastham  
Notes: Near Oliva

#### **SP 143 Matutano (Castellón)**

Sources: Eastham 2001  
Layer: III  
Date: LP 14C=12,130 BP  
Fauna: *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*  
Layer: II  
Date: LP 14C=12,390 BP  
Fauna: *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*  
Det: Eastham  
Notes: In Sierra de las Alturas de les Contessas

#### **SP 144 Santa Catalina (Vizcaya)**

Type: c            Alt: 30  
Sources: Elorza 2003, 2005  
Date: LP LG-Early Holocene, Upper Magdalenian-Azilian 14C=9,100-12,400 BP  
Fauna: Gaviidae sp., Podicipedidae sp., *Sula bassana*, *Puffinus holeae*, *Puffinus olsoni*, Phalacrocoracidae, *Cygnus cygnus*, *Anser anser*, *Branta leucopsis*, *Tadorna* sp., *Anas acuta*, *Anas crecca*, *Anas platyrhynchos*, *Anas querquedula*, *Anas clypeata*, *Aythya ferina*, *Aythya fuligula*, *Somateria mollissima*, *Somateria spectabilis*, *Polysticta stelleri*, *Clangula hyemalis*, *Melanitta nigra*, *Melanitta fusca*, *Bucephala clangula*, *Mergus serrator*, Charadriidae, Scolopacidae, Sternidae sp., Laridae, Alcidae  
Det: Elorza  
Notes: 70 species in all

#### **SP 145 Cova Bolumini (Valencia)**

Type: c  
Sources: Tortosa et al. 2002  
Date: LP UP  
Fauna: *Alectoris rufa*

#### **SP 146 Cova de Blaus (Valencia)**

Type: c  
Sources: Villaverde et al. 1998  
Date: LP Magdalenian  
Fauna: *Alectoris rufa*

#### **SP 147 Cau d'en Borrás (Castellón)**

Type: c  
Alt: 140  
Sources: Sanchez-Marcó 2007a  
Date: MP (Mindel) - LP  
Fauna: *Tadorna ferruginea*, *Anas penelopa*, *Haliaeetus albicilla*, cf *Aegyptius monachus*, *Aquila chrysaetos*, *Falco* sp., *Falco naumanni*, *Falco tinnunculus/subbuteo*, *Alectoris rufa*, *Columba livia/oenas*, *Bubo bubo*.

*Athene noctua*, *Apus melba*, *Anthus spinoletta*, *Oenanthe oenanthe*, *Turdus* sp., *Turdus philomelos*, *Turdus* cf *viscivorus*, *Pica pica*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*, *Corvus monedula*, *Corvus corone*  
Det: Sanchez-Marco

#### **SP 148 El Muscle (Barcelona)**

Type: c  
Alt: 0  
Sources: Sanchez-Marco 2007b  
Date: MP/LP  
Fauna: *Alectoris/Perdix* sp., *Columba livia/oenas*, *Turdus viscivorus*, *Fringilla coelebs*, *Pica pica*, *Corvus* cf *antecorax*  
Det: Sanchez-Marco

#### **SP 149 Cau del Duc d'Ulla (Gerona)**

Type: c  
Alt: 250  
Sources: Sanchez-Marco 2007b  
Date: LP?  
Fauna: *Falco tinnunculus/subbuteo*, *Alectoris graeca/rufa*, *Bubo bubo*, *Apus* cf *apus*, cf *Nucifraga caryocatactes*, *Pyrrhocorax pyrrhocorax*, *Pyrrhocorax graculus*  
Det: Sanchez-Marco

### **SWEDEN**

#### **SV 9 Hässleberga (Skåne)**

Type: o  
Sources: Magnell, Liljegren & Ekström 1999  
Date LP LG Late Alleröd-Younger Dryas 14C=10,055-11,410 BP  
Fauna: *Anas platyrhynchos*  
Det: Liljegren?

### **SWITZERLAND**

#### **CH 30 Hauterive-Champréveyres (Neuchâtel)**

Type: o            Alt: 427  
Source: Morel, Leesch & Cattin 1998, Morel & Müller 1997  
Date: LP Late Magdalenien ca 13,000 BP  
Fauna: *Gavia arctica*, *Podiceps nigricollis*, *Cygnus cygnus*, Anatidae sp., *Aquila chrysaetos*, *Lagopus* sp.  
Det: Morel?

#### **CH 31 Monruz (Neuchâtel)**

Type: o            Alt: 428  
Source: Müller & Bullinger 2001  
Date: LP Magdalenian  
Fauna: *Lagopus* sp.

### **SYRIA**

#### **SY 3 Umm el Tlel**

Type: o  
Source: Griggo 1998,1999

Layer: VI2 a  
Date: LP Mousterian  
Fauna: *Struthio camelus*  
Layer: VI3 a'1  
Date: LP Mousterian  
Fauna: *Struthio camelus*  
Layer: VI3 b'  
Date: LP Mousterian, TL = 50,200±400, 55,800±400 BP  
Fauna: *Struthio camelus*  
Layer: VI3 b'1  
Date: LP Mousterian  
Fauna: *Struthio camelus*

## TURKEY

### TK 2 Karain Cave (SW Anatolia)

Type: c  
Source: Otte et al. 1998  
Date: LP/MP 10-350 KA BP  
Fauna: *Buteo rufinus?*, *Bubo bubo*, *Asio otus*

### TK 3 Dursunlu (Southern Anatolia)

Type: o  
Source: Louchart et al. 1998  
Date: EP MNQ 20 Middle Biharian, "Günz" ca 0.9-1.0 MA BP  
Fauna: *Tachybaptus ruficollis*, *Podiceps cristatus*, *Podiceps nigricollis*, *Podiceps* sp. nov., *Phalacrocorax* cf *carbo*, *Bubulcus ibis*, *Ardeola ralloides*, *Nycticorax nycticorax*, Ardeidae 2 spp., *Platalea leucorodia*, *Cygnus* sp. nov., *Anser anser*, *Anser* cf *erythropus*, *Tadorna ferruginea*, *Tadorna* sp., *Anas platyrhynchos* cf *palaeoboschas*, *Anas penelope*, *Anas crecca*, *Anas acuta*, *Anas querquedula*, *Anas* aff *clypeata*, *Marmaronetta angustirostris*, *Aythya ferina*, *Aythya nyroca*, *Aythya fuligula*, *Aythya* sp. nov., *Somateria* sp., *Bucephala* sp. nov., *Mergus albellus*, *Oxyura leucocephala*, Anatinae sp., Accipitridae sp., *Perdix palaeoperdix*, *Rallus aquaticus*, *Crex crex*, *Porzana porzana*, *Gallinula chloropus* ssp. nov., *Fulica atra*, Rallidae sp., *Tetrax tetrax*, Otididae sp., *Gallinago gallinago*, *Limosa limosa*, *Tringa nebularia*, Scolopacidae sp., *Larus canus*, *Larus ridibundus/melanocephalus*, Charadriiformes sp., *Turdus* cf *pilaris*, Fringillidae sp.  
Det: Louchart

### TK 4 Eskisehir ()

Alt: 60  
Type: o  
Source: (Gulec et al. 1999)  
Date: EP "Middle Villafranchian"  
Fauna: *Struthio* sp.  
Stored: MTA Ankara  
Notes: A. k. a. Yukari-Sögütözü

### TK 5 Üçağızlı I cave (Hatay)

Type: c  
Source: <http://web.arizona.edu/~hatayup/index.htm>  
Date: LP UP, c. 30-45 KA BP  
Fauna: *Alectoris chukar*, Accipitriformes

## TADZHIKISTAN

### TA 1 Ak-Chop Khrebet



Type: o  
Source: Mikhailov & Kurochkin 1988  
Date: LPI/EP  
Fauna *Struthio* sp.

## TURKMENISTAN

### TM 1 Tcheleken

Type: o  
Source: Dubrovo & Nigarov 1990  
Date: MP  
Fauna: *Anser* sp., *Anas* sp., *Francolinus* sp.  
Det: Kurochkin

### TM 2 Badkhyzskiy (Krasnovodsk peninsula)

Type: o  
Source: Mikhailov & Kurochkin 1988  
Date: EP  
Fauna: *Struthio* sp.

## UKRAINE

### UR 37 Emine-Bair-Khosar (SE Ukraine)

Type: c            Alt: 985  
Source: Gál 2005  
Date: LP, Middle-Late Valdai  
Fauna: *Falco peregrinus*, *Columba livia*, *Bubo bubo*, *Alauda arvensis*, *Pyrhacorax graculus*  
Det: Gál

## UNITED KINGDOM

### UK 75 Boxgrove (Sussex)

Type: o  
Source: Harrison & Stewart 1999, Stewart 1999  
Date: MP, Cromerian ca 500-600 KA BP (probably MIS 13)  
Layer: Quarry 1  
Fauna: cf *Cygnus cygnus*, *Anser anser*, *Anser* sp., *Anas platyrhynchos*, *Anas penelope*, cf *Anas querquedula*, *Anas crecca*, *Anas* sp., *Aythya fuligula*, *Bucephala clangula*, *Gallinula chloropus*, *Larus ridibundus*, cf *Rissa tridactyla*, *Strix aluco*  
Layer: Quarry 2  
Fauna: *Anas* sp., *Perdix perdix*, Scolopacidae/Charadriidae sp., *Pinguinus impennis*, *Apus apus*, cf *Erithacus rubecula*, cf *Prunella modularis*, *Sturnus/Turdus* sp.  
Det: Stewart & Harrison

### UK 76 East Farm, Barnham (Suffolk)

Type: o  
Source: Stewart 1998  
Date: MP (probably IS 11)  
Fauna: *Anas* sp., Anatidae sp., *Columba* cf *palumbus*, *Turdus* cf *philomelus/iliacus*, Passeriformes sp.  
Det: Stewart

### **UK 77 Elbolton Cave (Yorkshire)**

Type: c

Source: Chamberlain 2002

Layer: Lower Cave Earth

Date: LP, probably LG

Fauna: *Lagopus mutus*

Det: Raistrick

Stored: Craven Museum, Skipton, Cliffe Castle Museum, Department of Earth Sciences, University of Leeds

Note: A. k. a. Navvy Noodle Hole

### **UK 78 Lynford (Norfolk)**

Type: o

Source: Schreve 2006

Date: LP, Middle Devensian, 14C = >49,700-53,700 BP, OSL = 64,000-67,000 BP

Fauna: *Porzana* sp.

Det: Cooper

### **UK 79 Southfleet Road, Ebbsfleet (Kent)**

Type: o

Source: Wenban-Smith et al. 2006

Layer: Unit 3

Date: MP, IS 11

Fauna: Anatidae sp.

### **UK 80 Pontnewydd Cave (Clwyd)**

Type: c

Source: Eastham 2005

Date: MP/LP, 220-35 KA BP

Fauna: *Anser anser*, *Branta bernicla*, *Branta leucopsis*, *Anas platyrhynchos*, *Melanitta nigra*, *Mergus merganser*, *Mergus albellus*, *Oenanthe oenanthe*, *Parus major*, *Carduelis chloris*

Det: Eastham

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