# List of European fossil bird species

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Abstract. The list contains fossil bird species (316) and higher taxa included in the BRODKORB's Catalogue and those proposed later (at least 170). All systematic changes and synonymizations introduced after the publication of BRODKORB's work are indicated.

Key words: fossil birds, Europe, synonyms, systematic changes.

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### I. INTRODUCTION

In his "Catalogue of fossil birds" BRODKORB (1963, 1964, 1967, 1971, 1978) listed 292 fossil bird species from Europe and its islands and assigned them to higher taxonomic categories as well as other 24 species included in aves incertae sedis. He omitted a few taxa, perhaps by mistake, but since that time at least 170 new fossil bird species have been described to say nothing about many higher taxa (genera, families and even orders). Moreover, many species were synonymized and many taxa of various levels were moved to other higher groups than those in which they had previously been placed (some of them even several times) as a result of systematic revisions. All these changes make it hard to orient oneself in the systematics of fossil birds. The author hopes the present compilation will make it easier.

The starting point of the present paper was the list of fossil bird taxa described from Europe on the basis of bone and egg-shell remains, and presented in five parts of the BRODKORB's "Catalogue". In the present paper successive parts of the "Catalogue" are marked [Br.1], [Br.2], [Br.3], [Br.4] and [Br.5]. As far as possible the general order of taxa follows that used in particular parts of the "Catalogue". All later data (including species described after the publication of the "Catalogue", results of systematic studies and synonymizations) are based on original descriptions or on synthetic surveys of chosen groups of birds or faunas. The lack of such citations means that the species is listed on the basis of a paper containing its original description, there being no other data known about it. A citation following the information indicates other sources of information than the paper containing the original description or additional data from other countries.

As a rule, fossil subspecies are not listed in the present paper. They are mentioned only when, after being described as subspecies, they have been raised to the rank of species. Fossil taxa only signalized but not described as species are also omitted.

All systematic revisions and reshuffles made before the publication of particular parts of BRODKORB'S "Catalogue" are omitted here. All revisions and systematic changes introduced later

are noted. The list presented here is not a "critical" revue of systematic changes, so all reshuffles and synonymizations are treated in the same way, without being valued.

The data concerning each species are very short. They include its full latin name with the author's name and the year of description, geological age, country (or countries) from which the remains are known and the source of information, if necessary. The data end with remarks on the results of systematic revisions given in various types of brackets.

The following marks are used in the list of taxa:

- + before the name of a taxon points to its fossil (extinct) character;
- >> before the latin name taxon has been transferred to another group, to aves incertae sedis, synonymized with another taxon or recognized as a nomen nudum;
  - () in round brackets are mainly placed names of authors describing given taxa (if necessary);
- [] in square brackets are given sources of the data, citations, remarks and letter symbols of works comprising original descriptions of species;
- {} in braces are given synonyms, if the names used in particular parts of the BRODKORB'S "Catalogue" or proposed later have been synonymized.

A c k n o w l e d g m e n t s. I am greatly indebted to Dr Cécil Mourer-Chauviré of the Claude Bernard University, Lyon, for her very accurate review of my manuscript, and pointing out my mistakes. Dr Mourer-Chauviré corrected also a lot of datings, especially those of French localities, cited after Brodkorb; these corrections are not specially marked in the text. I am very grateful to Dr Per Ericson for explanations concerning Presbyornithidae. I thank also all Collegues Palaeontologists who sent me the reprints or data on newly described species.

### II. SYSTEMATIC PART

### + ARCHAEOPTERYGIFORMES

# + Archaeopterygidae

- +Archaeopteryx lithographica VON MEYER, 1861, Upper Jurassic, Germany [Br.1] {Syn.: +Jurapteryx recurva (Howgate, 1985) [Wellnhofer 1992]}
- +Archaeopteryx siemensii DAMES, 1897, Upper Jurassic, Germany [Br.1]
- +Archaeopteryx bavarica WELLNHOFER, 1993, Upper Jurassic, Germany [FEDUCCIA 1996] [JURCSAK & KESSLER (1987): Lower Cretaceous find of Archaeopteryx from Romania has been identified to generic level only]

# + EUORNITHIFORMES {Syn.: + IBEROMESORNITHIFORMES}

[Systematics of European Enantiornithes acc. to KUROCHKIN (1996)]

- + Concornithidae {MARTIN (1995): Iberomesornithidae}
- +Iberomesornis romerali Sanz et Bonaparte, 1992, Lower Cretaceous, Spain
- +Noguerornis gonzalezi LACASA RUIZ, 1989, Lower Cretaceous, Spain
- +Concornis lacustris SANZ et BUSCALIONI, 1992, Lower Cretaceous, Spain

# [Order and family within Enantiornithes not indicated]

+Eolulavis hoyasi Sanz, Chiappe, Perez-Moreno, Buscalioni, Moratalla, Ortega et Poyato-Ariza, 1996, Lower Cretaceous, Spain

# + PALAEOCURSORNITHIFORMES<sup>1</sup>

# + Cursornithidae {Syn.: + Palaeocursornithidae}

+Palaeocursornis biharicus KESSLER et JURCSÁK, 1986, Lower Cretaceous, Romania {Syn.: +Limnornis corneti KESSLER et JURCSÁK, 1984: pars [JURCSÁK & KESSLER 1988]} [KESSLER & GALL (1995): "is considered a bone of a penguin-like bird"]

### + REMIORNITHIFORMES

### + Remiornithidae

- +Remiornis heberti LEMOINE, 1881, Upper Paleocene, France [MOURER-CHAUVIRÉ 1996a] [Br.3: synonym of +Remiornis minor (LEMOINE, 1878)]
- +Remiornis minor (LEMOINE, 1878), Upper Paleocene, France [Br.3] {Syn: Gastornis minor LEMOINE, 1878 [MOURER-CHAUVIRÉ 1996a]} [MARTIN (1992): synonym of +Remiornis heberti LEMOINE, 1881]

### **STRUTHIONIFORMES**

#### + Eleutherornithidae

- >> +Eleutherornis helveticus SCHAUB, 1940, Middle Eocene, Switzerland [Br.1] [MLÍKOVSKÝ (1992): avis incertae sedis]
- >> +Saurornis matthesi FISCHER, 1967, Middle Eocene, Germany [Br.4] [MLÍKOVSKÝ (1992): mammal Lophiodon]
- +Proceriavis martini HARRISON et WALKER, 1979, Lower Oligocene, England [MLÍKOVSKÝ (1996f): ?Eleutherornithidae]

#### + Palaeotididae

+Palaeotis weigelti LAMBRECHT, 1928, Middle Eocene, Germany [Br.3; PETERS 1988; MLÍKOVSKÝ 1992]

{Syn.: +Palaeogrus geiseltalensis Lambrecht, 1935 [Cracraft 1973]

{Syn.: +Ornitocnemus geiseltalensis (Lambrecht, 1935) [Mlíkovský 1992]}

KESSLER & JURCSÁK (1986): PALAEOCURSORNITHIFORMES n.ord.

#### Cursornithidae n.fam.

Palaeocursornis n.g.

Palaeocursornis biharicus n.sp.

JURCSÁK & KESSLER (1987): order, family and genus not mentioned

[p.:586] Palaeocursornis biharicus KESSLER & JURCSÁK, 1985 (!)

[p.:587] Palaeocursornis biharicus KESSLER & JURCSÁK, 1986 (!)

JURCSÁK & KESSLER (1988): PALAEOCURSORNIFORMES (!)

#### Palaeocursornithidae

Palaeocursornis biharicus KESSLER & JURCSÁK, 1985 (!)

<sup>&</sup>lt;sup>1</sup>The names of taxa and the dates of description differ in successive papers by Jurcsák and Kessler. Names used in particular papers are as follows:

#### Struthionidae

Struthio +chersonensis (BRANDT, 1873) Lower Pliocene, Greece, The Ukraine [Br.1]

{Syn.: Struthio +pannonicus Kretzoi, 1953 [Mlíkovský 1992]}

Struthio +brachydactylus Burchak-Abramovich, 1939, Lower Pliocene, The Ukraine, [Burchak-Abramovich 1949]

[Br.1: synonym of *Struthio +chersonensis* (BRANDT, 1873); HOUDE (1988) and MOURER-CHAUVIRÉ (in litt.): valid species]

>> Struthio +pannonicus KRETZOI, 1953, "Lower Pleistocene" Upper Pliocene, Hungary [Br.1] [MLIKOVSKÝ (1992): synonym of Struthio +chersonensis (BRANDT, 1873)]

Struthio +orlovi KUROTCHKIN et LUNGU, 1970, Upper Miocene, Moldavia [Br.4]

### + LITHORNITHIFORMES

### + Lithornithidae

+Lithornis vulturinus OWEN, 1840, Lower Eocene, England [HOUDE (1988): moved from Cathartidae]

{Syn.: +Pediorallus barbarae HARRISON et WALKER, 1977 [HOUDE 1988]}

{Syn: +Promusophaga magnifica HARRISON et WALKER, 1977 [HOUDE 1988]}

+Lithornis nasi (HARRISON, 1984), Lower Eocene, England

{Syn.: +Pediorallus nasi HARRISON, 1984 [HOUDE 1988]}

[HOUDE (1988): moved from Rallidae; MLIKOVSKY (1996f): Rallidae]

+Lithornis hookeri (HARRISON, 1984), Lower Eocene, England

{Syn.: +Pediorallus hookeri HARRISON, 1984 [HOUDE 1988]}

{Syn.: +Pediorallus barbarae HARRISON et WALKER, 1977 (pars) [HOUDE 1988]}

[HOUDE (1988): moved from Rallidae; MLIKOVSKÝ (1996f): Rallidae]

+Lithornis plebius HOUDE, 1988, Lower Eocene, England

[HOUDE (1988): described from N.America; English specimen is putative]

+Pseudocrypturus cercanaxius HOUDE, 1988, Lower Eocene, England, N.America

# + LIMNORNITHIFORMES<sup>2</sup>

# + Limnornithidae {Syn.: + Eurolimnornithidae}

+Eurolimnornis corneti (KESSLER et JURCSÁK, 1984), Lower Cretaceous, Romania [JURCSÁK & KESSLER 1988]

{Syn.: +Limnornis corneti Kessler et Jurcsák, 1984: pars}

{Syn.: +Palaeolimnornis corneti (Kessler et Jurcsák, 1985)}

KESSLER & JURCSÁK (1984): LIMNORNITHIFORMES n.ord.

Limnornithidae new family

Limnornis new genus [name preoccupied]

Limnornis corneti new species

## KESSLER & JURCSÁK (1986): LIMNORNITHIFORMES

Eurolimnornithidae. Eurolimnornis corneti

(Syn.: Limnornis corneti Kessler et Jurcsák, 1984; Palaeolimnornis corneti Kessler et Jurcsák, 1985)

<sup>&</sup>lt;sup>2</sup>The names of taxa and the dates of description differ in successive papers by JURCSÁK and KESSLER. Names used in particular papers are as follows:

### **GAVIIFORMES**

#### >> + Enaliornithidae

>>+Enaliornis barretti SEELEY, 1869, Lower Cretaceous, England [Br.1]

>>+Enaliornis sedgwicki SEELEY,1869, Lower Cretaceous, England [Br.1] [OLSON (1985): not loons – to be restudied]

### Gaviidae

>>+Eupterornis remensis LEMOINE,1878, Upper Paleocene, France [Br.1] [OLSON (1985): not loon – to be restudied]

+Colymboides anglicus LYDEKKER, 1891, Upper Eocene, England [Br.1]

+Colymboides minutus MILNE-EDWARDS, 1867, Lower Miocene, France [Br.1], Czech Rep. [ŠVEC 1980]

Gavia +portisi (REGALIA, 1902), Middle Pliocene, Italy, [Br.1]

Gavia +paradoxa UMANSKAJA, 1981, Upper Miocene, The Ukraine

Gavia +egeriana ŠVEC, 1982, Lower Miocene, Czech Rep. [MLÍKOVSKÝ 1992]

Gavia +concinna WETMORE, 1940, Pliocene, Italy (cf.) [DELLE CAVE et al. 1984]

Gavia +moldavica KESSLER, 1984, Upper Miocene, Moldavia [MLÍKOVSKÝ 1996d]

### **PODICIPEDIFORMES**

### Podicipedidae

Podiceps +pisanus (PORTIS, 1889), Middle Pliocene, Italy [Br.1]

Podiceps +sociatus (NAVAS, 1922), Upper Miocene, Spain [OLSON 1995]

{Syn.: Thiornis sociata NAVAS, 1922, Rallidae [Br.3]}

Podiceps +miocaenus KESSLER, 1984, Upper Miocene, Moldavia [MLÍKOVSKÝ 1996d]

+Miobaptus walteri ŠVEC, 1982, Lower Miocene, Czech Rep. [MLÍKOVSKÝ 1992]

#### **PROCELLARIIFORMES**

#### + Diomedeoididae

+Diomedeoides minimus FISCHER, 1985, Middle Oligocene, Germany [MLÍKOVSKÝ 1992] Early Oligocene ? [MLÍKOVSKÝ & HESSE 1996]

### Diomedeidae

Diomedea +anglica Lydekker, 1891, Upper Pliocene, Lower Pleistocene, England [Br.1] Diomedea +rumana Grigorescu et Kessler, 1988, Upper Miocene, Romania

Continuation of footnote from p. 296.

Jurcsák & Kessler (1987): LIMNORNITHIFORMES n.ord.

Limnornithidae n.fam., Eurolimnornis n.gen.

Eurolimnornis corneti Kessler & Jurcsák, 1986 (but in figure caption on same page: "Eurolimnornis corneti Kessler et Jurcsák, 1984")

JURCSÁK & KESSLER (1988): LIMNORNITHIFORMES

Limnornithidae, Eurolimnornis

Eurolimnornis corneti KESSLER & JURCSÁK, 1986

### Procellariidae

Puffinus +raemdonckii (VAN BENEDEN, 1871), Middle Oligocene, Belgium [Br.1]

>> Puffinus +arvernensis MILNE-EDWARDS, 1871, [Br.1]

[MOURER-CHAUVIRÉ (1995b): moved to genus +Plotornis]

Puffinus +aquitanicus (MILNE-EDWARDS, 1874), Middle Miocene, France [Br.1]

Puffinus +antiquus (MILNE-EDWARDS, 1874), Middle Miocene, France [Br.1]

Puffinus +nestori ALCOVER, 1989, Upper Pliocene, Balearic Is

- +Plotornis delfortrii MILNE-EDWARDS, 1874, Middle Miocene, France [Br.1]
- +Plotornis arvernensis (MILNE-EDWARDS, 1871), Lower Miocene, France [MOURER-CHAUVIRÉ 1995b] {Syn.: Puffinus +arvernensis MILNE-EDWARDS, 1871 [Br.1]}
- +Frigidafons brodkorbi CHENEVAL, 1995, Lower Oligocene, Lower Miocene, France, Germany
- +Neptuniavis miranda HARRISON et WALKER, 1977, Lower Eocene, England
- +Neptuniavis minor HARRISON et WALKER, 1977, Lower Eocene, England

### Hydrobatidae

+Primodroma bournei HARRISON et WALKER, 1977, Lower Eocene, England

#### + Marinavidae

+Marinavis longirostris HARRISON et WALKER, 1977, Lower Eocene, England

### **PELECANIFORMES**

# + Elopterygidae

- +Elopteryx nopcsai ANDREWS, 1913, Upper Cretaceous, Romania [Br.1]
- >> +Argillornis emuinus (BOWERBANK, 1854) [Br.1]

[HARRISON & WALKER (1976a): moved to + Dasornithidae, + Odontopterygiformes]

+Eostega lebedinskyi LAMBRECHT, 1929, Middle Eocene, Romania [Br.1]

# >> + Graculavidae [Br.1]

[OLSON (1985) and OLSON & PARRIS (1987): moved to Charadriiformes]

#### Phalacrocoracidae

>> +Actiornis anglicus Lydekker, 1891 [Br.1]

[HARRISON & WALKER (1976b): moved to Threskiornithidae, Ciconiiformes]

Phalacrocorax + littoralis (MILNE-EDWARDS, 1863), Lower Miocene, France [Br.1]

>> Phalacrocorax +miocaenus MILNE-EDWARDS, 1867 [Br.1]

[CHENEVAL (1984b): moved to genus +Nectornis]

Phalacrocorax +intermedius (MILNE-EDWARDS, 1867), Upper Miocene, France [Br.1]

Phalacrocorax +brunhuberi (VON AMMON, 1918), Upper Miocene, Germany [BRODKORB 1980]

{Syn.: Phalacrocorax + praecarbo VON AMMON, 1918 [Br.1] [MLÍKOVSKÝ 1992]}

{Syn.: Ardea +brunhuberi von Ammon, 1918 [Br.1] [Brodkorb 1980]}

 $\{Syn.: + \textit{Botaurites avitus} \ von \ Ammon, \ 1918 \ [OLson \ 1985]\}$ 

Phalacrocorax +destefani REGALIA, 1902, Middle Pliocene, Italy [Br.1]

Phalacrocorax + lautus KUROTCHKIN et GANEA, 1972, Upper Miocene, Moldavia

*Phalacrocorax* +*serdicensis* BURCHAK-ABRAMOVICH et NIKOLOV, 1984, Upper Miocene, Bulgaria [BOEV 1992]

Phalacrocorax +ibericum VILLALTA, 1963, Upper Miocene, Spain [SANCHEZ MARCO 1996b]

+Nectornis miocaenus (MILNE-EDWARDS, 1867), Lower Miocene, France [CHENEVAL 1984b] {Syn.: Phalacrocorax +miocaenus MILNE-EDWARDS, 1867 [Br.1]}

+Pliocarbo longipes TUGARINOV, 1940, Lower Pliocene, The Ukraine [Br.1]

+Piscator tenuirostris HARRISON et WALKER, 1976[b], Upper Eocene, England {Syn.: +Ibidopsis hordwelliensis Lydekker, 1891: pars [HARRISON & WALKER 1976b]}

>> +Carbo risgoviensis FRAAS in ENGEL, 1908

[Br. 5; Mlíkovský (1992): Nomen Nudum]

## Anhingidae

Anhinga +pannonica (LAMBRECHT, 1916), "Lower Pliocene, Hungary" [Br.1] = Upper Miocene, Romania [KESSLER 1996]

### Sulidae

Sula +ronzoni MILNE-EDWARDS, 1867, Lower Oligocene, France [Br.1]

+ Empheresula arvernensis (MILNE-EDWARDS, 1867), Upper Oligocene, Lower Miocene?, France [MOURER-CHAUVIRÉ 1995b]

{Syn.: Sula +arvernensis MILNE-EDWARDS, 1867 [Br.1]}

{Syn.: +Parasula arvernensis (MILNE-EDWARDS, 1867) [HARRISON 1975]}

+Microsula pygmaea (MILNE-EDWARDS, 1874), Middle Miocene, France [Br.1]

+Sarmatosula dobrogensis GRIGORESCU et KESSLER, 1977, Upper Miocene, Romania

Morus +olsoni GRIGORESCU et KESSLER, 1988, Miocene, Romania

#### Phaethontidae

+Heliadornis paratethydicus MLÍKOVSKÝ, 1997[b], Late Miocene, Austria

>> +Prophaeton shrubsolei Andrews, 1899 [Br.1]

[Harrison & Walker (1977): moved to separate family + Prophaethontidae and order + Prophaethontiformes, however new family only was accepted by Olson (1985)]

# + Prophaethontidae

+Prophaethon shrubsolei Andrews, 1899, Lower Eocene, England [HARRISON & WALKER 1977]

# >> + Pelagornithidae

 $[Harrison\ \&\ Walker\ (1976a): family\ moved\ to+Odon top terygiformes]$ 

>> +Pelagornis miocaenus LARTET, 1857 [Br.1]

#### Pelecanidae

- +Protopelicanus cuvieri REICHENBACH, 1850, Upper Eocene, France [BRUNET 1970]
- +Miopelecanus gracilis (MILNE-EDWARDS, 1863), Lower Miocene, France[Mourer-Chauviré 1995b] {Syn.: Pelecanus +gracilis Milne-Edwards, 1863 [Br.1]}
- +Miopelecanus intermedius (FRAAS, 1870), Middle Miocene, Germany [MLÍKOVSKÝ 1992] {Syn.: Pelecanus +intermedius FRAAS, 1870 [Br.1]}

Pelecanus +fraasi Lydekker, 1891, Upper Miocene, Germany [Br.1]

Pelecanus +odessanus LAMBRECHT, 1933, Lower Pliocene, The Ukraine [Br.1]

### +ODONTOPTERYGIFORMES

[systematics acc.to HARRISON & WALKER (1976a)]

### + Odontopterygidae

- +Odontopteryx toliapica OWEN, 1873, Lower Oligocene, England [Br.1]
- +Macrodontopteryx oweni HARRISON et WALKER, 1976[a], Lower Oligocene, England

#### + Pseudodontornithidae

- +Pseudodontornis longirostris (SPULSKI, 1910), Miocene ??, Brazil or Germany [Br.1]
- +Pseudodontornis longidentata HARRISON et WALKER, 1976[a], Lower Oligocene, England
- +Pseudodontornis tenuirostris HARRISON, 1985, Lower Oligocene, England [MLÍKOVSKÝ 1996f]

#### + Dasornithidae

- +Dasornis londinensis OWEN, 1870, Lower Oligocene, England [HARRISON & WALKER (1976a): moved from +Gastornithidae, Ralliformes]
- +Argillornis emuinus (BOWERBANK, 1854), Lower Oligocene, England [HARRISON & WALKER (1976a): moved from +Elopterygidae, Pelecaniformes]
- +Argillornis longipennis OWEN, 1878, Lower Oligocene, England [HARRISON & WALKER 1976a] [Br.1: synonym of Argillornis emuinus (BOWERBANK, 1854)]

### + Pelagornithidae

+Pelagornis miocaenus LARTET, 1857, Middle Miocene, France [Br.1]

# CICONIIFORMES {Syn.: ARDEIFORMES auctorum}

## + Torotigidae

- +Gallornis straeleni LAMBRECHT, 1931, Lower Cretaceous, France [Br.1]
- +Parascaniornis stensioi LAMBRECHT, 1933, Upper Cretaceous, Sweden [Br.1]

### + Scaniornithidae

+Scaniornis lundgreni DAMES, 1890, Lower Paleocene, Sweden [Br.1]

## >> + Telmabatidae [Br.1]

[HARRISON & WALKER (1976b) moved the family together with its new genus *Haedonornis* to Anseriformes; FEDUCCIA & MCGREW (1974) synonymizes the type genus with +*Presbyornis* included in +Presbyornithidae, Anseriformes; acc. to OLSON (1985) the family belongs to "transitional" Charadriiformes; ERICSON (1997) confirmed the placement of +Presbyornithidae in Anseriformes]

# >> + Agnopteridae [Br.1]

[Brunet (1970): family moved to "suborder Phoenicopteri"]

# >> Phoenicopteridae and + Palaelodidae [Br.1]

[families moved to another order: Phoenicopteriformes]

# Threskiornithidae {Syn.: Plataleidae [Br.1]}

+Actiornis anglicus Lydekker, 1891, Upper ("Middle") Eocene, England [Harrison & Walker 1976b] {Syn.: +Elornis (?) anglicus Lydekker, 1891 [Br.1]}

{Syn.: + Ibidopsis hordwelliensis LYDEKKER, 1891 [Br.1]: pars}

[OLSON (1982, 1985): true affinities of +Actiornis anglicus are uncertain]

>> +Ibidopsis hordwelliensis LYDEKKER, 1891 [Br.1]

[HARRISON & WALKER (1976b): pars = +*Piscator tenuirostris*; pars = +*Actiornis anglicus*; pars moved to Rallidae, Ralliformes]

+Gigantibis incognita HARRISON et WALKER, 1976[b], Upper Eocene, England

{Syn.: +Agnopterus (?) hantoniensis Lydekker, 1891: pars}

+Ibidopodia palustris MILNE-EDWARDS, 1868, Lower Miocene, France [Br.1]

[CHENEVAL & ESCUILLIE (1992): pars (skull) = +Palaelodus ambiguus MILNE-EDWARDS, 1863]

Plegadis +paganus (MILNE-EDWARDS, 1868), Lower Miocene, France [MOURER-CHAUVIRÉ 1995b]

{Syn.: Eudocimus +paganus (MILNE-EDWARDS, 1868) [Br.1]}

{Syn.: Ibis +pagana MILNE-EDWARDS, 1868 [OLSON 1982]}

+Proplegadis fisheri Harrison et Walker, 1971, Lower Eocene, England [Harrison & Walker 1977]

{Syn.: + Halcyornis toliapicus (KONIG, 1825): pars}

+Rhynchaeites messelensis WITTICH, 1899, Middle Eocene, Germany [Br.3]

[OLSON (1985): moved from Scolopacidae]

{Syn.: +Plumumida lutetialis HOCH, 1980 [MLÍKOVSKÝ1992 after PETERS 1983]}

+Milnea gracilis LYDEKKER, 1891, Lower Miocene, France

[OLSON (1985 after CRACRAFT 1972): moved from Burhinidae, Charadriiformes]

### Ardeidae

>> +Proherodius oweni Lydekker, 1891 [Br.1]

[HARRISON (1979a): belongs to Presbyornithidae, Anseriformes]

+Proardea amissa (MILNE-EDWARDS, 1892), Upper Eocene/Upper Oligocene, France [Br.1]

>> +Ardeacites molassicus Haushalter, 1855 [Br.1]

[BRODKORB (1980): not a heron – avis incertae sedis]

+Proardeola walkeri HARRISON, 1979[a], Upper Oligocene/Upper Miocene, France

+Ardeagrandis arborea Kurotchkin et Ganea, 1972, Upper Miocene, Moldavia

>> +Botaurites avitus VON AMMON, 1918 [Br.1]

[OLSON (1985): synonym of *Phalacrocorax +brunhuberi*, Phalacrocoracidae, Pelecaniformes]

>> +Botaurites similis (FRAAS, 1870) [Br.1]

[OLSON (1985): most probably +Miophasianus altus, Phasianidae, Galliformes]

Ardea +aurelianensis MILNE-EDWARDS, 1871, Upper Miocene, France [Br.1]

Ardea +perplexa MILNE-EDWARDS, 1868, Upper Miocene, France [Br.1]

>> Ardea +brunhuberi VON AMMON, 1918 [Br.1]

[Brodkorb (1980): synonym of *Phalacrocorax +brunhuberi*, Phalacrocoracidae, Pelecaniformes]

>> Ardea +lignitum GIEBEL, 1860 [Br.1]

[Brodkorb (1980): synonym of Bubo +lignitum, Strigidae, Strigiformes]

>> Ardea +piveteaui BRUNET, 1970, Upper Eocene, France [Br.4]

[HARRISON (1979a): "is not a heron but is otherwise indeterminate" = avis incertae sedis]

>> Ardea +effosa Meyer, 1883, [Mlíkovský (1992): nomen nudum]

>> Ardea + latipes MEYER, 1883, [MLÍKOVSKÝ (1992): NOMEN NUDUM]

"Anas" +basaltica BAYER, 1883, Upper Oligocene, Czech Rep.

[MLÍKOVSKÝ & ŠVEC (1989): undetermined heron of Ardeini]

### Ciconiidae

- >> +Pelargopappus stehlini (GAILLARD, 1908) [Br.1]
  [MOURER-CHAUVIRÉ & CHENEVAL (1983): moved to Sagittariidae, Accipitriformes]
- >> +Pelargopappus trouessarti (GAILLARD, 1908) [Br.1]
  [MOURER-CHAUVIRÉ & CHENEVAL (1983): moved to Sagittariidae, Accipitriformes]
- >> +Pelargopappus magnus (MILNE-EDWARDS, 1868) [Br.1]
  - [MOURER-CHAUVIRÉ & CHENEVAL (1983): moved to Sagittariidae, Accipitriformes]
- >> +Propelargus cayluxensis LYDEKKER, 1891 [Br.1]

[MOURER-CHAUVIRÉ (1983): moved to +Idiornithidae, Gruiformes]

- +Grallavis edwardsi (LYDEKKER, 1891), Lower Miocene, France [CHENEVAL 1984a] {Syn.: +Propelargus edwardsi LYDEKKER, 1891 [Br.1]}
- +Amphipelargus majori Lydekker, 1891, Lower Pliocene, Greece: Samos I. [Br.1]

Ciconia + gaudryi LAMBRECHT, 1933, Lower Pliocene, Greece: Attica [Br.1]

Ciconia +sarmatica GRIGORESCU et KESSLER, 1977, Upper Miocene, Romania

Ciconia + stehlini JÁNOSSY, 1992, Lower Pleistocene, Hungary

- +Pelargosteon tothi KRETZOI, 1962, Lower Pleistocene, Romania [Br.1]
- >> Ibis +milneedwardsi (SHUFELDT, 1896) [Br.1]

[OLSON (1974): type specimen described as + Tantalus milne-edwardsi is synonym of + Miophasianus altus and moved to Phasianidae, Galliformes]

Leptoptilos +pliocenicus ZUBAREVA, 1948, Lower Pliocene, The Ukraine [Br.2]

"Cygnus" +bilinicus LAUBE, 1909, Lower Miocene, Czech Rep. [MLÍKOVSKÝ & ŠVEC 1989]

## Cathartidae {Syn.: Vulturidae auctorum}

[OLSON (1985): moved from Accipitriformes]

>> +Lithornis vulturinus OWEN, 1841 [Br.2] [HARRISON & WALKER (1977): in Threskiornithidae]

[HOUDE (1988): moved to + Lithornithiformes]

- >> +Eocathartes robustus LAMBRECHT, 1935, Middle Eocene, Germany [Br.2] [OLSON (1985): almost certainly not vulturid Bucerotidae?, Coraciiformes]
- +Oligocathartes olsoni HARRISON et WALKER, 1979, Lower Oligocene, England [MLÍKOVSKÝ 1966f]
- +Diatropornis ellioti (MLNE-EDWARDS, 1892), Upper Eocene/Oligocene, France [Br.2]
- +Plesiocathartes europaeus GAILLARD, 1908, Upper Eocene/Oligocene, France [Br.2]
- +Plesiocathartes (?) gaillardi Crusafont et Villalta, 1955, Lower Miocene, Spain [Sanchez Marco 1996b]
- >> +Teracus littoralis AYMARD, 1856, Lower Oligocene, France [Br.2] [MOURER-CHAUVIRÉ (1995b): avis incertae sedis]

#### **PHOENICOPTERIFORMES**

## Phoenicopteridae

>> +Elornis (?) anglicus Lydekker, 1891 [Br.1]

[HARRISON & WALKER (1976b): moved to Threskiornithidae, Ciconiiformes, as a synonym of *Actiornis anglicus*]

+Elornis littoralis MILNE-EDWARDS, 1868, Lower Oligocene, France [Br.1] [OLSON (1978): described by MILNE-EDWARDS and not by AYMARD (1856) as cited in Br.1]

+Elornis grandis MILNE-EDWARDS, 1870, Lower Oligocene, France [Br.1]

[OLSON (1978): described by MILNE-EDWARDS and not by AYMARD (1856) as cited in Br.1]

*Phoenicopterus* +*croizeti* GERVAIS, 1852, Oligocene, Lower Miocene, France, Germany [Br.1], Czech Rep. [ŠVEC 1981]

{Syn.: + Harrisonavis croizeti (GERVAIS, 1852) [ŠVEC 1981]}

+Juncitarsus merkeli PETERS, 1987[a], Middle Eocene, Germany

[Described in "Charadriiformes: Phoenicopteridae"]

### + Agnopteridae

>> +Agnopterus hantoniensis LYDEKKER, 1891 [Br.1]

[Harrison & Walker ((1976b): synonym of +*Haedonornis hantoniensis* (Lydekker, 1891), +Telmabatidae, next synonymized with + Presbyornithidae, Anseriformes]

+Agnopterus laurillardi MILNE-EDWARDS, 1868, Upper Eocene, France [Br.1]

### + Palaelodidae

+Megapaloelodus goliath (MILNE-EDWARDS, 1868), Lower Miocene, France, Germany [CHENE-VAL 1983b]

{Syn.: +Palaelodus goliath MILNE-EDWARDS, 1868 [Br.1]}

- +Palaelodus crassipes MILNE-EDWARDS, 1863, Lower Miocene, France [Br.1]; Czech Rep. [ŠVEC 1981]; Upper Oligocene, France [MOURER-CHAUVIRÉ 1995b]
- +Palaelodus ambiguus MILNE-EDWARDS, 1863, Lower Miocene, France, Germany [Br.1]; Czech Rep. [ŠVEC 1981]; Oligocene, France [MOURER-CHAUVIRÉ 1995b]

{Syn.: pars (skull) + *Ibidopodia palustris* MILNE-EDWARDS, 1868 [CHENEVAL & ESCUILLIE 1992]} {Syn.: pars (skull) + *Probalearica problematica* (MILNE-EDWARDS, 1871) [CHENEVAL & ESCUILLIE 1992]}

+Palaelodus gracilipes MILNE-EDWARDS, 1863, Lower Miocene, France, Germany [Br.1]; Czech Rep. [ŠVEC 1981]; Upper Oligocene, France [MOURER-CHAUVIRÉ 1995b]

 $\{Syn.:+\textit{Palaelodus minutus} \ Milne-Edwards, 1863 \ [Br.1] \ [Cheneval \ 1983b]\}$ 

>> +Palaelodus steinheimensis FRAAS, 1870, [Br.1]

[OLSON & FEDUCCIA (1980): big species of Anseriformes]

### **ANSERIFORMES**

# + Presbyornithidae {syn: + Telmabatidae}

[HARRISON & WALKER (1976b): moved from Ciconiiformes]

+Presbyornis hantoniensis (LYDEKKER, 1891) Upper Eocene, England [OLSON 1985]

{Syn.: +Agnopterus hantoniensis Lydekker, 1891 [Br.1]}

{Syn.: +Haedonornis hantoniensis (Lydekker, 1891) [Harrison & Walker 1976b]}

+Proherodius oweni Lydekker, 1891, Lower Eocene, England [Br.1] [Harrison (1979a): moved from Ardeidae]

#### Anatidae

- +Howardia eous HARRISON et WALKER, 1976[b], Upper Eocene, England {Syn.: +Colymboides anglicus LYDEKKER, 1891 [Br.1]: pars}
- +Romainvillia stehlini LEBEDINSKY, 1927, Upper Eocene, France [Br.2]
- +Cygnopterus affinis LAMBRECHT, 1931, Middle Oligocene, Belgium [Br.2]
- +Cygnopterus alphonsi Cheneval, 1984, Lower Miocene, France [Mourer-Chauviré 1995b]

+Paracygnopterus scotti HARRISON et WALKER, 1979, Lower Oligocene, England [MLÍKOVSKÝ 1996f]

+Cygnavus senckenbergi LAMBRECHT, 1931, Lower Miocene, Germany [Br.2]

Cygnus +herrenthalsi VAN BENEDEN, 1871, Middle ("Upper") Miocene, Belgium [Br.2]

Cygnus +falconeri PARKER 1865, Middle Pleistocene, Malta [Br.2]

*Cygnus* +*atavus* (FRAAS, 1870), Upper Miocene, Germany [MLÍKOVSKÝ 1992] {Syn.: *Anser* +*atavus* (FRAAS, 1870) [Br.2]}

Cygnus +equitum BATE, 1916, Middle Pleistocene, Malta [NORTHCOTE 1992] {Syn.: Anser +equitum (BATE, 1916) [Br.2]}

Olor +csakvarensis (LAMBRECHT, 1933), Upper Miocene, Hungary [MLÍKOVSKÝ 1992]

{Syn.: +Cygnanser csakvarensis (LAMBRECHT, 1933), "Lower Pliocene" [Br.2]}

+Chenornis graculoides PORTIS, 1884, Lower Miocene, Italy [Br.2]

Anser +scaldii (VAN BENEDEN, 1871), Middle ("Upper") Miocene, Belgium [Br.2]

>> Anser +atavus (FRAAS, 1870) [Br.2]

[MLÍKOVSKÝ (1992): moved to genus *Cygnus*]

Anser +cygniformis (FRAAS, 1870), Upper Miocene, Germany [Br.2]

Anser +oeningensis (MEYER, 1865), Upper Miocene, Germany [Br.2]

>> Anser +equitum (BATE, 1916), Middle Pleistocene, Malta [Br.2] [NORTHCOTE (1992): moved back to Cygnus]

Anser +subanser JÁNOSSY, 1983, Middle Pleistocene, Czech Rep.

Anser +thraciensis Burchak-Abramovich et Nikolov, 1984, Upper Miocene, Bulgaria [Boev 1992]

+Proanser major UMANSKAJA, 1979[a], Upper Miocene, The Ukraine

+Mionetta blanchardi (MILNE-EDWARDS, 1863), Lower Miocene, France [CHENEVAL 1983a; LIVEZEY & MARTIN 1988]; Upper Miocene, Romania [KESSLER 1992]

{Syn.: +Dendrochen blanchardi (MILNE-EDWARDS, 1863) [CHENEVAL 1983a; KESSLER 1992]

{Syn.: Anas +blanchardi MILNE-EDWARDS, 1863 [CHENEVAL 1983a]}

{Syn.: Anas +macroptera Milne-Edwards, 1871 [Cheneval 1983a]}

+*Mionetta consorbina* (MILNE-EDWARDS, 1867), Lower Miocene, France [CHENEVAL 1983a; LIVEZEY & MARTIN 1988]

{Syn.: +Dendrochen consorbina (MILNE-EDWARDS, 1867) [CHENEVAL 1983a]} {syn.: Anas +consorbina MILNE-EDWARDS, 1867}

+Mionetta natator (MILNE-EDWARDS, 1867), Lower Miocene, France, Germany, Czech Rep. [CHENEVAL 1983a; LIVEZEY & MARTIN 1988]; Upper Miocene, Moldavia [KESSLER 1992] {Syn.: +Dendrochen natator (MILNE-EDWARDS, 1867) [CHENEVAL 1983a; KESSLER 1992]}

{Syn.: Querquedula +natator (MILNE-EDWARDS, 1867)}

>> Somateria + gravipes HARRISON, 1979[b], Lower Pleistocene, England [MLÍKOVSKÝ (1982b): synonym of recent *S.mollissima*]

- +Anserobranta tarabukini Kurotchkin et Ganea, 1972, Upper Miocene, Moldavia [Kurotchkin & Ganea 1972]; Romania [Kessler 1992]
- +Anserobranta robusta (MILNE-EDWARDS, 1867), Upper Miocene, France [CHENEVAL 1987] {Syn.: Anas +robusta MILNE-EDWARDS, 1867}
- +Palaeopapia hamsteadiensis HARRISON et WALKER, 1979, Lower Oligocene, England [MLÍKOVSKÝ 1966f]

>> Anas +basaltica BAYER, 1883 [Br.2]

[MLÍKOVSKÝ & ŠVEC (1989)): moved to Ardeidae, Ciconiiformes]

>> Anas +skalicensis BAYER, 1883, Lower Miocene, Czech Rep. [Br.2]

[MLÍKOVSKÝ (1992): holotype undeterminable even to order level – avis incertae sedis]

>> Anas +blanchardi MILNE-EDWARDS, 1863 [Br.2]

[CHENEVAL (1983a): moved to genus + Dendrochen, next synonymized by LIVEZEY & MARTIN (1988) with + Mionetta]

>> Anas +consorbina MILNE-EDWARDS, 1867 [Br.2]

[CHENEVAL (1983a): moved to genus + Dendrochen, next synonymized by LIVEZEY & MARTIN (1988) with + Mionetta]

>>Anas +robusta Milne-Edwards, 1867, [Br.2]

[CHENEVAL (1983a): moved to genus + Dendrochen, next synonymized by LIVEZEY & MARTIN (1988) with + Mionetta]

>> Anas +isarensis LAMBRECHT, 1933 [Br.2]

[MLIKOVSKY (1992): moved to tribe Aythini]

Anas +sansaniensis MILNE-EDWARDS, 1867, Middle Miocene, France, Germany [Br.2]

>> Anas +risgoviensis VON AMMON, 1918, Upper Miocene, Germany [Br.2]

[CHENEVAL (1987): avis incertae sedis; MLÍKOVSKÝ (1992): almost NOMEN NUDUM]

Anas +lignifila PORTIS, 1884, Lower Pliocene, Italy [Br.2]

Anas +albae JANOSSY, 1979, Upper Miocene, Hungary [JÁNOSSY 1991]

>> Anas +submajor JÁNOSSY, 1979, Upper Pliocene, Hungary

[MLÍKOVSKÝ (1982a): synonym of recent Tadorna tadorna]

>> Querquedula +natator (MILNE-EDWARDS, 1867) [Br.2]

[CHENEVAL (1983a): moved to genus + Dendrochen, next synonymized by LIVEZEY & MARTIN (1988) with + Mionettal

Nettion +velox (MILNE-EDWARDS, 1867), Miocene, France, Czech Rep., Romania [Br.2] {Syn.: Anas +velox MILNE-EDWARDS, 1867 [KESSLER 1992]}

>> Nettion +eppelsheimense (Lambrecht, 1933) [Br.2]

[MLÍKOVSKÝ (1992): Anseridae (sic!) incertae sedis]

Nettapus +anatoides (DEPERET, 1892), Lower Pliocene, France [Br.2]

Aythya +arvernensis Lydekker, 1891, Lower Miocene, France [Br.2]

>> Aythya +meyerii (MILNE-EDWARDS, 1867), Upper Miocene, Germany [Br.2] [MLÍKOVSKÝ (1992): avis incertae sedis]

Aythya +aretina (PORTIS, 1889), Upper Pliocene, Italy [Br.2]

Aythya +sepulta (PORTIS, 1889), Upper Pliocene, Italy [Br.2]

Aythya +chauvirae Cheneval, 1987, Miocene MN6, France [Cheneval 1987]; Upper Miocene, Romania [Kessler 1992]

"Anas" +isarensis LAMBRECHT, 1933, Upper Miocene, Germany [MLÍKOVSKÝ 1992: Aythini incertae sedis]

>> Bucephala +angustipes JÁNOSSY, 1965, Lower Pleistocene, Germany, Czech Rep. [Br.3] [MLÍKOVSKÝ (1982b): synonym of recent Bucephala clangula]

Bucephala +cereti Boeuf et Mourer-Chauviré, 1992, Upper Pliocene, France

Mergus +connectens Jánossy, 1972, Lower Pleistocene, Czech Rep. [Jánossy 1972]; Romania [Jurcsák & Kessler 1988]

#### Anatidae incertae sedis

- Nettion +eppelsheimense (LAMBRECHT, 1933), Upper Miocene ("Lower Pliocene") Germany [MLÍKOVSKÝ 1992]
- +"Palaelodus" steinheimensis FRAAS, 1870, Upper Miocene, Germany [OLSON & FEDUCCIA (1980): big species of undetermined Anseriformes]

# ACCIPITRIFORMES {Syn.: FALCONIFORMES auctorum}

>> Vulturidae {Br.2: Cathartidae}

[OLSON (1985): whole family moved to Ciconiiformes]

### Sagittariidae

+*Pelargopappus schlosseri* (GAILLARD, 1908), Oligocene, France [MOURER-CHAUVIRÉ & CHENEVAL 1983]

{Syn.: +Amphiserpentarius schlosseri GAILLARD, 1908 [Br.2]}

{Syn.: +Pelargopappus stehlini (GAILLARD, 1908), Ciconiidae [Br.1]}

{Syn.: +Pelargopappus trouessarti (GAILLARD, 1908), Ciconiidae [Br.1]}

+*Pelargopappus magnus* (MILNE-EDWARDS, 1868), Lower Miocene, France [MOURER-CHAUVIRÉ & CHENEVAL 1983]

{Syn.: +Amphiserpentarius robustus (MILNE-EDWARDS, 1870) [Br.2]}

### Pandionidae

+Palaeocircus cuvieri MILNE-EDWARDS, 1871, Upper Eocene, France, England, Upper Eocene/Lower Oligocene, France [HARRISON & WALKER 1976b]

### Accipitridae

>> +Palaeocircus cuvieri MILNE-EDWARDS, 1871 [Br.2]

[HARRISON & WALKER (1976b after Brunet 1970): moved to Pandionidae]

- +Aquilavus hypogaeus (MILNE-EDWARDS, 1892), Upper Eocene/Oligocene, France [Br.2]
- +Aquilavus corroyi (GAILLARD, 1938), Upper Eocene/Oligocene, France [Br.2]
- +Aquilavus depredator (MILNE-EDWARDS, 1871), Lower Miocene, France [Br.2]
- +Aquilavus priscus (MILNE-EDWARDS, 1871), Lower Miocene, France, [Br.2]
- >> +Aquilavus bilinicus (LAUBE, 1909), Lower Miocene, Czech Rep. [Br.2]

[Br.5: avis incertae sedis; MLÍKOVSKÝ & ŠVEC (1989) moved it to Ciconiidae as "Cygnus" +bilinicus]

Buteo +pusillus BALLMANN, 1969, Middle Miocene, France [Br.4]

Hieraaetus +edwardsi (SHARPE, 1899), Middle Miocene, France [Br.2]

Haliaeetus +piscator MILNE-EDWARDS, 1871, Middle Miocene, France [Br.2]

Haliaetus +angusticeps Jánossy, 1983, Middle Pleistocene, Czech Rep.

Aquila +delphinensis GAILLARD, 1938, Middle Miocene, France [Br.2]

Aquila +pennatoides GAILLARD, 1938, Middle Miocene, France [Br.2]

+Messelastur gratulator PETERS, 1994, Middle Eocene, Germany

Milvus +deperditus MILNE-EDWARDS, 1871, Lower Miocene, France [Br.2]

Milvus +brachypterus JÁNOSSY, 1977, Lower Pleistocene, Hungary

- +Milvoides kempi Harrison et Walker, 1979, Middle Eocene, England [Mlíkovský 1996f]
- +Promilio incertus (GAILLARD, 1939), Lower Miocene, France [Br.2]; Moldavia [MLÍKOVSKÝ 1996d]

- +*Palaeohierax gervaisii* (MILNE-EDWARDS, 1863), Oligocene, Lower Miocene, France [Br.2; MOURER-CHAUVIRÉ 1995b]
- Gyps +melitensis Lydekker, 1890, Middle & Upper Pleistocene, Malta [Br.2]; France [Mourer-Chauviré 1975]; Crete [Weesie 1987]; Hungary [Jánossy 1977]; Austria [Jánossy 1974b]
- +Parvigyps praecox HARRISON et WALKER, 1977, Lower Eocene, England
- +Garganoaetus freudenthali BALLMANN, 1973, Upper Miocene, Italy
- +Garganoaetus murivorus BALLMANN, 1973, Upper Miocene, Italy

#### + Horusornithidae

+Horusornis vianeyliaudae MOURER-CHAUVIRÉ, 1991, Upper Eocene, France

#### **Falconidae**

>> Falco +pisanus PORTIS, 1887, Middle Pliocene, Italy, [Br.2]

[OLSON (1985): not a falcon – most probably Columbiformes]

Falco +antiquus Mourer-Chauviré, 1975, Middle Pleistocene, France [Mourer-Chauviré], 1975, Hungary [Jánossy 1977]

[JÁNOSSY (1977) evidently mentions this species, using by mistake the wrong name "Falco aff. atavus M.Chauviré, 1975" from the same period in Hungary]

Falco +medius UMANSKAJA, 1981, Upper Miocene, The Ukraine

- +Stintonornis mitcheli HARRISON, 1984, Lower Eocene, England [MLÍKOVSKÝ 1996f]
- +Parvulivenator watteli HARRISON, 1982 Lower Eocene, England [MLÍKOVSKÝ 1996f]

### **GALLIFORMES**

# >> Cracidae [Br.2]

[in Europe only the members of subfamily Gallinuloidinae next treated as family – MOURER-CHAUVIRÉ 1995b]

#### + Gallinuloididae

>> +Eortyx hoffmani (GERVAIS, 1852), [Br.2; Br.3]

[OLSON (1977): moved to Rallidae, Ralliformes]

- >> whole genus +*Palaeortyx* [Br.2] moved to Phasianidae [Br.3]
- >> +Ludiortyx blanchardi (MILNE-EDWARDS, 1869) [Br.2]

 $[OLSON\ (1977):\ moved\ to\ Rallidae,\ Ralliformes,\ as\ a\ synonym\ of\ +"Ludiortyx"\ (=Eortyx)\ hoffmani]$ 

- +Ludiortyx cayluxensis (LYDEKKER, 1891), Upper Eocene/Oligocene, France [Br.2]
- +Ludiortyx gaillardi (LAMBRECHT, 1933), Upper Eocene/Oligocene, France [Br.2]
- +Taoperdix pessieti (GERVAIS, 1862), Lower Oligocene, France [Br.2]
- +Taoperdix miocaena BALLMANN, 1966, Lower Miocene, Germany [Br.3]
- >> + Taoperdix gallica MILNE-EDWARDS, 1869 [Br.2]
- >> + Taoperdix brevipes MILNE-EDWARDS, 1869 [Br.2]
- >> +Taoperdix phasianoides MILNE-EDWARDS, 1869 [Br.2] [Br.3: moved these 3 species to +Palaeortyx, Phasianidae]
- >> +Filholornis gravis MILNE-EDWARDS, 1892 [Br.2]

[Mourer-Chauviré (1983): moved to +Idiornithidae, Ralliformes, and synonymized with +*Idiornis gallicus* (MILNE-EDWARDS, 1891)]

>> +Filholornis paradoxa MILNE-EDWARDS, 1892 [Br.2]

[MOURER-CHAUVIRÉ (1983): moved to +Idiornithidae, Ralliformes, and synonymized with +Elaphrocnemus phasianus MILNE-EDWARDS, 1891]

>> +Filholornis debilis MILNE-EDWARDS, 1892 [Br.2]

[MOURER-CHAUVIRÉ (1983): moved to +Idiornithidae, Ralliformes, and synonymized with +Elaphrocnemus phasianus MILNE-EDWARDS, 1891]

### + Paraortygidae

[Br.2 includes members of this family among +Gallinuloidinae]

- +Paraortyx lorteti GAILLARD, 1908, Upper Eocene-Lower Oligocene, France [Br.2]
- +*Paraortyx brancoi* GAILLARD, 1908, "Upper Eocene-Lower Oligocene", France [Br.2], Upper Eocene only [Mourer-Chauviré 1995b]
- +*Pirortyx major* (GAILLARD, 1938) "Upper Eocene-Lower Oligocene", France [Br.2], Upper Oligocene only [MOURER-CHAUVIRÉ 1995b]
- >> +Pirortyx depereti (GAILLARD, 1908) [Br.2]

[MOURER-CHAUVIRÉ (1992): moved to +Quercymegapodiidae]

### + Quercymegapodiidae

+Quercymegapodius depereti (GAILLARD, 1908), Upper Eocene, France [MOURER-CHAUVIRÉ 1995b]

{Syn.: +Pirortyx depereti (GAILLARD, 1908) [Br.2]}

+Quercymegapodius brodkorbi MOURER-CHAUVIRÉ, 1992, Upper Eocene, France [MOURER-CHAUVIRÉ 1995b]

#### >> Numididae

>> +Telecrex peregrinus MLÍKOVSKÝ, 1989[b]

[Mourer-Chauviré (1995b): synonym of +Elaphrocnemus phasianus Milne-Edwards, 1891, +Idiornithidae, Ralliformes]

#### Phasianidae

- +Schaubortyx kelticus (EASTMAN, 1905), Lower Oligocene, France [Br.2]
- +*Palaeortyx gallica* MILNE-EDWARDS, 1869, Oligocene, Lower Miocene, France [Br.3; MOURER-CHAUVIRÉ 1995b]; Upper Miocene, Spain cf. [CHENEVAL & ADROVER 1995]

{Syn.: + Taoperdix gallica MILNE-EDWARDS, 1869 [Br.2]}

+Palaeortyx brevipes MILNE-EDWARDS, 1869, Lower Miocene, France [Br.3; MOURER-CHAUVIRÉ 1995b]; Upper Miocene, Spain cf. [CHENEVAL & ADROVER 1995]

{Syn.: + Taoperdix brevipes MILNE-EDWARDS, 1869 [Br.2]}

+*Palaeortyx phasianoides* MILNE-EDWARDS, 1869, Lower Miocene, France [Br.3; MOURER-CHAUVIRÉ 1995b]; Czech Rep. [ŠVEC 1980]

{Syn.: + Taoperdix phasianoides MILNE-EDWARDS, 1869 [Br.2]}

+*Palaeortyx grivensis* Lydekker, 1893, Middle Miocene, France, Italy [Br.2]; Pliocene, Romania [Jurcsák & Kessler 1988]

{Syn.: +Plioperdix grivensis (Lydekker, 1893) [Ballmann 1973]}

{Syn.?: +Palaeortyx depereti Ennouchi, 1930 [Ballmann 1973]}

{Syn.?: +Plioperdix depereti (Ennouchi, 1930) [Ballmann 1973]}

- >> +Palaeortyx media MILNE-EDWARDS, 1869, Lower Miocene, France [Br.3] [MOURER-CHAUVIRÉ (1995b): NOMEN NUDUM]
- +*Palaeortyx intermedia* BALLMANN, 1966, Middle Miocene, Germany, Upper Oligocene and Lower Miocene, France [Br.3]; Pliocene, Romania [KESSLER 1984]

[JURCSÁK & KESSLER (1988): as Cracidae]

- +Palaeoperdix longipes MILNE-EDWARDS, 1869, Middle Miocene, France [Br.2]
- +Palaeoperdix priscus MILNE-EDWARDS, 1869, Middle Miocene, France [Br.2]; Czech Rep. [ŠVEC 1980]
- +Palaeoperdix sansaniensis MILNE-EDWARDS, 1869, Middle Miocene, France [Br.2]
- >> +Palaeoperdix edwardsi (Deperet, 1887) [Br.2]

[Ballmann (1969): moved to +Palaeocryptonyx]

- +Miophasianus desnoyersi (MILNE-EDWARDS, 1869), Miocene, France [Br.2]
- +Miophasianus medius (MILNE-EDWARDS, 1869), Middle Miocene, France [Br.2]; Middle Miocene, Poland [BOCHEŃSKI 1987]
- +Miophasianus altus (MILNE-EDWARDS, 1869), Middle Miocene, France, Germany, Switzerland [Br.2]

{Syn.:+Miophasianus augustus (VON AMMON, 1918) [Bocheński 1987]}

{Syn.: *Ibis +milneedwardsi* (SHUFELDT, 1896), described as + *Tantalus milne-edwardsi* SHUFELDT, 1896, [OLSON 1974]}

{Syn.?: +Botaurites similis (FRAAS, 1870) [OLSON 1985]}

>> +Miophasianus augustus (VON AMMON, 1918) [Br.2]

[BOCHEŃSKI (1987): synonym of +Miophasianus altus (MILNE-EDWARDS, 1869)]

- +Miophasianus maximus (Lydekker, 1891), Middle Miocene, France [Br.2; Mlíkovský 1992]
- +Miogallus longaevus (VON AMMON, 1918), Upper Miocene, Germany [Br.2]
- >> +Proalector miocaenus (GAILLARD, 1938) [Br.2]

[Ballmann (1969): syn. of +Palaeocryptonyx edwardsi (Deperet, 1887)]

>> +Proalector gaillardi (ENNOUCHI, 1930) [Br.2]

[Ballmann (1969): syn. of +Palaeocryptonyx edwardsi (Deperet,1887)]

- +Palaeocryptonyx grivensis Ennouchi, 1930, Middle Miocene, France [Br.2]
- +*Palaeocryptonyx donnezani* DEPERET, 1892, Lower Pliocene, France [Br.2]; Czech Rep.[MLÍKOVSKÝ 1996g]
- +Palaeocryptonyx hungaricus JÁNOSSY, 1991, Upper Miocene, Hungary
- +*Palaeocryptonyx edwardsi* (DEPERET,1887), Middle Miocene, France [BALLMANN 1969]; ? Spain [SANCHEZ MARCO 1996b]

{Syn.: +Palaeoperdix edwardsi (Deperet, 1887) [Ballmann 1969]}

{Syn.: +Proalector miocaenus (GAILLARD, 1938) [BALLMANN 1969]}

{Syn.: +Proalector gaillardi (Ennouchi, 1930) [Ballmann 1969]}

{Syn.: +Palaeortyx miocaena GAILLARD, 1938 [SANCHEZ MARCO 1996b]}

>> +Plioperdix grivensis (Lydekker, 1893) [Br.2]

[BALLMANN (1973): moved back to *Palaeortyx*]

>> +Plioperdix depereti (ENNOUCHI, 1930) [Br.2]

 $[Ballmann\ (1973): synonym\ (?)\ of\ \textit{Palaeortyx}\ grivensis\ Lydekker,\ 1893]$ 

+Plioperdix joleaudi (Ennouchi, 1930), Middle Miocene, France [Br.2]

+Plioperdix ponticus (TUGARINOV, 1940), Lower ("Upper") Pliocene, The Ukraine, Moldavia [BOCHEŃSKI & KUROCHKIN (1987)]

{Syn.: +Ammoperdix ponticus (TUGARINOV, 1940) [Br.2]}

{Syn.: +Plioperdix coturnoides (Tugarinov, 1940), [Br.2]}

{Syn.: Francolinus + minor Jánossy, 1974 [MLÍKOVSKÝ 1995]}

{Syn.: Francolinus +wenzensis JÁNOSSY,1974: pars [MLÍKOVSKÝ 1995]}

+*Plioperdix capeki* (LAMBECHT, 1933), Lower Pliocene to Lower Pleistocene, Romania, Germany [LAMBECHT, 1933]; Hungary, Czech Rep., Poland, Germany [JÁNOSSY 1972, 1974a, 1976b, 1981; MLÍKOVSKÝ 1995]

{Syn.: Francolinus +capeki LAMBECHT, 1933, [Br.2; JÁNOSSY 1974a]}

{Syn.: Francolinus +wenzensis JANOSSY,1974: pars [MLÍKOVSKÝ 1995]}

+*Plioperdix* +*subfrancolinus* (JÁNOSSY, 1976), Upper Pliocene to Lower Pleistocene, Hungary, Czech Rep. [JÁNOSSY 1976b, MLÍKOVSKÝ 1995]

{Syn.: Francolinus + subfrancolinus Jánossy, 1976 [Mlíkovský 1995]}

>> Francolinus +capeki Lambecht, 1933, [Br.2; Jánossy 1974a]

[MLÍKOVSKÝ (1995): syn. of +Plioperdix capeki (LAMBECHT, 1933)]

>> Francolinus +wenzensis JÁNOSSY, 1974[a]

[JÁNOSSY (1981): changed rank of F.capeki wenzensis]

[MLÍKOVSKÝ (1995): syn. of +*Plioperdix ponticus* (TUGARINOV, 1940) pars; and +*Plioperdix cape-ki* (LAMBECHT, 1933) pars]

>> Francolinus +minor JÁNOSSY, 1974[a], Upper Pliocene, Poland,

[MLÍKOVSKÝ (1995): syn. of +Plioperdix ponticus (TUGARINOV, 1940)]

>> Francolinus +subfrancolinus JANOSSY, 1976

[MLÍKOVSKÝ (1995): synonym of +Plioperdix subfrancolinus (JÁNOSSY, 1976)]

Alectoris +pliocaenica TUGARINOV, 1940, Lower Pliocene, The Ukraine [Br.2]

Alectoris +bavarica BALLMANN, 1969, Lower Miocene, Germany [Br.3; MLÍKOVSKÝ 1992]

>> Gallus +aesculapi GAUDRY, 1862 [Br.2]

[JÁNOSSY (1991): synonym of Pavo +aesculapi (GAUDRY, 1862)]

Gallus +beremendensis JÁNOSSY, 1976, Upper Pliocene, Hungary [MLÍKOVSKÝ 1992]

Gallus +europaeus HARRISON, 1978, Middle Pleistocene, England

>> Gallus +steinheimensis Fraas, 1908, [Br.5: NOMEN NUDUM]

Pavo +bravardi (GERVAIS, 1849), Lower and Upper Pliocene, France, Moldavia [MOURER-CHAUVIRÉ 1989]

{Syn.: Gallus +bravardi GERVAIS, 1844 [Br.2]}

{Syn.: Pavo +moldavicus Bocheński et Kurochkin, 1987}

Pavo +aesculapi (GAUDRY, 1862), Lower Pliocene, Greece, The Ukraine; Upper Miocene, Hungary: Pavo +aesculapi phasianoides JÁNOSSY, 1991 [JÁNOSSY 1991]

{Syn.: Gallus +aesculapi GAUDRY, 1862 [JÁNOSSY, 1991]}

Phasianus +archiaci GAUDRY, 1862, Lower Pliocene, Greece [Br.2]

Phasianus + etuliensis Bocheński et Kurochkin, 1987[a], Lower ("Upper") Pliocene, Moldavia

>> +Pliogallus crassipes GAILLARD, 1939 [Br.2]

[JÁNOSSY (1976b): synonym of recent Gallus gallus]

>> +Pliogallus kormosi GAILLARD, 1939 [Br.2]

[JÁNOSSY (1976b): synonym of recent Gallus gallus]

Perdix +jurcsaki Kretzoi, 1962, Lower Pleistocene, Romania [Br.2]

- Perdix +palaeoperdix Mourer-Chauviré, 1975, Middle Pleistocene, France [Mourer-Chauviré 1975]; Spain [Sanchez Marco 1987]
- ?Coturnix +miocaena VILLALTA, 1963, Upper Miocene, Spain [SANCHEZ MARCO 1996b]
- +Coturnipes cooperi HARRISON et WALKER, 1977, Lower Eocene, England
- +Argillipes aurorum HARRISON et WALKER, 1977, Lower Eocene, England
- +Argillipes paralectoris HARRISON et WALKER, 1977, Lower Eocene, England
- +Argillipes magnus HARRISON et WALKER, 1979, Lower Oligocene, England [MLÍKOVSKÝ 1996f]
- +Percolinus venablesi HARRISON et WALKER, 1977, Lower Eocene, England
- +Percolinus proudlocki HARRISON et WALKER, 1979, Middle Eocene, England [MLÍKOVSKÝ 1996f]
- +Litoripes medius HARRISON et WALKER, 1979, Middle Eocene, England [MLÍKOVSKÝ 1996f]
- Tetrao +partium (KRETZOI, 1962), Lower Pleistocene, Romania [Br.2]; Hungary [JÁNOSSY 1976a]; Austria [JÁNOSSY 1974b]
- Tetrao + praeurogallus JÁNOSSY, 1969, Lower-Middle Pleistocene, Hungary, Poland [Bocheński 1991]; France [Mourer-Chauviré 1975]; Romania [JURCSÁΚ & KESSLER 1988]
- Tetrao +conjugens JÁNOSSY, 1974, Pliocene, Poland, Hungary [BOCHEŃSKI 1991]

Tetrao + macropus JÁNOSSY, 1976, Lower Pliocene, Hungary

Lagopus +atavus JANOSSY, 1974, Upper Pliocene, Poland [BOCHEŃSKI 1991]

Lagopus +balcanicus BOEV, 1995, Upper Pliocene, Bulgaria

Bonasa +praebonasia (JÁNOSSY, 1974[b]), Middle Pleistocene, Hungary, France, Poland {Syn.: Tetrastes +praebonasia JANOSSY, 1974[b]}

## RALLIFORMES {Syn.: GRUIFORMES auctorum}

#### Rallidae

- +*Ibidopsis hordwelliensis* LYDEKKER, 1891, Upper Eocene, England [HARRISON & WALKER (1976b): moved from Threskiornithidae]
- +"Ludiortyx" hoffmanni (GERVAIS, 1852), Upper Eocene, France [OLSON 1977] {Syn.: +Eortyx hoffmani (GERVAIS, 1852) [Br.3]}

{Syn.:+Ludiortyx blanchardi (MILNE-EDWARDS, 1869) [Br.2]}

- +"Ludiortyx" adelus (OBERHOLSER, 1917), Upper Eocene, France [OLSON 1977] {Syn.: +Quercyrallus ludianus Brodkorb, 1963, [Br.3]}
- >> +Gypsornis cuvieri MILNE-EDWARDS, 1869, Upper Eocene, France [Br.3] [CRACRAFT (1973): moved to +Idiornithidae]
- >> +Quercyrallus ludianus BRODKORB, 1963 [Br.3] [OLSON (1977): synonym of +"Ludiortyx" adelus (OBERHOLSER, 1917)]
- +Quercyrallus arenarius (MILNE-EDWARDS, 1892), Upper Eocene/Oligocene, France [Br.3]
- +Quercyrallus dasypus (MILNE-EDWARDS, 1892), Upper Eocene/Oligocene, France [Br.3]
- +Quercyrallus quercy Cracraft, 1973, Eocene/Oligocene, France [Mourer-Chauviré 1995b]
- +Rallicrex kolozsvarensis LAMBRECHT, 1933, Upper Oligocene, Romania [Br.3]
- +Rallicrex polgardensis JÁNOSSY, 1991, Upper Miocene, Hungary
- +Palaeoaramides christyi (MILNE-EDWARDS, 1869) Lower Miocene, France [Br.3] {Syn.: +Palaeoaramides eximius (MILNE-EDWARDS, 1869) [OLSON 1977]}
- +Palaeoaramides beaumonti (MILNE-EDWARDS, 1869), Upper Miocene, France [OLSON 1977] {Syn.: +Pararallus beaumonti (MILNE-EDWARDS, 1869) [Br.3]}

{Syn.: +Tertiariaporphyrula beaumonti (MILNE-EDWARDS, 1869)}

- +Palaeoaramides lungi (KUROTCHKIN et GANEA, 1972), Upper Miocene, Moldavia [OLSON 1977] {Syn.: +Tertiariaporphyrula lungi KUROTCHKIN et GANEA, 1972}
- +Palaeoaramides minutus CRARAFT, 1973, Middle Miocene, France [CHENEVAL 1996b]
- +*Paraortygometra porzanoides* (MILNE-EDWARDS, 1869), Lower Miocene, France [Br.3]; Upper Miocene, Spain [CHENEVAL & ADROVER 1995]
- >> +Pararallus beaumonti (MILNE-EDWARDS, 1869) [Br.3]

[OLSON (1977): moved to +Palaeoaramides]

- +Pararallus dispar (MILNE-EDWARDS, 1869), Middle Miocene, France [Br.3]
- >> +Pararallus hassenkampi MARTINI, 1967, Lower Oligocene, Germany [Br.4] [MLÍKOVSKÝ (1992): not a rallid; MLÍKOVSKÝ & HESSE (1996): Psittacidae, Psittaciformes]
- +Microrallus fejfari ŠVEC, 1983, Lower Miocene, Czech Rep. [MLÍKOVSKÝ 1992]
- +Montirallus gypsorum (GERVAIS, 1844), Upper Eocene, France [OLSON (1985 after MLÍKOVSKÝ 1981)]

{Syn.: Limosa +gypsorum (GERVAIS, 1844) [Br.3]}

Rallus +dubius PORTIS, 1887, Lower Pliocene, Italy [Br.3]

Rallus +richmondi Olson, 1977, Upper Miocene, Italy [Delle Cave 1996]

- +Parvirallus gracilis HARRISON et WALKER, 1979, Middle Eocene, England,
- +Parvirallus bassetti HARRISON, 1984, Lower Eocene, England [MLÍKOVSKÝ 1996f]
- +Parvirallus medius HARRISON, 1984, Lower Eocene, England [MLÍKOVSKÝ 1996f]
- +Parvirallus gassoni HARRISON, 1984, Lower Eocene, England [MLÍKOVSKÝ 1996f]
- >> +Pediorallus barbarae Harrison et Walker, 1977

[HOUDE (1988): moved to +Lithornithiformes]

>> +Pediorallus hookeri Harrison, 1984 [MLÍKOVSKÝ 1996f]

[HOUDE (1988): moved to +Lithornithiformes]

>> +Pediorallus nasi Harrison, 1984 [MLÍKOVSKÝ 1996f]

[HOUDE (1988): moved to +Lithornithiformes]

- >> Porzana +estramosi JÁNOSSY, 1979, Lower Pliocene, Hungary [JÁNOSSY 1991] [MLÍKOVSKÝ (1992): avis incertae sedis]
- +Miorallus major (MILNE-EDWARDS, 1869), Middle Miocene, France [Br.3]
- +Latipons gardneri HARRISON et WALKER, 1979, Middle Eocene, England [MLÍKOVSKÝ 1996f]
- +Latipons robinsoni Harrison et Walker, 1979, Middle Eocene, England [Mlíkovský 1996f]
- >> +Thiornis sociata NAVAS, 1922 [Br.3]

[OLSON (1995): moved to Podicipedidae, Podicipediformes]

Gallinula +gigantea TCHERNOV, 1980, Lower Pleistocene, Czech Rep. [MLÍKOVSKÝ 1995]

+Miofulica dejardinii (VAN BENEDEN, 1872), Lower Miocene, Belgium [Br.3]

### + Idiornithidae

[MOURER-CHAUVIRE (1983) places this family in suborder Cariamae]

+Idiornis gallicus (MILNE-EDWARDS, 1891), Upper Eocene/Oligocene, France [Br.3]

{Syn.: +Filholornis gravis MILNE-EDWARDS, 1892 [MOURER-CHAUVIRÉ 1983]}

+*Idiornis cursor* (MILNE-EDWARDS, 1891), "Upper Eocene/Oligocene", France [Br.3], Oligocene only [MOURER-CHAUVIRÉ 1983]

{Syn.: + Idiornis major (MILNE-EDWARDS, 1891) [Br.3]}

+Idiornis gaillardi CRACRAFT, 1973, Eocene, France [MOURER-CHAUVIRÉ 1983]

- + Idiornis gracilis (MILNE-EDWARDS, 1892), Oligocene, France [MOURER-CHAUVIRÉ 1983] {Syn.: + Elaphrocnemus gracilis MILNE-EDWARDS, 1892 [Br.3; CRACRAFT 1973]}
- >> +Idiornis major (MILNE-EDWARDS, 1892) [Br.3]

[Br.3 moved *Orthocnemus major* MILNE-EDWARDS, 1892, to the genus +*Idiornis*, whereas MOU-RER-CHAUVIRÉ (1983) synonymized it with +*Idiornis cursor* (MILNE-EDWARDS, 1892)]

>> +Idiornis minor (MILNE-EDWARDS, 1892), Upper Eocene/Oligocene, France, [Br.3] [MOURER-CHAUVIRÉ (1983): synonym of +Elaphrocnemus phasianus MILNE-EDWARDS, 1892]

- +Idiornis itardiensis MOURER-CHAUVIRÉ, 1983, Oligocene, France
- +Idiornis tuberculata PETERS, 1995, Middle Eocene, Germany
- +*Elaphrocnemus phasianus* MILNE-EDWARDS, 1802, Upper Eocene/Lower Oligocene, France [Br.3; MOURER-CHAUVIRÉ 1983, 1995b]

{Syn.: +Filholornis paradoxa MILNE-EDWARDS, 1892}

{Syn.: +Filholornis debilis MILNE-EDWARDS, 1892}

{Syn.: +Telecrex peregrinus MLÍKOVSKÝ, 1989}

{Syn.: + Elaphrocnemus gracilis MILNE-EDWARDS, 1892}

{Syn.: + Idiornis minor (MILNE-EDWARDS, 1892)}

- >> +Elaphrocnemus gracilis MILNE-EDWARDS, 1892 [Br.3] [MOURER-CHAUVIRÉ (1983): synonym of +E. phasianus MILNE-EDWARDS, 1892]
- +*Elaphrocnemus crex* MILNE-EDWARDS, 1892, "Upper Eocene/Oligocene", France [Br.3], Oligocene only [Mourer-Chauviré 1983]
- +*Elaphrocnemus brodkorbi* MOURER-CHAUVIRÉ, 1983, Upper Eocene/ Oligocene, France {Syn.: +*Elaphrocnemus crex* MILNE-EDWARDS, 1892 (pars)}
- +*Propelargus cayluxensis* LYDEKKER, 1891, Upper Eocene/Upper Oligocene, France [MOURER-CHAUVIRÉ 1983]
- + Occitaniavis elatus MILNE-EDWARDS, 1892, Upper Eocene/Upper Oligocene, France [MOURER-CHAUVIRÉ 1983]

{Syn.: + Geranopsis elatus MILNE-EDWARDS, 1892 [Br.3]}

- +Oblitavis insolitus Mourer-Chauviré, 1983, Upper Eocene/Upper Oligocene, France [Mourer-Chauviré 1983]
- >>+Gypsornis cuvieri MILNE-EDWARDS, 1869, Upper Eocene, France [CRACRAFT 1973] [OLSON (1977 after 1974): mistake closer to modern Psophiidae]

### + Gastornithidae

 $[Martin\ (1992)\ changed\ the\ rank\ of\ family\ to\ that\ of\ order]$ 

>> +Remiornis minor (LEMOINE, 1878) [Br.3]

[MARTIN (1992): moved to order + Remiornithiformes]

>> +Remiornis heberti Lemoine, 1881 [Mourer-Chauviré 1996a]

[Br.3: synonym of +Remiornis minor (LEMOINE, 1878)]

[MARTIN (1992): moved to order + Remiornithiformes]

+Gastornis parisiensis HÉBERT, 1855, Upper Paleocene, France, Germany, Belgium [Br.3; MARTIN 1992]

{Syn.: +Gastornis edwardsii Lemoine, 1878 [Br.3]}

+Gastornis klaasseni E.T.NEWTON, 1886, Lower Eocene, England [HARRISON & WALKER 1977] [Br.3: synonym of +Gastornis parisiensis]

- +Gastornis russelli MARTIN, 1992, Upper Paleocene, France
- >> +Dasornis londinensis OWEN, 1869 [Br.3]

[HARRISON & WALKER (1976a): moved to +Dasornithidae, +Odontopterygiformes]

### + Diatrymidae

- +Diatryma sarrasini SCHAUB, 1929, Lower Eocene, France [Br.3]
- +Diatryma cotei GAILLARD, 1936, Middle Eocene, France, Germany [Br.3]
- +Diatryma geiselensis FISCHER, 1978, Middle Eocene, Germany [MLÍKOVSKÝ 1992]
- +Diatryma steini MATTHEW et GRANGER, 1917, Eocene, Germany [BERG 1965]

### + Messelornithidae

- +Messelornis cristata HESSE, 1988, Middle Eocene, Germany [HESSE 1990]
- +Messelornis russelli Mourer-Chauviré, 1995[a], Paleocene, France
- + Hardiornis hessae Mourer-Chauviré, 1995[a], Eocene/Oligocene, France

### Gruidae

>> +Ornitocnemus geiseltalensis (LAMBRECHT,1935) [Br.3]

[MLIKOVSKY (1992): synonym of +Palaeotis weigelti, Struthioniformes]

+Palaeogrus princeps PORTIS, 1885, Middle Eocene, Italy [CRACRAFT 1973]

{Syn.: +Ornitocnemus robustus ZIGNO, 1876 [Br.3]}

[Nomenclatoric confusion explained by CRACRAFT (1973)]

+Palaeogrus hordwelliensis (LYDEKKER, 1891), Upper Eocene, England [HARRISON & WALKER 1976b]

{Syn.: +Ornitocnemus hordwelliensis (LYDEKKER, 1891) [Br.3]}

- +*Palaeogrus excelsus* (MILNE-EDWARDS, 1871), Lower Miocene, France [MOURER-CHAUVIRÉ 1995b] {syn.: +*Ornitocnemus excelsus* (MILNE-EDWARDS, 1871) [Br.3]}
- +Geranopsis hastingsiae Lydekker, 1891, Upper Eocene, England [Br.3]
- >> +Geranopsis elatus MILNE-EDWARDS, 1892 [Br.3]

[MOURER-CHAUVIRÉ (1983): moved to Idiornithidae]

+*Probalearica problematica* (MILNE-EDWARDS, 1871), Upper Oliogocene, Lower Miocene, France [Br.3; MOURER-CHAUVIRÉ 1995b]

[CHENEVAL & ESCUILLIE (1992): pars (skull) = +*Palaelodus ambiguus* MILNE-EDWARDS, 1863, +Palaelodidae, Phoenicopteriformes]

- +Probalearica moldavica KUROTCHKIN et GANEA, 1972, Upper Miocene, Moldavia
- >> +Pliogrus germanicus LAMBRECHT, 1933, Lower Pliocene, Germany [Br.3; CRACRAFT 1973] [FISCHER & STEPHAN (1971): +Palaelodus; MLÍKOVSKÝ (1992): should be restudied]
- Grus +pentelici Gaudry, 1862, Lower Pliocene, Greece, France, Hungary [Mourer-Chauviré 1977]

 $\{Syn.: +Pliogrus pentelici (GAUDRY, 1862) [Br.3]\}$ 

Grus +melitensis Lydekker, 1890, Middle Pleistocene, Malta [Br.3]

Grus +primigenia MILNE-EDWARDS, 1869, Pleistocene, France [Br.3: as a synonym of recent Grus antigone]; Mallorca [NORTHCOTE & MOURER-CHAUVIRÉ 1988]

Grus +miocenicus GRIGORESCU et KESSLER, 1977, Middle ("Upper") Miocene, Romania

### + Ergilornithidae

- +Urmiornis maraghanus MEQUENEM, 1925, Lower Pliocene, Moldavia [Br.3]
- +Urmiornis ukrainus Kurochkin, 1981, Upper Miocene, The Ukraine [MLÍKOVSKÝ 1996e]

### + Phororhacidae {Syn. + Phorusrhacidae auctorum}

- +Ameghinornis minor (GAILLARD, 1939), Oligocene, France [MOURER-CHAUVIRÉ 1981] {Syn.: +Strigogyps minor GAILLARD, 1939 [Br.4]}
- +Aenigmavis sapea PETERS, 1987, Middle Eocene, Germany

#### Otididae

>> +Palaeotis weigelti LAMBRECHT, 1928 [Br.3]

[MLÍKOVSKÝ (1992): moved to Struthioniformes]

+Miootis compactus UMANSKAJA, 1979[a], Upper Miocene, The Ukraine

Chlamydotis +affinis (LYDEKKER, 1891), Middle Miocene, Germany [Br.3]

[MLÍKOVSKÝ (1992): most probably *Otis* – needs revision]

Chlamydotis +mesetaria SANCHEZ, 1990, Lower Pliocene, Spain [SANCHEZ MARCO 1996b]

Otis +lambrechti KRETZOI, 1941, Lower Pleistocene, Romania [Br.3]

Otis +kalmani JÁNOSSY, 1972, Lower Pleistocene, Czech Rep., Romania

Otis +khosatzkii Bocheński et Kurochkin, 1987[b], Lower ("Upper") Pliocene, Moldavia [Bocheński et Kurochkin, 1987b]; Upper Miocene, aff. Hungary [Jánossy, 1991]; Lower Pliocene, Hungary [Jánossy, 1992]

Otis +paratetrax Bocheński et Kurochkin, 1987[b], Lower ("Upper") Pliocene, Moldavia

>> Otis +agilis MILNE-EDWARDS, 1871, Lower Miocene, France

[Br.5; Mourer-Chauviré (1995b): Nomen Nudum]

## + Gryzajidae

+Gryzaja odessana ZUBAREVA, 1939, Lower Pliocene, The Ukraine, Moldavia [Br.3]

### **CHARADRIIFORMES**

#### + Graculavidae

[Br.1: subfamily +Graculavinae in +Elopterygidae, Pelecaniformes; Br.3: two species of +*Gracula-vus* are synonyms of +*Ichthyornis*!; OLSON (1985): "transitional" Charadriiformes]

+Kievornis rogovitshi AVERIANOV, POTAPOVA, NESSOV, 1990, Upper Eocene, The Ukraine

## Scolopacidae

>> +Rhynchaeites messelensis WITTICH, 1899 [Br.3]

[OLSON (1985): moved to Threskiornithidae]

- +Villetus grandis HARRISON et WALKER, 1976[b], Upper Eocene, England
- +Villetus waltoni HARRISON et WALKER, 1976[b], Upper Eocene, England
- +Rhynchaeites messelensis WITTICH, 1899, Middle Eocene, Germany [Br.3]
- >> Limosa +gypsorum (GERVAIS, 1844), Upper Eocene, France [Br.3]

{Syn.: Numenius gypsorum GERVAIS, 1844 [BRUNET 1970]}

[Olson (1985 after Mlíkovský 1981): +Montirallus, Rallidae]

*Tringa* +*edwardsi* (GAILLARD, 1908) comb.n., Upper Eocene/Oligocene, France {Syn.: *Totanus* +*edwardsi* GAILLARD, 1908 [Br.3]}

*Tringa* + *lartetiana* (MILNE-EDWARDS, 1863) comb.n., Lower Miocene, France {Syn.: *Totanus* + *lartetianus* MILNE-EDWARDS, 1863 [Br.3]}

*Tringa* +*majori* (LYDEKKER, 1893) comb.n., Middle Miocene, France {Syn.: *Totanus* +*majori* LYDEKKER, 1893, [Br.3]}

Tringa +grivensis (ENNOUCHI, 1930) comb.n., Middle Miocene, France {Syn.: Totanus +grivensis ENNOUCHI, 1930 [Br.3]}

Tringa +scrabellii (PORTIS, 1888) comb.n., Lower Pliocene, Italy

{Syn.: Totanus +scrabellii PORTIS, 1888 [Br.3]}

*Tringa* +*numenioidea* (SEREBROVSKY, 1941) comb.n., Lower Pliocene, The Ukraine {Syn.: *Totanus* +*numenioides* SEREBROVSKY, 1941, [Br.3]}

>> Tringa +teruelensis (VILLALTA, 1963), Upper Miocene, Spain [SANCHEZ MARCO 1996b] {Syn.: Totanus +teruelensis VILLALTA, 1963} [OLSON (1985): holotype appears almost gull-like]

>> Totanus +praecursor LAUBE, 1901, Lower Miocene, Czech Rep. [Br.3] [MLÍKOVSKÝ (1992): holotype lost; needs revision – avis incertae sedis]

+Elorius paludicola MILNE-EDWARDS, 1868, Lower Miocene, France [Br.3]

Numenius +antiquus MILNE-EDWARDS, 1868, Middle Miocene, France [Br.3]

Erolia +ennouchii BRODKORB, 1967, Middle Miocene, France [Br.3]

Calidris +gracilis (MILNE-EDWARDS, 1867), Oligocene, Lower Miocene, France [MOURER-CHAUVIRÉ 1995b]

{Syn.: Erolia + gracilis (MILNE-EDWARDS, 1867) [Br.3]}

>> Gallinago +veterior JÁNOSSY, 1979, Lower Pliocene, Hungary
[MLÍKOVSKÝ (1992): inadequate description – NOMEN NUDUM or avis incerte sedis]

>> Scolopax + ghardalamensis FISCHER et STEPHAN, 1974, Pleistocene, Malta [OLSON (1976): synonym of recent Coturnix coturnix, Galliformes]

>> Scolopax +baranensis JÁNOSSY, 1979, Lower Pliocene, Hungary [MLÍKOVSKÝ (1992): inadequate description – NOMEN NUDUM or avis incerte sedis]

#### Charadriidae

>> +Dolichopterus viator MILNE-EDWARDS, 1867, Lower Oligocene, France
[OLSON (1978): described by MILNE-EDWARDS and not by AYMARD (1856) as cited in Br.3]
[OLSON (1985): avis incertae sedis; MOURER-CHAUVIRÉ (1995b): +Delichopterus (mistake!) viator – family incertae sedis]

Vanellus +selysii VAN BENEDEN, 1872, Middle Oligocene, Belgium [Br.3]

>> +Plumumida lutetialis HOCH, 1980, Middle Eocene, Germany [MLÍKOVSKÝ & HESSE 1996] [OLSON (1985): synonymized with +Rhynchaeites messelensis and moved to Threskiornithidae, Ciconiiformes]

### Recurvirostridae

Recurvirostra + sanctaeneboulae MOURER-CHAUVIRÉ, 1978, Eocene, France [MOURER-CHAUVIRÉ 1995b]

- +Fluviatilavis antunesi HARRISON, 1983, Lower Eocene, Portugal [SANCHEZ MARCO 1996a]
- +Tenuicrus magnum HARRISON & WALKER 1976[b], Upper Eocene, England [MLÍKOVSKÝ (1996 f) listed it as Tenuirostris (sic!) magnum]
- >> Himantopus +brevipes MILNE-EDWARDS, 1871, Lower Miocene, France [Br.5; Mourer-Chauviré (1995b): Nomen Nudum]

#### Burhinidae

>> +Milnea gracilis LYDEKKER, 1891 [Br.3]

[OLSON (1985): moved to Threskiornithidae, Ciconiiformes]

+Petropluvialis simplex HARRISON et WALKER, 1976[b], Upper Eocene, England

### Glareolidae

+Mioglareola gregaria BALLMANN, 1979, Middle Miocene, Germany

Glareola +neogena BALLMANN, 1979, Middle Miocene, Germany

[MLÍKOVSKÝ & HESSE (1996) evidently mention this species under the wrong name "Glareola miocaena BALLMANN, 1979" by mistake]

"Larus" +dolnicensis ŠVEC, 1980, Lower Miocene, Czech Rep.

[MLIKOVSKY (1992) accepts OLSON'S (1985) opinion: not a gull but Glareolidae]

- +Precursor parvus HARRISON et WALKER, 1977, Lower Eocene, England
- +Precursor magnus HARRISON et WALKER, 1977, Lower Eocene, England
- +Precursor litorum HARRISON et WALKER, 1977, Lower Eocene, England

[MLÍKOVSKÝ (1996f) evidently mentions this species, using by mistake the wrong name *Precursor litorinus*]

#### Laridae

>> +Halcyornis toliapicus (KONIG, 1825) [Br.3]

[HARRISON & WALKER (1977 after 1971 and 1972): holotype skull belongs to new family +Halcyornithidae, Coraciiformes; referred humerus moved to Threskiornithidae, Ciconiiformes as *Proplegadis fisheri* HARRISON et WALKER, 1971]

+Rupelornis definitus VAN BENEDEN, 1871, Middle Oligocene, Belgium [Br.3]

Larus +desnoyersii MILNE-EDWARDS, 1863, Lower Miocene, France, [Br.3]

Larus +elegans MILNE-EDWARDS, 1867, Oligocene, Lower Miocene, France, [Br.3; MOURER-CHAUVIRÉ 1995b]

Larus +totanoides MILNE-EDWARDS, 1868, Lower Miocene, France [Br.3]

>> Larus +dolnicensis ŠVEC, 1980 [MLÍKOVSKÝ (1992): moved to Glareolidae]

+Gaviota lipsiensis FISCHER, 1983, Middle Oligocene, Germany [MLÍKOVSKÝ 1992]

?"Tringa" +teruelensis VILLALTA, 1963, Upper Miocene, Spain [SANCHEZ MARCO 1996b: Scolopacidae]

[OLSON (1985): holotype appears almost gull-like]

#### Alcidae

Uria +ausonia PORTIS, 1887, Middle Pliocene, Italy [Br.3]

- +*Pinguinus impennis* (LINNAEUS, 1758), Pleistocene-Holocene, Irland, Scotland, England, Sweden, Danmark, Gibraltar, Italy [Br.3]; Poland [FISCHER & MAUERSBERGER 1989]; Spain, Portugal [MOURER-CHAUVIRE & ANTUNES 1991]
- +Petralca austriaca MLIKOVSKY, 1987, Upper Oligocene, Austria [MLÍKOVSKÝ 1996a]
- >> +*Uriopsis scaldicus* VAN BENEDEN, 1871, Lower Oligocene, Belgium [CHENEVAL (1996a): NOMEN NUDUM]

### (Charadriiformes (?): family "incertae")

+Volgavis marina NESSOV et JARKOV, 1989, Upper Cretaceous, European Russia

### **COLUMBIFORMES**

### Pteroclidae

+Archaeoganga validus (MILNE-EDWARDS, 1892), Upper Eocene/Oligocene, France [MOURER-CHAUVIRÉ 1993]

{Syn.: Pterocles +validus MILNE-EDWARDS, 1892 [Br.4]}

+*Archaeoganga larvatus* (MILNE-EDWARDS, 1892), Upper Eocene/Oligocene, France [MOURER-CHAUVIRÉ 1993]

{Syn.: Pterocles + larvatus MILNE-EDWARDS, 1892 [Br.4]}

- +*Archaeoganga pinguis* MOURER-CHAUVIRÉ, 1992, Upper Eocene/Oligocene, France [MOURER-CHAUVIRÉ 1993]
- +Leptoganga sepultus (MILNE-EDWARDS, 1869), Oligocene, Lower Miocene, France [MOURER-CHAUVIRÉ 1993]

{Syn.: Pterocles + sepultus MILNE-EDWARDS, 1869 [Br.4]}

#### Columbidae

- +Gerandia calcaria (MILNE-EDWARDS, 1869), Lower Miocene, France [Br.4]
- +Microena goodwini HARRISON & WALKER, 1977, Lower Eocene, England

Columba + melitensis Lydekker, 1891, Middle Pleistocene, Malta [Br.4]

Columba +omnisanctorum BALLMANN, 1976, Miocene, Italy

?" Falco" +pisanus PORTIS, 1887, Middle Pliocene, Italy [OLSON (1985): most probably Columbidae]

### **CUCULIFORMES**

## Musophagidae

>> +Dynamopterus velox MILNE-EDWARDS, 1892 [Br.4]

[Mourer-Chauviré (1995b): Cuculidae]

>> +Dynamopterus boulei GAILLARD, 1939 [Br.4]

[MOURER-CHAUVIRÉ(1995b): Cuculidae]

- +Apopempsis meini (BALLMANN, 1969), Middle Miocene, France [Br.4]
- >> +Promusophaga magnifica Harrison et Walker, 1977

[HOUDE (1988): moved to +Lithornithidae, +Lithornithiformes, as synonym of +Lithornis vulturinus Owen, 1840]

#### Cuculidae

- + Dynamopterus velox MILNE-EDWARDS, 1892, Upper Eocene/Oligocene, France [Mourer-Chauviré 1995b]
- +Dynamopterus boulei GAILLARD, 1939, Upper Eocene/Oligocene, France [MOURER-CHAUVIRÉ 1995b]
- >> +Parvicuculus minor HARRISON et WALKER, 1977, Lower Eocene, England

[OLSON, FEDUCCIA (1979): belongs to +Primobucconidae, Coraciiformes]

- >> + Parvicuculus gracilis Harrison et Walker, 1979 [Mlíkovský 1996f]
  - [This species does not exist mistake by MLÍKOVSKÝ (1996f); in original paper it is +*Parvirallus gracilis*]
- >> +Procuculus minutus HARRISON & WALKER, 1977, Lower Eocene, England

[OLSON, FEDUCCIA (1979): genus incertae sedis; OLSON (1985): possibly synonym of *Primapus*, Apodiformes]

Cuculus +csarnotanus JÁNOSSY, 1979, Lower Pliocene, Hungary [MLÍKOVSKÝ 1992]

### **PSITTACIFORMES**

### + Quercypsittacidae

- +Quercypsitta sudrei MOURER-CHAUVIRÉ, 1992, Upper Eocene, France
- +Quercypsitta ivani Mourer-Chauviré, 1992, Upper Eocene, France
- +Palaeopsittacus georgei HARRISON, 1982, Lower Eocene, England [MOURER-CHAUVIRÉ 1992]

#### Psittacidae

- +Archaeopsittacus verreauxi (MILNE-EDWARDS, 1870), Lower Miocene, France [Br.4]
- +" *Pararallus*" hassenkampi Martini, 1967, Lower Oligocene, Germany [Mlíkovský & Hesse (1996): moved from Rallidae]

### **STRIGIFORMES**

[Plenty of data cited after Brodkorb (1971) [Br.4] were next stated precisely by Mourer-Chauviré (1987) and then summarized by Bocheński (1992)]

### + Protostrigidae

- +Eostrix vincenti HARRISON, 1980, Eocene, England [BOCHEŃSKI 1992]
- +Oligostrix rupelensis FISCHER, 1983, Eocene, Germany [BOCHEŃSKI 1992]

## Strigidae

>> Bubo +incertus MILNE-EDWARDS, 1892 [Br.4]

[Mourer-Chaviré (1987): moved to Tytonidae as synonym of +Nocturnavis incerta (MILNE-Edwards, 1892)]

Bubo +poirrieri MILNE-EDWARDS, 1863, Lower Miocene, France [Br.4]

Bubo +florianae Kretzoi, 1957, Lower Pliocene, Hungary [Br.4]

[MLÍKOVSKÝ (1992): Upper Miocene (MN 10)]

Bubo +insularis Mourer-Chauviré et Weesie, 1986, Pleistocene, Sardinia, Corsica [Bocheński 1992]

Bubo +lignitum (GIEBEL, 1860), Miocene, Germany [BRODKORB 1980; BOCHEŃSKI 1992] {Syn.: Ardea +lignitum GIEBEL, 1860, "Upper Pliocene" [Br.1]}

Bubo +longaevus UMANSKAJA, 1979[b], Upper Miocene, The Ukraine

Otus +winterhofensis BALLMANN, 1966, Lower ("Middle") Miocene, Germany [Br.4]

Surnia +capeki JÁNOSSY, 1972, Pleistocene, Czech Rep., Hungary [BOCHEŃSKI 1992]

Surnia +robusta JÁNOSSY, 1977, Pleistocene, Hungary

[MLÍKOVSKÝ (1992): site dating = Upper Pliocene (MN 17)]

Athene +cretensis WEESIE, 1982, Pleistocene, Crete [BOCHEŃSKI 1992]

Athene +angelis Mourer-Chauviré, Salotti, Pereira, Quinif, Courtois, Duboios et La Milza, 1997, Middle-Upper Pleistocene, Corsica

>> Athene +veta Jánossy, 1974, Pliocene, Poland [Bocheński 1992]

[described as a subspecies of *A. noctua*; JÁNOSSY (1979) changed its rank; additional description JÁNOSSY (1992); acc. to MLÍKOVSKÝ (1992): syn. of recent *Aegolius funereus*]

>> + Eoglaucidium pallas FISCHER, 1987 [MLÍKOVSKÝ (1992): not an owl - probably Coraciiformes]

>> +Necrobyas [Br.4]

[MOURER-CHAVIRÉ (1987): whole genus moved to Tytonidae]

>> +Strigogyps dubius GAILLARD, 1908 [Br.4]

[Mourer-Chaviré (1987): total genus incertae sedis does not belong to Strigiformes; Mourer-Chaviré (1995b): Strigiformes, gen. incertae sedis]

>> +Strigogyps minor GAILLARD, 1939 [Br.4]

[Mourer-Chauviré (1981): moved to +Phororhacidae, Ralliformes, as synonym of +Ameghinornis minor (Gallard, 1939)]

>> Asio +henrici (MILNE-EDWARDS, 1892) [Br.4]

[Mourer-Chauviré (1987): moved to Tytonidae as synonym of +Selenornis henrici (MILNE-Edwards, 1892)]

Asio +pigmaeus SEREBROVSKY, 1941, Lower Pliocene, The Ukraine [Br.4]

Strix +intermedia JÁNOSSY, 1972, Pleistocene, Hungary, Austria, Czech Rep., France [BOCHEŃ-SKI 1992]

Strix +brevis Ballmann, 1966, Lower ("Middle") Miocene, Lower Pliocene, Germany, Hungary [Br.4]

Strix +collongensis BALLMANN, 1972, Middle Miocene, France [CHENEVAL 1996b]

Strix (?) +perpasta BALLMANN, 1976, Miocene, Italy [BOCHEŃSKI 1992]

#### >> Phodilidae

>> +Paratyto arvernensis (MILNE-EDWARDS, 1863) [Br.4]

[MOURER-CHAUVIRÉ (1987): moved to Tytonidae as synonym of +Necrobyas arvernensis (MILNE-EDWARDS, 1863)]

### **Tytonidae**

+Prosybris antiqua (MILNE-EDWARDS, 1863), Lower Miocene, France [Br.4: as Prosbybris (mistake) antiqua]

Tyto +ignota (PARIS, 1912), Middle Miocene, France [Br.4]

Tyto +sanctialbani (LYDEKKER, 1893), Middle Miocene, France [Br.4]; Italy [BALLMANN 1973]

Tyto +edwardsi (Ennouchi, 1930), Middle Miocene, France [Br.4]

Tyto +melitensis (LYDEKKER, 1891), Upper Pleistocene, Malta [Br.4]

Tyto +balearica Mourer-Chauviré, Alcover, Moya, Pons, 1980, Pleistocene, Balearic Is, Spain, France [Bocheński 1992]; Upper Miocene, Spain [Cheneval & Adrover 1995]

Tyto +campiterrae JÁNOSSY, 1991, Upper Miocene, Hungary [BOCHEŃSKI 1992]

Tyto +robusta Ballmann,, 1973, Miocene, Italy [Bocheński 1992]

Tyto + gigantea BALLMANN,, 1973, Miocene, Italy [BOCHEŃSKI 1992]

+Necrobyas arvernensis (MILNE-EDWARDS, 1863), Lower Miocene, France [MOURER-CHAUVIRÉ 1987]

{Syn.: +Paratyto arvernensis (MILNE-EDWARDS,, 1863)}

- +*Necrobyas harpax* MILNE-EDWARDS, 1892, "Upper Eocene/Oligocene", France [Br.4: Strigidae], Lower Oligocene only [Mourer-Chauviré 1987]
- +Necrobyas rossignoli MILNE-EDWARDS, 1892, "Upper Eocene/Oligocene", France [Br.4: Strigidae], Upper Eocene only [MOURER-CHAUVIRÉ 1987]
- +Necrobyas edwardsi GAILLARD, 1938, "Upper Eocene/Oligocene", France [Br.4: Strigidae], Upper Oligocene only [MOURER-CHAUVIRÉ 1987]
- +Necrobyas minimus Mourer-Chauviré, 1987, Oligocene, France [Mourer-Chauviré 1987; Bocheński 1992]

+Necrobyas medius Mourer-Chauviré, 1987, Middle Eocene/Upper Oligocene, France [Mourer-Chauviré 1987; Bocheński 1992]

{Syn.: Asio +henrici (MILNE-EDWARDS, 1892) [Br.4] pars [MOURER-CHAUVIRÉ 1987]}

+Nocturnavis incerta (MILNE-EDWARDS, 1892), Upper Eocene, France [MOURER-CHAUVIRÉ 1987; BOCHEŃSKI 1992]

{Syn.: Bubo incertus MILNE-EDWARDS, 1892 [Br.4]}

- +*Palaeobyas cracrafti* MOURER-CHAUVIRÉ, 1987, Middle Eocene/Oligocene, France [BOCHEŃ-SKI 1992]
- +Palaeotyto cadurcensis MOURER-CHAUVIRÉ, 1987, Middle Eocene/Oligocene, France [Bo-CHEŃSKI 1992]
- +Selenornis henrici (MILNE-EDWARDS, 1892), Middle Eocene/Upper Oligocene, France [MOURER-CHAUVIRÉ 1987; BOCHEŃSKI 1992]

{Syn.: Asio henrici (MILNE-EDWARDS, 1892) [Br.4] pars}

### + Palaeoglaucidae

- +Palaeoglaux perrierensis Mourer-Chauviré, 1987, Upper Eocene, France [Mourer-Chauviré 1987; Bocheński 1992]
- +Palaeoglaux artophoron PETERS, 1992, Middle Eocene, Germany

### + Sophiornithidae

- +Sophiornis quercynus Mourer-Chauviré, 1987, Middle Eocene/Upper Oligocene, France [Mourer-Chauviré 1987]
- +Berruornis orbisantiqui Mourer-Chauviré, 1994, Upper Paleocene, France

## Strigiformes incertae sedis

+Strigogyps dubius GAILLARD, 1908, Upper Eocene/Oligocene, France [MOURER-CHAUVIRE 1995b]

### **CAPRIMULGIFORMES**

## >> + Aegialornithidae [Br.4]

[HARRISON & WALKER (1977) and MOURER-CHAUVIRÉ (1978): family belongs to Apodiformes]

# + Archaeotrogonidae

[dating precised acc. to Mourer-Chauviré (1995b)]

- +Archaeotrogon venustus MILNE-EDWARDS, 1892, Eocene, Oligocene, France [Br.4]
- +Archaeotrogon cayluxensis GAILLARD, 1908, Upper Oligocene, France [Br.4]
- +Archaeotrogon zitteli GAILLARD, 1908, Oligocene, France [Br.4]
- +Archaeotrogon hoffstetteri Mourer-Chauviré, 1980, Upper Eocene/ Oligocene, France

# Caprimulgidae

+ *Ventivorus ragei* MOURER-CHAUVIRÉ, 1988, Upper Eocene, France *Caprimulgus* + *capeki* JÁNOSSY, 1977, Pleistocene, Romania

# Podargidae

+Quercypodargus olsoni Mourer-Chauviré, 1988, Eocene, France [Mourer-Chauviré 1995b]

### Nyctibiidae

 $+ \textit{Euronyctibius kurochkini} \, \textbf{MOURER-CHAUVIR\'e}, 1988, \textbf{Eocene/Oligocene}, \textbf{France} \, [\textbf{MOURER-CHAUVIR\'e}, 1985, \textbf{Eocene/Oligocene}, \textbf{France} \, [\textbf{MOURER-CHAUVIR\'e}, \textbf{MOURER-CHAUVIR\'e}, \textbf{MOURER-C$ 

### **APODIFORMES**

### + Aegialornithidae

- +Aegialornis gallicus LYDEKKER, 1891, Eocene, France [Br.4]
- +Aegialornis leehnardti GAILLARD, 1908, Eocene, France [Br.4]
- +Aegialornis wetmorei COLLINS, 1976, Eocene, France [MOURER-CHAUVIRÉ 1988]
- +Aegialornis broweri COLLINS, 1976, Eocene, France [MOURER-CHAUVIRÉ 1988]
- +Primapus lacki HARRISON & WALKER, 1975, Eocene, England [OLSON 1985]
- +*Primapus szarskii* (Peters, 1985), Middle Eocene, Germany [Mourer-Chauviré 1988] {Syn.: +*Aegialornis szarskii* Peters, 1985}
- ?+Primapus minutus (HARRISON & WALKER, 1977), Lower Eocene, England [OLSON 1985] {Syn.?: +Procuculus minutus HARRISON & WALKER, 1977 [OLSON 1985]}

## **Apodidae**

- >> +Cypselavus gallicus GAILLARD, 1908 [Br.4] [Peters (1985): moved to Hemiprocnidae]
- >> +Cypselavus intermedius GAILLARD, 1939 [Br.4] [Peters (1985): moved to Hemiprocnidae]
- +*Cypseloides mourerchauvirae* MLIKOVSKY, 1989, Eocene/Oligocene, France [MOURER-CHAUVIRÉ 1995b]
- +Cypseloides ignotus (MILNE-EDWARDS, 1871), Lower Miocene, France [MOURER-CHAUVIRÉ 1995b]

{Syn.: Apus +ignotus (MILNE-EDWARDS, 1871) [Br.4]}

- +Scaniacypselus wardi HARRISON, 1984, Lower Eocene, Denmark [MLÍKOVSKÝ 1996c]
- +Eocypselus vincenti HARRISON, 1984, Lower Eocene, England [MLÍKOVSKÝ 1996f]

Apus +gaillardi (ENNOUCHI, 1930), Middle Miocene, France [Br.4]

Apus +submelba Jánossy, 1972, Middle Pleistocene, Czech Rep., Hungary, France

Apus +wetmorei BALLMANN, 1976, Miocene, Italy

Chaetura +baconica JÁNOSSY, 1977, Lower Pliocene, Hungary

Collocalia +incerta MILNE-EDWARDS, 1871, Lower Miocene, France [Br.4]

# Hemiprocnidae

- +Cypselavus gallicus GAILLARD, 1908, Eocene/Lower Oligocene, France [PETERS 1985]
- +Cypselavus intermedius GAILLARD, 1938, Lower Miocene, France [Peters 1985]

# + Jungornithidae

- +Jungornis tesselatus KARKHU, 1988, Lower Oligocene, Russia: N.Caucasus
- +Palescyvus escampensis KARKHU, 1988, Upper Eocene, France

### **COLIIFORMES**

### Coliidae

- +Limnatornis paludicola MILNE-EDWARDS, 1871, Lower Miocene, France [Br.4]
- +Limnatornis archiaci (MILNE-EDWARDS, 1871), Lower Miocene, France [Br.4]
- +Necrornis palustris MILNE-EDWARDS, 1871, Middle Miocene, France [Br.4]

- +Primocolius sigei MOURER-CHAUVIRÉ, 1988, Upper Eocene, France
- +Primocolius minor MOURER-CHAUVIRÉ, 1988, Upper Eocene, France

### **TROGONIFORMES**

## >> + Archaetrogonidae

[family described by Mourer-Chauviré (1980) next moved to Caprimulgiformes]

### Trogonidae

[Systematic position of this family varies: OLSON (1985) includes it in Coraciiformes, whereas BRODKORB (1971) and MOURER-CHAUVIRÉ (1995b) treat it as a separate order]

>> + Archaeotrogon venustus MILNE-EDWARDS, 1892 [Br.4]

[MOURER-CHAUVIRÉ (1980): +Archaetrogonidae, Trogoniformes; MOURER-CHAUVIRÉ (1995b): Caprimulgiformes]

>> +Archaeotrogon cayluxensis GAILLARD, 1908 [Br.4]

[MOURER-CHAUVIRÉ (1980): +Archaetrogonidae, Trogoniformes; MOURER-CHAUVIRÉ (1995b): Caprimulgiformes]

>> +Archaeotrogon zitteli GAILLARD, 1908 [Br.4]

[MOURER-CHAUVIRÉ (1980): +Archaetrogonidae, Trogoniformes; MOURER-CHAUVIRÉ (1995b): Caprimulgiformes]

+Paratrogon gallicus (MILNE-EDWARDS, 1871), Lower Miocene, France [Br.4]

#### **CORACHFORMES**

#### Bucerotidae

- +Geiseloceros robustus LAMBRECHT, 1935, Middle Eocene, Germany [Br.4]

  [OLSON (1985): it may be *Eocathartes robustus* described in Vulturidae but not a vulturid, and its relationships are uncertain]
- >> +Cryptornis antiquus (GERVAIS, 1852) Upper Eocene, France [Br.4] [OLSON (1985): its affinities are undetermined avis incertae sedis]
- >> +Homalopus picoides MILNE-EDWARDS, 1871, Middle Miocene, France [Br.4] [OLSON (1985): almost certainly not a hombill; CHENEVAL (1996b): Dendrocolaptidae, Passeriformes]

#### Coraciidae

+Geranopterus alatus MILNE-EDWARDS, 1892, Upper Eocene/Oligocene, France [Br.4]

# Meropidae

Merops + radoboyensis (VON MEYER, 1865), Middle Miocene, Croatia [MLÍKOVSKÝ 1997a]

# Upupidae

Upupa +phoeniculides JÁNOSSY, 1974[b], Middle Pleistocene, Austria

# + Halcyornithidae

- +*Halcyornis toliapicus* (KONIG, 1825), Upper Paleocene, England [HARRISON & WALKER (1977 after 1971 and 1972): holotype skull belongs to this new family]
  - >> Alcedinidae {Halcyonidae [Br.4] et auctorum)}
- >> +Protornis glarniensis VON MEYER, 1844 [Br.4]
  [MLÍKOVSKÝ (1992 after OLSON 1976): moved to Momotidae]

>> +*Protornis blumeri* HEER, 1865, Lower Oligocene, Switzerland [Br.4] [MLÍKOVSKÝ (1992 after OLSON 1976): avis incertae sedis]

#### Momotidae

+*Protornis glarniensis* VON MEYER, 1844, Lower Oligocene, Switzerland [MLIKOVSKY (1992, after OLSON 1976): moved from Halcyonidae]

#### **Todidae**

- +*Palaeotodus escampsiensis* Mourer-Chauviré, 1985, Upper Eocene, France [Mourer-Chauviré 1995b]
- +Palaeotodus itardiensis MOURER-CHAUVIRÉ, 1985, Oligocene, France [MOURER-CHAUVIRÉ 1995b]

### +Primobucconidae

+"Parvicuculus" minor HARRISON & WALKER, 1977, Lower Eocene, England [OLSON, FEDUCCIA (1979): moved from Cuculidae]

### +Sylphornithidae

+Sylphornis bretouensis MOURER-CHAUVIRÉ, 1988, Upper Eocene, France

### Coraciiformes (temporairly) incertae sedis

+*Eoglaucidium pallas* FISCHER, 1987, Middle Eocene, Germany [MLÍKOVSKÝ (1992): not an owl – probably Coraciiformes (under study)]

### **PICIFORMES**

## + Zygodactylidae

- +Zygodactylus ignotus BALLMANN, 1966, Middle Miocene, Germany [Br.4]
- +Zygodactylus grivensis BALLMANN, 1969, Middle Miocene, France [Br.4]
- +Zygodactylus gaudryi (DEPERET, 1887), Middle Miocene, France [Br.4]

# Capitonidae

- +Capitonides europeus BALLMANN, 1966, ("Middle") Lower (MN3) Miocene, Germany [Br.4] [MLIKOVSKY (1992): it may belong to the recent genus *Trachyphonus*]
- +Capitonides protracus BALLMANN, 1983, Middle Miocene, Germany [MLIKOVSKY 1992] [MLIKOVSKY (1992): it may belong to the recent genus Trachyphonus]

#### **Picidae**

Picus +peregrinabundus UMANSKAJA, 1981, Upper Miocene, The Ukraine Dendrocopos +praemedius JÁNOSSY, 1974 [b], Middle Pleistocene, Austria

### **PASSERIFORMES**

### >>+Primoscenidae

>>+Primoscens minutus HARRISON & WALKER, 1977, Lower Eocene, England [OLSON & FEDUCCIA (1979): not Passeriformes but its affinities are undetermined – avis incertae sedis]

### Dendrocolaptidae

+*Homalopus picoides* MILNE-EDWARDS, 1869, Middle Miocene, France [CHENEVAL (1996b): moved from Bucerotidae]

#### Motacillidae

Motacilla +humata MILNE-EDWARDS, 1871, Lower Miocene, France [MOURER-CHAUVIRÉ (1995b), whereas Br.5 treated it as avis incertae sedis]

*Motacilla +major* MILNE-EDWARDS, 1871, Lower Miocene, France [MOURER-CHAUVIRÉ (1995b), whereas Br.5 treated it as avis incertae sedis]

#### Corvidae

Corvus +larteti MILNE-EDWARDS, 1871, Middle Miocene, France [Br.5]

Corvus +pliocaenus (PORTIS, 1888), Upper Pliocene-Lower Pleistocene, France, Italy, Romania [Br.5]; Hungary [JÁNOSSY 1992]

[JÁNOSSY (1992) mentions it in the Table as "Corvus janossyi Mourer-Chauvire" and in the text as "Corvus pliocaenicus (sic!) janossyi"]

Corvus +hungaricus LAMBRECHT, 1916, Lower Pleistocene, France, Hungary [Br.5]

Corvus +antecorax MOURER-CHAUVIRÉ, 1975, Middle Pleistocene, France, Spain [Br.5: C.corax antecorax; SANCHEZ MARCO (1987): includes neomexicanus]

Corvus +moravicus MLIKOVSKY, 1995, Lower Pleistocene, Czech Rep.

Corvus +simionescui KESSLER, 1979, Pliocene, Romania [JURCSÁK & KESSLER 1988]

#### Laniidae

Lanius +miocaenus MILNE-EDWARDS, 1871, Lower Miocene, France [Br.5]

#### **AVES INCERTAE SEDIS**

(In alphabetic order)

Alauda +gypsorum PORTIS, 1888, Lower Pliocene, Italy [Br.5]

Alauda +major PORTIS, 1888, Lower Pliocene, Italy [Br.5]

Anas +benedeni SHARPE, 1899, Upper Oligocene, Belgium [Br.5]

Anas +risgoviensis VON AMMON, 1918, Upper Miocene, Germany

[CHENEVAL (1987): avis incertae sedis; MLÍKOVSKÝ (1992): almost NOMEN NUDUM]

Anas +skalicensis BAYER, 1883, Lower Miocene, Czech Rep. [MLÍKOVSKÝ 1992]

Anthus +boniaskii PYCRAFT, 1909, Lower Pliocene, Italy [Br.5]

Ardea +piveteaui Brunet, 1970, Upper Eocene, France [HARRISON 1979]

Ardea +rupeliensis VAN BENEDEN, 1873, Upper Oligocene, Belgium [Br.5]

+Ardeacites molassicus HAUSHALTER, 1855 [BRODKORB 1980]

+Aviadactyla media KORDOS, 1983, Lower Miocene, Hungary [MLÍKOVSKÝ 1992: foot prints]

Aythya +meyerii (MILNE-EDWARDS, 1867), Upper Miocene, Germany [MLÍKOVSKÝ 1992]

Corvus +betfianus Kretzoi, 1962, Lower Pleistocene, Romania [Br.5]

+Cryptornis antiquus (GERVAIS, 1852) Upper Eocene, France

[OLSON (1985): its affinities are undetermined]

>> Cygnus +bilinicus LAUBE, 1909, Lower Miocene, Czech Rep. [Br.5] [MLÍKOVSKÝ & ŠVEC (1989) moved it to Ciconiidae]

+Dolichopterus viator MILNE-EDWARDS, 1867, Lower Oligocene, France [MOURER-CHAUVIRÉ 1995b]

Eleutherornis helveticus SCHAUB, 1940, Middle Eocene, Switzerland [MLÍKOVSKÝ 1992]

+ Eupterornis remensis Lenoire, 1878, Upper Paleocene, France [Mourer-Chauviré 1996a]

Fringilla +trochanterica GIEBEL, 1847, Pleistocene, Germany [Br.5]

- Gallinago +veterior JÁNOSSY, 1979, Lower Pliocene, Hungary [MLÍKOVSKÝ (1992): NOMEN NUDUM or avis incertae sedis]
- Hirundo +fossilis GIEBEL, 1847, Pleistocene, Germany [Br.5]
- +*Ibidopodia palustris* MILNE-EDWARDS, 1868, Lower Miocene, France [MOURER-CHAUVIRÉ 1996b]
- +Laurillaria longirostris MILNE-EDWARDS, 1871, Upper Eocene, France [Br.5]
- +Laurillaria munieri FLOT, 1891, Upper Eocene, France [Br.5]
- +Laurillaria parisiensis FLOT, 1891, Upper Eocene, France [Br.5]
- +Macrornis tanaupus SEELEY, 1866, Upper Eocene, England [Br.5]
- +Marinavis longirostris HARRISON & WALKER, 1977, Lower Eocene, England [Br.5]
- +Miocorvus larteti (MILNE-EDWARDS, 1871), Middle Miocene, France [Br.5]
- >> Motacilla +humata MILNE-EDWARDS, 1871, Lower Miocene, France [Br.5] [MOURER-CHAUVIRÉ (1995b): Motacillidae]
- >> Motacilla +major MILNE-EDWARDS,1871, Lower Miocene,France [Br.5] [MOURER-CHAUVIRÉ (1995b): Motacillidae]
- + Ornithotarnocia lambrechti KORDOS, 1983, Lower Miocene, Hungary [MLÍKOVSKÝ 1992: foot prints]
- +Passeripedia ipolyensis KORDOS, 1983, Lower Miocene, Hungary [MLÍKOVSKÝ 1992: foot prints]
- >>+Pelophilus radoboyensis TSCHUDI, 1839, Upper Miocene, Rumania
  - [Br.5: previously described by TSCHUDI as a toad, next moved tentatively to Fringillidae as *Fringilla? radoboyensis* VON MEYER, 1865; MLÍKOVSKÝ (1997a): belongs to the recent genus *Merops*]
- +Piscator tenuirostris HARRISON & WALKER, 1976, Upper Eocene, England [Br.5]
- +*Primoscens minutus* HARRISON & WALKER, 1977, Lower Eocene, England [OLSON & FEDUCCIA (1979): whole family moved from Passeriformes]
- Porzana +estramosi Jánossy, 1979, Lower Pliocene, Hungary [MLíkovský 1992]
- +Procuculus minor HARRISON & WALKER, 1977, Lower Eocene, England [OLSON & FEDUCCIA (1979): moved from Cuculidae]
- +*Protornis blumeri* HEER, 1865, Lower Oligocene, Switzerland [Br.4]: Halcyonidae [MLÍKOVSKÝ (1992, after OLSON 1976): avis incertae sedis]
- +Ptenornis SEELEY, 1866, Lower Tertiary, England [Br.5]
- Scolopax +baranensis JÁNOSSY, 1979, Lower Pliocene, Hungary [MLÍKOVSKÝ (1992): NOMEN NUDUM or avis incerte sedis]
- +Sitta? cuvieri GERVAIS, 1852, Upper Eocene, France [Br.5]
- +Sitta senogalliensis PORTIS, 1888, Lower Pliocene, Italy [Br.5]
- +Teracus littoralis MILNE-EDWARDS, 1871, Lower Oligocene, France [MOURER-CHAUVIRÉ 1995b]
- + Tetraornithopedia tasnadii KORDOS, 1983, Lower Miocene, Hungary [MLÍKOVSKÝ 1992: foot prints]
- Totanus +praecursor LAUBE, 1901, Lower Miocene, former Czechoslovakia [MLÍKOVSKÝ 1992]
- +Turdicus tenuis KRETZOI, 1962, Lower Pleistocene, Rumania [Br.5]
- Turdoides +borealis JÁNOSSY, 1979, Lower Pliocene, Hungary [MLÍKOVSKÝ (1992): inadequate description for Timaliidae]
- +Turdus bresciensis GIEBEL, 1847, Upper Pleistocene, Sardinia [Br.5]
- +Wyleyia valdensis HARRISON et WALKER, 1973, Lower Cretaceous, England [Br.5: almost certainly a reptile; FEDUCCIA (1996): unidentifiable scrap of bone; MOURER-CHAUVIRÉ (in litt.): it could be a bird]

#### III. FINAL REMARKS

While preparing the list I found that in some cases the generic names of the taxa transferred to other higher ranks do not agree with the rules of the International Code of Zoological Nomenclature (1985). This concerns the species, described in the genera containing more than one species, which, according to the authors of general revisions, should be moved from one family (or even order) to another, but the authors do not indicate their new generic affiliation. At least part of these transfers are not formal, sufficiently documented or documented at all, and they are published in papers rather general in nature. Such papers usually contain only remarks that the morphological characters of remains indicate their belonging to another (indicated) higher taxon. In all such cases I listed the species twice, just as in all cases of synonymization: in the previous systematic position (preceded with >>) and at the end of the higher taxon proposed by the author of transfer (provided with quotation-marks).

At least in some of the above mentioned cases, from the nomenclatoric point of view, the generic names of such moved species are "junior homonyms" and so "must be rejected and replaced either by an existing available name, or by a new replacement name" (ICZN: Art. 60 a). In other cases the problem should be taken into consideration when the types are being restudied in detail.

The above mentioned problem concerns the following species (in systematic order):

"Anas" basaltica BAYER, 1883. According to MLÍKOVSKÝ & ŠVEC (1989) it is "clearly referable to herons (family Ardeidae) ... subfamily Ardeinae ... in which [it] can be included. The preservation state of the fossil prevented us from identifying it at the genus level".

"Cygnus" bilinicus LAUBE, 1909, was synonymized by LAMBRECHT (1933) with the genus Aquilavus (Accipitridae), next listed as Aquilavus bilinicus (LAUBE, 1909) in Aves Incertae Sedis (BRODKORB 1978); MLÍKOVSKÝ & ŠVEC (1989) moved it to the Ciconidae but "not identified at the tribal and lower levels".

"Anas" isarensis LAMBRECHT, 1933. According to MLÍKOVSKÝ (1992) "the holotype scapula differs from the same element of Anatini and agrees with that of Aythyini ... however the scapula in Aythyini is indeterminate [-able], so Anas isarensis will remain as Aythyini incertae sedis".

"Palaelodus" steinheimensis Fraas, 1870. Listing this species, Brodkorb (1963) corrected the emendation of Fraas, who used the generic name Paloelodus (with o instead of a). Olson & Feduccia (1980) state that it is "misidentified to family, being based on what appears to be the distal end of tibiotarsus of a large anseriform". This opinion is repeated by Mlíkovskí (1992).

"Ludiortyx" hoffmanni (GERVAIS, 1852) and "Ludiortyx" adelus (OBERHOLSER, 1917). The genus name Ludiortyx was proposed by BRODKORB (1964), who included in it 3 species of quail with Ludiortyx blanchardi as the type species. OLSON (1977 citing BRUNET 1970) stated that Ludiortyx blanchardi is conspecific with Eortyx hoffmanni and he moved it to the Rallidae as "Ludiortyx" hoffmanni. In the same genus OLSON (1977) placed also another rallid i.e. "Ludiortyx" adelus (syn: Quercyrallus ludianus sensu BRODKORB 1967). In both these cases the name "Ludiortyx" in the Rallidae is "junior homonym", because the other two species of quail (Ludiortyx cayluxensis and L. gaillardi) remain in the Galliformes, where they were placed by BRODKORB (1964). So, "Ludiortyx" in the Rallidae should be replaced by another name. Theoretically, it could be Eortyx, as the generic name proposed by BRODKORB (1967) for the only species hoffmani, but I think that the new name would be better, because of the meaning of the Greek word "ortyx" (= quail).

"Larus" dolnicensis ŠVEC, 1980. Basing himself on OLSON's (1985) statement of the lack of any features characteristic of Larus, MLÍKOVSKÝ (1992) included it in the Glareolidae, not being sure of its affinities within that family. MLÍKOVSKÝ (1996b) mentions the genus Mioglareola in the Glareolidae from Dolnice, without writing whether it deals with the first, synonymized specimen, or with another one.

"*Tringa*" teruelensis (VILLALTA, 1963) was described in the Scolopacidae, which ascription was accepted by SANCHEZ MARCO (1996b), but earlier OLSON (1985) wrote that "the holotype ... appears almost gull-like".

"Falco" pisanus PORTIS, 1887, whose holotype, according to OLSON (1985) is "not from a falconid" and belongs to the Columbidae.

"Pararallus" hassenkampi MARTINI, 1967. OLSON (1977) writes that the remains are "probably not even identifiable to family", whereas MLÍKOVSKÝ & HESSE (1996) include Pararallus hassenkampi in the Psittacidae. On the other hand, though a rallid Pararallus beaumonti was moved by KUROCHKIN & GANEA (1972) to the genus Tertiariaporphyrula and next by OLSON (1977) to Palaeoaramides, another species, i.e. Pararallus dispar, is still in the Rallidae.

"Parvicuculus" minor HARRISON & WALKER, 1977, was described in the family Cuculidae. Two years later OLSON & FEDUCCIA (1979) moved it to the fossil family Primobucconidae. From the nomenclatoric point of view, the retaining of the generic name was right in this case, even if it may be associated with the Cuculidae.

I moved all fossil scolopacids described by various authors in the genus *Totanus* to the genus *Tringa*. The reason of for that is as follows. All those fossils were described in the <u>recent genus</u> *Totanus* which, in the present-day ornithological literature, is treated as a subgenus within the genus *Tringa* (see: MORONY, BOCK, FARRAND 1975; WOLTERS 1975). According to my knowledge, the osteological differences between the subgenera *Totanus* and *Tringa* are not known as yet.

### **REFERENCES**

ALCOVER J. A. 1989. Les aus fossils de la Cova de Ca Na Reia. Endins, 14-15: 95-100.

AVERIANOV A. O., POTAPOVA O. R., NESSOV L. A. 1990. On original native bone finds of ancient birds. Tr. zool. Inst. A.N.SSSR, Leningrad, **210**: 3-9. [in Russian, English summ.]

BALLMANN P. 1969. Les oiseaux miocônes de La Grive-Saint-Alban (Isôre). Géobios, 2: 157-431, Pl.: 13-15.

BALLMANN P. 1973. Fossile Vögel aus dem Neogen der Halbinsel Gargano (Italien). Scripta geol., 17: 1-75.

Ballmann P. 1976. Fossile Vögel aus dem Neogen der Halbinsel Gargano (Italien), zweiter Teil. Scripta geol., 38: 1-59.

BALLMANN P. 1979. Fossile Glareolidae aus dem Miozän des Nördlinger Ries (Aves: Charadriiformes). Bonn. zool. Beitr., **30**(1-2): 52-101.

BERG D. E. 1965. Nachweis des Riesenlaufvogels *Diatryma* im Eozän von Messel bei Darmstadt/Hessen. Notizbl.hess.L.-Amt Bodenforsch., **93**: 68-72.

BOCHEŃSKI Z. 1987. *Miophasianus medius* (MILNE-EDWARDS, 1869) from Przeworno (SW Poland) and some general remarks on the genus *Miophasianus*. Acta zool. cracov., **30**: 71-80.

BOCHEŃSKI Z. 1991. Pliocene grouse of the genus *Lagopus* from Poland. Acta zool. cracov., **34**(2): 563-577. BOCHEŃSKI Z. 1992. Historia sow Europy. Prz. zool., **36**(1-4): 77-90.

BOCHEŃSKI Z., KUROCHKIN E. N. 1987a. New data on Pliocene phasianids (Aves: Phasianidae) of Moldavia and S. Ukraine. Acta zool. cracov., 30: 81-95.

BOCHEŃSKI Z., KUROCHKIN E. N. 1987b. Pliocene bustards (*Aves: Otididae* and *Gryzajidae*) of Moldavia and S. Ukraine. Docum. Lab. Géol. Lyon, **99**: 173-187.

BOEUF O., MOURER-CHAUVIRÉ C. 1992. Les oiseaux des gisements d'age pliocène supérieur de Chilhac, Haute-Loire, France. C.R. Acad. Sci. Paris, 314 (ser. II): 1091-1096.

BOEV Z. N. 1992. Paleornithological studies in Bulgaria. Papers in Avian Paleontology Honoring Pierce Brodkorb. Nat.Hist.Mus.of Los Angeles County, Sc.Ser. 36: 459-463.

BOEV Z. N. 1995. Middle Villafranchian birds from Varshets (Western Balkan Ridge – Bulgaria). Cour. Forsch.-Inst. Senckenberg, 181: 259-269.

BRODKORB P. 1963. Catalogue of fossil birds: Part 1 (Archaeopterygiformes through Ardeiformes). Bull. Florida State Mus., Biol. Sci., 7 (4): 179-293.

BRODKORB P. 1964. Catalogue of fossil birds: Part 2 (Anseriformes through Galliformes). Bull. Florida State Mus., Biol. Sci., 8 (3): 195-335.

- BRODKORB P. 1967. Catalogue of fossil birds: Part 3 (Ralliformes, Ichthyornithiformes, Charadriiformes). Bull. Florida State Mus., Biol. Sci., 11 (3): 99-220.
- BRODKORB P. 1971. Catalogue of fossil birds: Part 4 (Columbiformes through Piciformes). Bull. Florida State Mus., Biol. Sci., 15(4): 163-266.
- BRODKORB P. 1978. Catalogue of fossil birds: Part 5 (Passeriformes). Bull. Florida State Mus., Biol. Sci., 23 (3): 139-228.
- BRODKORB P. 1980. A new fossil heron (Aves: Ardeidae) from the Omo Basin of Ethiopia, with remarks on the position of some other species assigned to the Ardeidae. Contrib. Sci. Natur.Hist.Mus. Los Angeles County, 330: 87-92.
- CHENEVAL J. 1983a. Les Anatidae (Aves, Anseriformes) du gisement aquitanien de Saint-Gerand-le-Puy (Allier, France). [In:] E. BUFFETAUT et al. [Eds.] Actes du Symp. paleont. G.Cuvier, Montbeliard, 1982, p.: 85-98.
- CHENEVAL J. 1983b. Révision du genre *Palaelodus* MILNE-EDWARDS, 1963 (Aves, *Phoenicopteriformes*) du gisement aquitanien de Saint-Gérand-le-Puy (Allier, France). Géobios, **16**(2): 179-191.
- CHENEVAL J. 1984a. *Grallavis edwardsi* (LYDEKKER, 1891), nouveau genre d'oiseau (Ciconiformes) du gisement aquitanien de Saint-Gérand-le-Puy (Allier, France). Bull. Soc. Linn. Lyon, **53**(2): 43-60.
- CHENEVAL J. 1984b. Les oiseaux aquatiques (Gaviiformes a Anseriformes) du gisement aquitanien de Saint-Gérand-le-Puy (Allier, France): révision systématique. Palaeovert. 14: 33-115.
- CHENEVAL J. 1987. Les Anatidae (Aves, Anseriformes) du Miocène de France. Révision systématique et évolution. Docum. Lab. Geol. Lyon, **99**: 137-157.
- CHENEVAL J. 1995. A fossil Shearwater (Aves: Procellariiformes) from the Upper Oligocene of France and the Lower Miocene of Germany. Cour. Forsch.-Inst. Senckenberg, 181: 187-198.
- CHENEVAL J. 1996a. Tertiary avian localities of Belgium. [In:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39** (for **1995**) (3-4): 535-540.
- CHENEVAL J. 1996b. Miocene avian localities of France. [In:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39** (for **1995**) (3-4): 599-611.
- CHENEVAL J., ADROVER R. 1995. L'Avifaune du Miocène supérieur d'Aljezar B (Los Aljezares, Province de Teruel, Espagne) Systématique et paléoécologie. Paleontologia i Evolució, **26-27** (for **1993**): 133-144.
- CHENEVAL J., ESCUILLIE F. 1992. New data concerning *Palaelodus ambiguus* (Aves: Phoenicopteriformes: Palaelodidae): ecological and evolutionary interpretations. Papers in Avian Paleontology Honoring Pierce Brodkorb. Nat.Hist.Mus.of Los Angeles County, Sc.Ser. 36: 209-224.
- CRACRAFT J. 1973. Systematics and evolution of the Gruiformes (Class Aves). 3. Phylogeny of the suborder Grues. Bull. Am. Mus. Nat. Hist., **151** (1): 127 p.
- Delle Cave L. 1996. Tertiary avian localities of Italy. [in:] J. Mlíkovský (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39** (for **1995**) (3-4): 665-681.
- Delle Cave L., Simonetta A., Azzaroli A. 1984. A skull of a fossil Loon (*Gavia*) from the Pliocene of Central Italy. Palaeontogr. italica, **73:** 86-93 + pl.1-4.
- ERICSON P. G. P. 1997. Systematic relationships of the Paleogene family Presbyornithidae (Aves: Anseriformes). Zool. J. Linn. Soc., 120.
- FEDUCCIA A. 1996. The Origin and Evolution in Birds. Yale Univ. Press, New Haven and London, 420 pp.
- FEDUCCIA A., McGrew P. O. 1974. A flamingolike wader from the Eocene of Wyoming. Contrib. Geol., Univ. Wyoming, 113(2): 49-61.
- FISCHER K. 1987. Eulenreste (*Eoglaucidium pallas* nov. gen., nov. sp., *Strigiformes*, *Aves*) aus der mitteleozanen Braunkohle des Geiseltals bei Halle. Mitt. zool. Mus. Berlin, 63, Suppl.: Ann. Orn., 11: 137-142.
- FISCHER K., MAUERSBERGER G. 1989. Zur Geschichte und Bedeutung der paläornithologischen Sammlung der Museums für Naturkunde zu Berlin. Mitt. zool. Mus. Berlin, 65, Suppl.: Ann. Orn., 13: 139-151.
- FISCHER K., STEPHAN B. 1971. Ein flugunfähiger Kranich (*Grus cubensis* n.sp.) aus dem Pleistozän von Kuba. Eine Osteologie der Familie der Kraniche (Gruidae). Wiss. Zeitsch. Humboldt-Univ. Berlin, Math.-Nat. R., **20**: 541-592.
- FISCHER K., STEPHAN B. 1974. Eine pleistozäne Avifauna aus der Ghar Dalam-Höhle, Malta. Z. geol. Wiss., **2**(4): 515-523.
- GRIGORESCU D., KESSLER E. 1977. The Middle Sarmatian avian fauna of South Dobrogea. Rev.Roum.Geol.Geophys.Geogr., Geologie, 21: 93-108.
- GRIGORESCU D., KESSLER E. 1988. New contributions to the knowledge of the Sarmatian birds from South Dobrogea in the frame of the Eastern Paratethyan avifauna. Rev. Roum. Géol., Géophys., Géogr.,ser.Geol., 32: 91-97.

- HARRISON C. J. O. 1975. The taxonomic status of MILNE-EDWARD's fossil sulids. Bull. Br. Ornith. Club, 95: 51-54.
- HARRISON C. J. O. 1978. A new Jungle-fowl from the Pleistocene of Europe. J. archaeol. Sci., 5: 373-376.
- HARRISON C. J. O. 1979a. The herons (Ardeidae) of the Old World Tertiary. Tertiary Res., Special Paper 5: 11-17.
- HARRISON C. J. O. 1979b. Birds of the Cromer Forest bed series of the east Anglian Pleistocene. Trans. Norfolk Norwich nat. Soc., 24: 277-286.
- HARRISON C. J. O., WALKER C. A. 1976a. A review of the bony-toothed birds (Odontopterygiformes): with descripptions of some new species. Tertiary Research Special Paper, 2: 1-62 + 10 pls.
- HARRISON C. J. O., WALKER C. A. 1976b. Birds of the British Upper Eocene. Zool. J. Linn. Soc., **59**: 323-351 + 7 pl.
- HARRISON C. J. O., WALKER C. A. 1977. Birds of the British Lower Eocene. Tertiary Research Special Paper, 3: 1-52 + 11 pls.
- HESSE A. 1990. Die Beschreibung der Messelornithidae (Aves: Gruiformes: Rhynocheti) aus dem Alttertiar Europas und Nordamerikas. Cour. Forsch.-Inst. Senckenberg, 128: 1-176.
- HOUDE P. W. 1988. Palaeognathous birds from the Early Tertiary of the Northern Hemisfere. Publ. Nuttall Ornith. Club, **22:** 148 pp.
- HOWGATE M. E. 1985. Problems of the osteology of *Archaeopteryx*: is the Eichstätt specimen a distinct genus? [In:] HECHT M. K. et al. (Eds.) The beginnings of birds. Proc. Intern. *Archaeopteryx* Conference Eichstätt 1984. p.: 105-112.
- International Code of Zoological Nomenclature. Third edition. London, 1985.
- JÁNOSSY D. 1972. Die Mittelpleistozäne Vogelfauna der Stranska Skala. Stránská Skála I 1910-1945. St. Mus. Mor., **20**: 35-64 + Taf.I-II.
- JÁNOSSY D. 1974a. Upper Pliocene and Lower Pleistocene bird remains from Poland. Acta zool. cracov., **19**: 531-566 + Pls. XXIII-XXIV.
- JÁNOSSY D. 1974b. Die mittelpleistozäne Vogelfauna von Hundsheim (Niederösterreich). Stzb. Österr. Ak. Wiss., Math.-nat. Kl., Abt.I., **182** (6-8): 211-257.
- JÁNOSSY D. 1976a. Plio-Pleistocene bird remains from the Carpathian Basin I. Galliformes 1. Tetraonidae. Aquila, 82: 13-36.
- JANOSSY D. 1976b. Plio-Pleistocene bird remains from the Carpathian Basin II. Galliformes 2. Phasianidae. Aquila, 83: 29-42.
- JÁNOSSY D. 1977. Plio-Pleistocene bird remains from the Carpathian Basin III. Strigiformes, Falconiformes, Caprimulgiformes, Apodiformes. Aquila, **84**: 9-36.
- Jánossy D. 1979. Plio-Pleistocene bird remains from the Carpathian Basin IV. Anseriformes, Gruiformes, Charadriiformes, Passeriformes. Aquila, **85**: 11-39.
- JÁNOSSY D. 1981. Die altpleistozänen Vogelfaunen von Deutsch-Altenburh 2 und 4 (Niederösterreich). Bäitr. Paläont. Öster., 8: 375-391.
- JÁNOSSY D. 1983. Die mttelpleistozäne Vogelfauna von Prezletice bei Prag (CSSR). Schriftenr. geol. Wiss., 19/20: 247-269.
- JÁNOSSY D. 1991. Late Miocene bird remains from Polgárdi (W-Hungary). Aquila, 98: 13-35.
- JÁNOSSY D. 1992. Lower Pleistocene bird remains from Beremend, (S-Hungary, loc. 15.and 16.). Aquila, **99**: 9-25.
- JURCSÁK T., KESSLER E. 1987. Evolutia avifaunei pe teritoriul României II. Morfologia speciilor fosile. Crisia, 17: 583-609.
- JURCSÁK T., KESSLER E. 1988. Evolutia avifaunei pe teritoriul României (III). Filogenie si sistematica. Crisia, 18: 647-688.
- KARKHU A. A. 1988. Novoe semeistvo strizheobraznykh iz Paleogena Evropy [A new family of swift-like birds from the Paleogene of Europe]. Paleont. Zh., 1988 (3): 78-88 [in Russian].
- KESSLER E. 1984. On some bird remains from the Pliocene of Malusteni in the Laboratoryof Paleontology University of Bucharest. 75 years of the Lab.of Pal., Univ. Buchar. Spec. Vol.: 287-293.
- KESSLER E. 1992. Review of the Neogene waterfowl (Aves: Anatidae) of Eastern Paratethys. Studia Univ. Babes-Bolyai, Biol., 37 (2): 47-54.
- KESSLER E. 1996. Tertiary avian localities of Romania. [In:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, 39 (for 1995) (3-4): 703-709.
- KESSLER E., GALL E. 1995. A new theory concerning the origin and evolution of birds. Six Symposium on Mesozoic Terrestrial Ecosystems and Biota. Short Papers. China Ocean Press, Beijing, pp.:215-216.

- KESSLER E., JURCSÁK T. 1984. Fossil bird remains in the bauxite from Cornet (Romania, Bihor county). Trav. Mus. Hist. nat. "Grigore Antipa", 25: 393-401.
- KESSLER E., JURCSÁK T. 1986. New contributions to the knowledge of the Lower Cretaceous bird remains from Cornet (Romania). Trav. Mus. Hist. nat. "Grigore Antipa", 28: 289-295.
- Kretzoi M. 1962. [Vogelreste aus der altpleistozänen Fauna von Betfia]. Aquila, 67-68 (1960-61): 167-174.
- KUROCHKIN E. N. 1996. A new enantiornithid of the Mongolian Late Cretaceous, and a general appraisal of the infraclass Enantiornithes (Aves). Russian Academy of Sciences, Paloaeontological Institute, Moscow, Special Issue. p.: 1-50 + plsI-IV.
- KUROTCHKIN E. N., GANEA I. M., 1972. Ptitsy srednego sarmata Moldavii. Pozvonochnye neogena i pleistotsena Moldavii. Kishinev. p.: 45-70. [in Russian].
- LACASA RUIZ A. 1989. Nuevo genero de ave fosil del yacimiento neocomiense del Montsec (Provincia de Lerida, Espana). Estudies geol., **45**: 417-425.
- LIVEZEY B. C., MARTIN L. D. 1988. The systematic position of the Miocene anatid *Anas* [?] *blanchardi* MILNE-EDWARDS. J. vert. Paleont., **8**(2): 196-211.
- MARTIN L. 1992. The status of the Late Paleocene birds *Gastornis* and *Remiornis*. Papers in Avian Paleontology Honoring Pierce Brodkorb. Nat.Hist.of Los Angeles County, Sc.Ser. 36: 97-108.
- MARTIN L. 1995. The Enantiornithes: terrestrial birds of the Cretaceous. Cour. Forsch.-Inst. Senckenberg, 181: 23-36.
- MLÍKOVSKÝ J. 1982a. Taxonomische Identität der *Anas submajor* JÁNOSSY, 1979 (Aves: Anseriformes) aus dem Oberpliozän Ungarns. Vest. cs. Spolec. zool., **46**: 199-202.
- MLÍKOVSKÝ J. 1982b. Zur systematischen Stellung von *Bucephala angustipes* JÁNOSSY, 1965 und *Somateria gravipes* HARRISON, 1970 (Aves: Anseriformes) aus dem Pleistozän Europas. Z. Geol. Wiss., **10** (11): 1463-1475.
- MLÍKOVSKÝ J. 1989a. A new swift (Aves: Apodidae) from the Late Miocene of France. Ann. Naturhist. Mus. Wien, 90 (A): 59-62.
- MLÍKOVSKÝ J. 1989b. A new guinea fowl (Aves: Phasianidae) from the Late Miocene of France. Ann. Naturhist. Mus. Wien, **90** (A): 63-66.
- MLÍKOVSKÝ J. 1992. The present state of knowledge of the Tertiary birds of Central Europe. Papers in Avian Paleontology Honoring Pierce Brodkorb. Nat.Hist.Mus.of Los Angeles County, Sc.Ser., 36: 433-458.
- MLÍKOVSKÝ J. 1995. Early Pleistocene birds of Stránská Skála Hill, Czech republic: 1. Musil's talus cone. [In:] R. Musil (Ed.): Stránská Skála Hill. Excavation of open-air sediments 1964-1972. Moravian Museum, Brno, Anthropos series, **26**: 111-126.
- MLΙΚΟVSΚÝ J. 1996a. Tertiary avian localities of Austria. [In:] J. MLΙΚΟVSΚÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, 39 (for 1995) (3-4): 529-533.
- MLίκονsκý J. 1996b. Tertiary avian localities of Czech Republic. [In:] J. MLίκονsκý (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39 (for 1995)** (3-4): 551-557.
- MLÍKOVSKÝ J. 1996c. Tertiary avian localities of Denmark. [In:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, 39 (for 1995) (3-4): 559-562.
- MLÍKOVSKÝ J. 1996d. Tertiary avian localities of Moldavia. [In:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39** (**for 1995**) (3-4): 685-691.
- MLÍKOVSKÝ J. 1996e. Tertiary avian localities of Ukraine. [In:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39** (**for 1995**) (3-4): 743-756.
- MLÍKOVSKÝ J. 1996f. Tertiary avian localities of the United Kingdom. [In:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39** (for **1995**) (3-4): 759-771.
- MLÍKOVSKÝ J. 1996g. Early and middle Pleistocene birds from the Bohemian Karst, Czech Republic. Acta Soc. Zool. Bohem., **60**: 187-190.
- MLÍKOVSKÝ J. 1997a. Taxonomic identity of *Fringilla radoboyensis* VON MEYER, 1865 (Aves) from the Middle Miocene of Croatia. Ann. Naturhist. Mus. Wien, **98A**: 143-149.
- MLÍKOVSKÝ J. 1997b. A new tropicbird (Aves: Phaethontidae) from the late Miocene of Austria. Ann. Naturhist. Mus. Wien, **98A**: 151-154.
- MLÍKOVSKÝ J., HESSE A. 1996. Tertiary avian localities of Germany. [In:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39** (for **1995**) (3-4): 619-647.
- MLÍKOVSKÝ J., ŠVEC P. 1989. Review of the Tertiary waterfowl (Aves: Anseridae) of Czechoslovakia. Čas. Mineral. Geol., **34**: 199-203.
- MORONY J. J. Jr., BOCK W. J., FARRAND J. Jr. 1975. Reference List of the Birds of the World. Dept. of Ornithology, American Museum of Natural History, New York, 207 pp.

- MOURER-CHAUVIRÉ C. 1975. Les oiseaux du Pléistocène moyen et supérieur de France. Docum. Lab. géol. Fac. sci. Lyon, **64** (1-er fasc.): 262 pp.
- MOURER-CHAUVIRÉ C. 1980. The Archaeotrogonidae of the Eocene and Oligocene Phosphorites du Quercy (France). Contrib. Sci. Natur. Hist. Mus Los Angeles County, **330**: 17-31.
- MOURER-CHAUVIRÉ C. 1981. Première indication de la présence de Phorusracidés, famille d'oiseaux géants d'Amérique du Sud, dans le Tertiaire Européen: *Ameghinornis* nov. gen. (Aves, Ralliformes) des Phosphorites du Quercy, France. Geobios, **14** (5): 637-647.
- MOURER-CHAUVIRÉ C. 1983. Les Gruiformes (Aves) des Phosphorites du Quercy (France). 1. Sous-ordre Cariamae (Cariamidae et Phorusrhacidae). Systématique et biostratigraphie. Palaeovertebrata, 13 (4): 83-143 + 5 pl.
- MOURER-CHAUVIRÉ C. 1985. Les Todidae (Aves, Coraciiformes) des Phosphorites du Quercy. Proc. Nederl. Ak. Wet., (B) 88 (4): 407-411.
- MOURER-CHAUVIRÉ C. 1987. Les Strigiformes (Aves) des Phosphorites du Quercy (France): systéatique, biostratigraphie et paléobiogéographie. Docum. Lab. Géol. Lyon, **99**: 89-135.
- MOURER-CHAUVIRÉ C. 1988. Les Aegialornithidae (Aves: Apodiformes) des Phosphorites du Quercy. Comparaison avec la forme de Messel. Cour. Forsch.-Inst. Senckenberg, **107**: 369-381.
- MOURER-CHAUVIRÉ C. 1989. A peafowl from the Pliocene of Perpignan, France. Palaeontology, **32** (2): 439-446.
- MOURER-CHAUVIRÉ C. 1991. Les Horusornithidae nov.fam., Accipitriformes (Aves) à articulation intertarsienne hyperflexible de l'Éocene du Quercy. Geobios, **1991** (13): 183-192.
- MOURER-CHAUVIRÉ C. 1992. The Galliformes (Aves) from the Phosphorites du Quercy (France): systematics and biostratigraphy. Papers in Avian Paleontology Honoring Pierce Brodkorb. Nat.Hist.Mus.of Los Angeles County, Sc.Ser., 36: 67-95.
- MOURER-CHAUVIRÉ C. 1993. Les Gangas (Aves, Columbiformes, Pteroclidae) du Paléogène et du Miocene inferieur de France. Palaeovertebrata, **22** (2-3): 73-98 + pl. 1-3.
- MOURER-CHAUVIRÉ C. 1994. A large owl from the Palaeocene of France. Palaeontology, 37(2): 339-348 + 1 pl.
- MOURER-CHAUVIRÉ C. 1995a. The Messelornithidae (Aves: Gruiformes) from the Paléogène of France. Cour. Forsch.-Inst. Senckenberg, **181**: 95-105.
- MOURER-CHAUVIRÉ C. 1995b. Dynamics of the avifauna during the Paleogene and Early Neogene of France. Settling of the recent fauna. Acta zool. cracov., **38** (3): 325-342.
- MOURER-CHAUVIRÉ C. 1996. Paleogene avian localities of France. [In:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39** (for **1995**) (3-4): 567-598.
- MOURER-CHAUVIRÉ C., ANTUNES M. T. 1991. Présence du grand pingouin, *Pinguinus impennis* (Aves, Charadriiformes) dans le Pléistocène du Portugal. Geobios, **24** (2): 201-205.
- MOURER-CHAUVIRÉ C., CHENEVAL J. 1983. Les Sagittaridae fossiles (Aves, Accipitriformes) de l'Oligocène des Phosphorites du Quercy et du Miocène inférieur de Saint-Gérand-le-Puy. Geobios, **16** (4): 443-459.
- MOURER-CHAUVIRÉ C., SALLOTTI M., PEREIRA E., QUINIF Y., COUTOIIS J.-C., DUBOIS J.-N., LA MILZA J.-C. 1997. Athene angelis n. sp. (Aves, Strigiformes), nouvelle espèce endémique insulaire éteinte du Pléistocène moyen et supèrieur de Corse (Frace). C. R. Acad. Sci. Paris, 324, ser. IIa: 677-684.
- NESSOV L. A., JARKOV A. A. New Cretaceous-Paleogene birds of the USSR and some remarks on the origin and evolution of the Class Aves. Tr. zool. Inst. A.N.SSSR, Leningrad, 197: 78-97 2 pl. [in Russian, English summ.]
- NORTHCOTE E. M. 1992. Swans (*Cygnus*) and cranes (*Grus*) from the Maltese Pleistocene. Papers in Avian Paleontology Honoring Pierce Brodkorb. Nat.Hist.Mus.of Los Angeles County, Sc.Ser.**36**: 285-291.
- NORTHCOTE E. M., MOURER-CHAUVIRÉ C. 1988. The extinct crane *Grus primigenia* MILNE-EDWARDS in Majorca (Spain). Geobios, **21**(2): 201-208.
- OLSON S. L. 1974. *Tantalus milneedwardsi* Shufeldt a synonym of the Miocene pheasant *Miophasianus altus* (Milne-Edwards). Wilson Bull., **86** (2): 110-113.
- OLSON S. L. 1976. Fossil Woodcocks: an extinct species from Puerto Rico and an invalid species from Malta (Aves: Scolopacidae: *Scolopax*). Proc. Biol. Soc. Washington, **89** (2): 265-274.
- OLSON S. L. 1977. A synopsis of the fossil Rallidae. [In:] S. D. RIPLEY 1977. Rails of the World: A Monograph of the Family Rallidae. Toronto, p.: 339-373.
- OLSON S. L. 1978. The nomenclatural status of the taxa of fossil birds attributed to Auguste Aymard. Proc. Biol. Soc. Washington, **89** (2): 444-449.
- OLSON S. L. 1982. The generic allocation of *Ibis pagana* MILNE-EDWARDS, with a review of fossil ibises (Aves: Threskiornithidae). J.vert. Paleont. 1(2): 165-170 [for 1981].

- OLSON S. L. 1985. The fossil record of birds. [In:] S. FARNER, J. R. KING, K. C. PARKES (Eds.) Avian Biology, Academic Press, 8: 79-238.
- OLSON S. L. 1995. *Thiornis sociata* NAVAS, a nearly complete miocene Grebe (Aves: Podicipedidae). Cour. Forsch.-Inst. Senckenberg, **181**: 131-140.
- OLSON S. L., FEDUCCIA A. 1979. An Old World occurrence of the Eocene avian family Primobucconidae. Proc. Biol. Soc. Wash., **92** (3): 494-497.
- OLSON S. L., FEDUCCIA A. 1980. Relationships and evolution of flamingos (Aves: Phoenicopteridae). Smiths. Contr. Zool., **316**: 1-73.
- OLSON S. L., PARRIS D. C. 1987. The Cretaceous birds of New Jersey. Smiths. Contr. Paleobiology, 63: 1-22.
- PETERS D. S. 1985. Ein neuer Segler aus der Grube Messel und seine Bedeutung für den Status der Aegialornithidae (Aves: Apodiformes). Senckenbergiana lethaea, **66** (1/2): 143-164.
- PETERS D. S. 1987a. *Juncitarsus merkeli* n. sp. stützt die Abteilung der Flamingos von Regenpfleifervögeln (Aves: Charadriiformes: Phoenicopteridae). Cour. Forsch.-Inst. Senckenberg, **97**: 141-155.
- Peters D. S. 1987b. Ein "Phorusrhacide" aus dem Mittel-Eozän von Messel (Aves: Gruiformes: Cariamae). Docum. Lab. Gèol., Lyon, **99**: 71-87.
- Peters D. S. 1988. Ein vollständiges Exemplar von *Palaeotis weigelti* (Aves, Palaeognathae). Cour. Forsch.-Inst. Senckenberg, **107**: 223-233.
- Peters D. S. 1992. A new specie of owl (Aves: Strigiformes) from the Middle Eocene Messel oil shale. Papers in Avian Paleontology Honoring Pierce Brodkorb. Nat. Hist. Mus. of Los Angeles County, Sc. Ser., 36: 161-169.
- Peters D. S. 1994. Messelastur gratulator n. gen. n. spec., ein Greifvogel aus der Grube Messel (Aves: Accipitridae). Cour. Forsch.-Inst. Senckenberg, 170: 3-9.
- PETERS D. S. 1995. *Idiornis tuberculata* n.sp., ein weiterer ungewöhnlicher Vogel aus der Grube Messel (Aves: Gruiformes: Cariamidae: Idiornithinae). Cour. Forsch.-Inst. Senckenberg, **181**: 107-119.
- SANCHEZ MARCO A. 1987. Saalian s.l. avian findings in the northern Iberian plateau. Docum. Lab. Géol. Lyon, **99**: 193-196.
- SANCHEZ MARCO A. 1996a. Tertiary avian localities of Portugal. [in:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, 39 (for 1995) (3-4): 699-701.
- SANCHEZ MARCO A. 1996b. Tertiary avian localities of Spain. [in:] J. MLÍKOVSKÝ (Ed.) Tertiary Avian Localities of Europe. Acta Universitatis Carolinae, Geologica, **39** (for **1995**) (3-4): 719-732.
- SANZ J. L., BONAPARTE J. F. 1992. A new order of birds (Class Aves) from the lower Cretaceous of Spain. Papers in Avian Paleontology Honoring Pierce Brodkop. Nat.Hist.Mus.of Los Angeles County, Sc.Ser., 36: 39-49.
- SANZ J. L., BUSCALIONI A. D. 1992. A new bird from the early Cretaceous of Los Hoyas, Spain. Paleontology, **35** (4): 829-845.
- Sanz J. L., Chiappe L. M., Perez-Moreno B. P., Buscalioni A. D., Moratalla J. J., Ortega F., Poyato-Ariza F. J. 1996. An Early Cretaceous bird from Spain and its implications for the evolution of avian flight. Nature, 382: 442-445.
- ŠVEC P. 1980. Lower Miocene birds from Dolnice (Cheb basin), western Bohemia. Čas.pro miner.a geol., 25 (4): 377-387+ Pl.I
- ŠVEC P. 1981. Lower Miocene birds from Dolnice (Cheb basin), western Bohemia, part II. Čas.pro miner.a geol., 26 (1): 45-56 + Pl.I-IV.
- UMANSKAJA A. S. 1979a. Miocenovye ptitsy zapadnogo prichernomor'ya USSR. Soobshchenye I. Vestnik zool., Kiev, 1979 (4): 40-45.
- UMANSKAJA A. S. 1979b. Novyi vid filina (*Bubo longaevus*) iz pozdneneogenovych otlozhenii severnogo prichernomor'ya USSR. Dokl. A.N. Ukr.SSR, Ser. "B", (9): 779-782.
- UMANSKAJA A.S. 1981. Miocenovye ptitsy zapadnogo prichernomor'ya USSR. Soobshchenye II. Vestnik zool., Kiev, **1981** (3): 17-21.
- Weesie P. D. M. 1987. Preliminary report on the Pleistocene birds from Crete. Docum. Lab. Géol. Lyon, 99: 197-200.
- WOLTERS H. E. 1975. Die Vogelarte der Erde. Paul Parey, Hamburg und Berlin, Lief. 1.



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