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Nomenclatural and taxonomic status of fossil birds described by H.G.L. REICHENBACH in 1852

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Abstract

REICHENBACH (1852) named 3 new species and 14 new genera of fossil birds, whose nomenclatural and taxonomic status has been reviewed. Of the species, *Protopelicanus cuvierii*, and *Todarna wagneri* are available for nomenclatural purposes, while *Protopelargus meyeri* is a nomen nudum. Of the genera, *Anomalopteryx, Cela, Emeus, Moa, Movia, Protopelicanus, Syornis, Tantalatos*, and *Todarna* are available for nomenclatural purposes, while *Protopelargus* and *Tantaleus* are nomina nuda. *Camelornis, Struthionanax,* and *Struthiopappus* are not available for nomenclatural purposes in any sense, because they were based on hypothetical forms.

Key words: H.G.L. REICHENBACH; Aves; Eocene; Miocene; Quaternary; France; Germany; Sardinia; New Zealand.

Kurzfassung

REICHENBACH (1852) benannte 3 neue Arten und 14 neue Gattungen fossiler Vögel; ihr nomenklatorischer und taxonomischer Status wird revidiert. Die Namen *Protopelicanus cuvierii* und *Todarna wagneri* sind nomenklatorisch verfügbar. *Protopelargus meyeri* ist ein Nomen nudum. Die Gattungsnamen *Anomalopteryx, Cela, Emeus, Moa, Movia, Protopelicanus, Syornis, Tantalatos* und *Todarna* sind nomenklatorisch verfügbar. *Protopelargus* und *Tantaleus* sind Nomina nuda. *Camelornis, Struthionanax* und *Struthiopappus* sind nomenklatorisch nicht verfügbar, da sie für hypothetische Taxa vergeben wurden.

Schlagwörter: H.G.L. REICHENBACH; Aves; Eozän; Miozän; Quartär; Frankreich; Deutschland; Sardinien; Neuseeland.

Introduction

German naturalist HEINRICH GOTTLIEB LUDWIG REICHENBACH (1793-1879) named in his classification of birds (REICHENBACH 1852) 3 new species and 14 new genera of fossil birds, of which all the species and 8 genera (*Protopelicanus, Todarna, Tantalatos, Tantaleus, Protopelargus, Struthionanax, Struthiopappus* and *Camelornis*) were not listed in the last catalogues of fossil birds (LAMBRECHT 1933, BRODKORB 1963, 1964, 1967, 1971, 1978). A nomenclatural and taxonomic revision of REICHENBACH's (1852) avian fossil taxa is thus of interest. Its results are presented below.

The date of publication of the REICHENBACH's work under discussion is uncertain, because its text part was originally dated "1850", but apparently has appeared later. RICHMOND (1917) attributed it to the year 1853, but SHERBORN (1922) reasoned that it was published in 1852. I follow here SHERBORN's decision.

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Systematic account

Protopelicanus cuvierii REICHENBACH

REICHENBACH (1852: vii) named this genus and species on the basis of a cranial part of left scapula and a nearly complete left femur from the late Eocene of Montmartre, France, as briefly described and figured by CUVIER (1822: 317, pl. 73, figs. 12 and 13). With this reference, both the generic and specific names are available for nomenclatural purposes and attributable to REICHENBACH (1852). HARRISON (1979) erroneously believed that REICHENBACH's *Protopelicanus cuvierii* is a nomen nudum and incorrectly attributed the name to BRUNET (1970: 11). BRUNET (1970) was apparently the first modern author who revised type materials of this species, but referred only to the femur, making no notice of the syntypic scapular fragment. Although this was apparently made in error, BRUNET's (1970: 11) action may nevertheless be understood as a selection of the mentioned femur (Muséum National d'Histoire Naturelle Paris, No. 7978) as a lectotype of *Protopelicanus cuvierii* (see also OLSON 1985: 202). The scapular fragment (of unknown location) should be referred to as paralectotype.

The taxonomic position of *Protopelicanus cuvierii* is much less clear. CUVIER (1822: 327) mentioned that the syntypes of this taxon resemble the same bones of *"Pelecanus"*, under which name he united pelicans and cormorants. BRUNET (1970) concluded that the lectotype femur is typical of pelicans, but HARRISON (1979) argued that it belongs to the Sulidae. OLSON (1985) casted doubts on both of these taxonomic assignments, stating that the discussed femur might well belong to the Pelagornithidae. Obviously, *Protopelicanus cuvierii* is in need of restudy before its taxonomic position can be identified with sufficient probability.

Todarna wagneri REICHENBACH

REICHENBACH (1852: x) based this genus and species upon four elements (right humerus, proximal part of right tibiotarsus, left coracoid and phalanx I digiti majoris) from the "Diluvium" (= Pleistocene) of Monte Reale near Cagliari in southern Sardinia in the Mediterranean Sea, as described and figured by WAGNER (1832: 778-779, pl. 2, figs. 49-52). Consequently, both the generic and the specific names are available for nomenclatural purposes and can be attributed to REICHENBACH (1852). *Todarna wagneri* REICHENBACH 1852 is, by monotypy, the type species of *Todarna* REICHENBACH 1852.

The taxonomic identity of this taxon is less obvious. WAGNER (1832) described it as a "duck?" and C. L. NITZSCH (in WAGNER 1833) confirmed his opinion, stating that the mentioned bones are "quite certainly from *Anas*, being particularly similar to *A. tadorna*" (my translation). Note that the shelducks (now separated in the genus *Tadorna* OKEN 1817) were almost generally included in *Anas* in the 1830s (cf. EYTON 1838). REICHENBACH (1852) apparently followed NITZSCH's identification of the bird, but created a new genus for it. My reexamination of the figures in WAGNER (1832) fully confirmed NITZSCH's opinion that the syntypes belong to a tadornine duck (with the possible exception of the phalanx which cannot be properly identified from the figure), but I have not found any support for REICHENBACH's (1852) distinction between *Todarna* and *Tadorna*. REICHENBACH (1852) created the genus without any comment, so that this negative observation is sufficient for including *Todarna* REICHENBACH 1852 in the synonymy of *Tadorna* OKEN 1817. Within the genus *Tadorna, T. wagneri* is both morphologically and metrically inseparable from either *Tadorna tadorna* (LINNAEUS 1758) or *Tadorna ferruginea* (PALLAS 1764) (as judged from the figures). Both these *Tadorna* species are currently distributed in the Mediterranean area (CRAMP & SIMMONS 1977) and it is probable that *Todarna wagneri* is synonymous with one of them. Previous Pleistocene record of the genus *Tadorna* on Mediterranean islands was limited to Corsica (ALCOVER et al. 1992).

Tantalatos REICHENBACH

REICHENBACH (1852: xiv) based this genus upon the specific name *fossilis* (for which no author was given) under the reference to *Tantalus* of CUVIER (1822: 327, pl. 73, fig. 14). The specific name can be traced back to GIEBEL (1847: 27; not 28 as stated by GERVAIS 1848: 231), who created it in the binomen *T[antalus] fossilis* for the right femur (with damaged proximal part) from the late Eocene of Montmartre, France, as briefly described and figured by CUVIER (1822: 327, pl. 73, fig. 14). Hence, both the specific name *fossilis* GIEBEL 1847, as published in the binomen *Tantalus fossilis*, and the generic name *Tantalatos* REICHENBACH 1852, as based, by monotypy, upon *Tantalus fossilis* GIEBEL 1847, are available for nomenclatural purposes. BRUNET (1970: 25) erroneously attributed also the specific name to REICHENBACH ("1850" = 1852) and incorrectly considered it and the generic name nomina nuda.

GERVAIS (1844a: 284; not 283 as stated by both GERVAIS 1848: 231 and BRUNET 1970: 25) mentioned this femur, stating that CUVIER's (1822) "Echassier voisin des Ibis" is "an extinct species of curlew, somewhat resembling *Numenius gypsorum*" (my

translation). This paper was in fact only an abstract of a lecture on GERVAIS' forthcoming monograph (GERVAIS 1844b). There, the only two sentences related to *Numenius gypsorum* are GERVAIS' assurance that among the avian species identified from the Tertiary deposits is "*Numenius gypsorum* from the Paris vicinity, which we regard as an extinct species" and his (1844b: 18) note that the Paris Museum acquired new materials from the "gypses de Paris" which included also "a *Numenius* allied to the Common Curlew (probably the Ibis of CUVIER)" (my translation). Clearly, both *Numenius gypsorum* GERVAIS 1844a and *Numenius gypsorum* GERVAIS 1844b are nomina nuda.

Survey of the literature showed that the name *Numenius gypsorum* can be attributed to GERVAIS (1848: 230), who described it under the reference to a partial skull imprint showing brain morphology (GERVAIS 1852, pl. 49, fig. 2; see also DECHASEAUX 1970), lateral sternum imprint (GERVAIS 1852, pl. 49, fig. 3, see also BRUNET 1970, pl. A, fig. c) and partial skull imprint with several associated cervical vertebrae (GERVAIS 1852, pl. 50, fig, 1). These three specimens form the syntypes of *Numenius gypsorum*. The femur upon which *Tantalus fossilis* GIEBEL 1847 was based does not belong among the syntypes of *Numenius gypsorum* as was correctly stated by GERVAIS (1848: 231), but not recognized by subsequent authors (BRODKORB 1967: 185, BRUNET 1970: 25). Hence, *Tantalus fossilis* GIEBEL 1847 and *Numenius gypsorum* GERVAIS 1848 are nomenclaturally independent taxa, based upon different type materials.

Less clear is the taxonomic position of the two species. *Tantalus fossilis* GIEBEL has been considered synonymous with *Numenius gypsorum* GERVAIS by GERVAIS (1848) and all modern authors (BRODKORB 1967, BRUNET 1970). There is, however, no a priori reason for this (see above). As seen in the figure, the holotype femur of *Tantalus fossilis* rather resembles the femora of idiornithine cariamas in its general shape. These cariamas were common in the late Eocene of France (MOURER-CHAUVIRÉ 1983) and it is possible that it belongs in the latter subfamily. If so, this may cause nomenclatural changes in the subfamily Idiornithinae at the genus level, because the generic name *Tantalatos* REICHENBACH 1852 antedates all the other generic names of idiornithine cariamas (cf. MOURER-CHAUVIRÉ 1983), including *Propelargus* LYDEKKER 1891, *Elaphrocnemus* MILNE-EDWARDS 1892, *Orthocnemus* MILNE-EDWARDS 1892 (preoccupied), *Idiornis* OBERHOLSER 1899, *Occitaniavis* MOURER-CHAUVIRÉ 1983, and *Oblitavis* MOURER-CHAUVIRÉ 1983.

On the other hand, *Numenius gypsorum* GERVAIS was transferred in another modern scolopacid genus *Limosa* by BRODKORB (1967: 185) without any substantiation. BRUNET (1970) restudied the syntype sternum imprint, concluded that it is indeed from a scolopacid bird, but left the species in the genus *Numenius*. HARRISON (1979) reevaluated his observations and placed subsequently *gypsorum* in the allegedly scolopacid genus *Villetus* HARRISON & WALKER 1976, described from the late Eocene of Great Britain on the basis of *Villetus grandis* HARRISON & WALKER 1976 and *Villetus waltoni* HARRISON & WALKER 1976. MLÍKOVSKÝ (1981) restudied the external brain morphology of *Numenius gypsorum* which is well visible in one of the syntypes (see DECHASEAUX 1970), concluded that this specimen is from a rail and transferred consequently *Numenius gypsorum* in the family Rallidae, creating a new genus, *Montirallus*, for it. To stop confusions surrounding the name of *Numenius gypsorum* GERVAIS, I select here the latter skull imprint (Muséum National d'Histoire Naturelle Paris, first figured by GERVAIS 1852, pl. 49, fig, 2) as the lectotype of this species. The other two imprints mentioned above become thus paralectotypes of *Numenius gypsorum* GERVAIS. Because *Numenius gypsorum* GERVAIS 1844a upon which *Montirallus* MLÍKOVSKÝ 1981 was formally based is nomen nudum (see above), I emend here the citation of the type species to *Numenius gypsorum* GERVAIS 1848.

Tantaleus REICHENBACH

REICHENBACH (1852: xiv) based this genus upon the specific name *brecciensis* (for which no author was given) under the reference to DE LA MARMORA's description of the Pleistocene deposits of Monte Reale near Cagliari in southern Sardinia in the Mediterranean Sea (DE LA MARMORA 1831: 310). The specific name can be traced back to GIEBEL (1847: 27), who referred to the same author, work and page. However, the only sentence related to birds in the DE LA MARMORA's (1831) paper reads (p. 10): "Among the avian remains I have found an ulna of a wading bird, probably a *tantalus* [= ibis]; phalanges of a vulture, and remains of an owl" (my translation). Because STUDIATI (1857) who described the fossils recovered by the DE LA MARMORA's expedition to Sardinia has not contributed any other relevant data, both *Tantalus brecciensis* GIEBEL 1847 and *Tantaleus* REICHENBACH 1852 are to be relegated to the category of nomina nuda.

GIEBEL (1877: 596) and LAMBRECHT (1933: 324) inexplicably attributed the specific name *brecciensis* (misspelled as *bresciensis* by GIEBEL) to DE LA MARMORa (1831). LAMBRECHT's (1933: 324) reference to KEFERSTEIN (1834: 245) is also irrelevant, because the latter author mentioned only the generic name *Tantalus* without any specific name.

Protopelargus meyeri REICHENBACH

REICHENBACH (1852: xiv) based this genus and species upon *Ciconia* of von MEYER (1839: 77). However, the only relevant sentence in von MEYER (1839) reads (p. 77): "From the Tertiary *Paludina* limestones near Wiesbaden I identify ... bones of a bird (*Ciconia*?) ..." (my translation). This is clearly insufficient as a description, so that both the specific and generic names *Protopelargus meyeri* REICHENBACH 1852 are to be relegated to the category of nomina nuda.

Cela REICHENBACH

REICHENBACH (1852: xxx) attributed this genus to MOEHRING (1752). This is, however, a pre-Linnean author, so that *Cela* should be attributed to REICHENBACH (1852) himself (see also BRODKORB 1963: 213). As such it is available for nomenclatural purposes, being based, by monotypy, upon *Dinornis curtus* OWEN 1846, an available name given for a moa of the New Zealand Quaternary. *Cela* OKEN 1816 and *Cela* ILLIGER 1826 are senior homonyms of *Cela* REICHENBACH 1852 (BRODKORB 1963: 213), while *Celeus* BONAPARTE (1856: 841) is its junior objective synonym.

Cela REICHENBACH 1852 was synonymized with *Euryapteryx* VON HAAST 1874 by BRODKORB (1963) and CRACRAFT (1976).

Emeus REICHENBACH

REICHENBACH (1852: xxx) attributed this generic name to BARRERE (1745), but because this is a pre-Linnean author, the name should be attributed to REICHENBACH (1852) himself (see also BRODKORB 1963: 212). As such it is available for nomenclatural purposes, being based, by monotypy, upon *Dinornis crassus* OWEN 1846, an available name given for a moa from the New Zealand Quaternary.

Emeus REICHENBACH 1852 is a valid genus of moas according to BRODKORB (1963) and CRACRAFT (1976).

Syornis REICHENBACH

Syornis REICHENBACH (1852: xxx) was based, by monotypy, upon *Dinornis casuarinus* OWEN 1846, an available name given for a moa of the New Zealand Quaternary. The generic name is thus available for nomenclatural purposes as well.

Syornis REICHENBACH 1852 appears to be synonymous with *Emeus* REICHENBACH 1852 (BRODKORB 1963, CRACRAFT 1976).

Anomalopteryx REICHENBACH

The genus *Anomalopteryx* was created by REICHENBACH (1852: xxx) for *Dinornis didiformis* OWEN 1844. Both the specific and the generic names are available for nomenclatural purposes. *Anomalornis* HUTTON (1897) is a junior objective synonym of *Anomalopteryx* REICHENBACH 1852.

Anomalopteryx REICHENBACH 1852 is considered a valid moa genus (BRODKORB 1963, CRACRAFT 1976).

Movia REICHENBACH

The genus *Movia* was based by REICHENBACH (1852: xxx) upon *Dinornis ingens* OWEN 1844, a moa of the New Zealand Quaternary. Both the specific and the generic names are available for nomenclatural purposes.

Movia REICHENBACH 1852 is a junior objective synonym of *Palapteryx* OWEN 1846.

Moa REICHENBACH

REICHENBACH (1852: xxx) created this genus for *Dinornis giganteus* OWEN 1844, a moa of the New Zealand Quaternary. Both the specific and generic names are available for nomenclatural purposes.

Moa REICHENBACH 1852 is a synonym of *Dinornis* OWEN 1843 (BRODKORB 1963, CRACRAFT 1976).

Struthionanax REICHENBACH, *Struthiopappus* REICHENBACH and *Camelornis* REICHENBACH

These three genera, all described by REICHENBACH (1852: xxx), are just names for hypothetical (fossil) relatives of the ostrich. They are thus not available for nomenclatural purposes, even not as nomina nuda (ICZN 1985, Art. 1/b/1).

Summary

REICHENBACH (1852) named 3 new species and 14 new genera of fossil birds from the late Eocene of France, Miocene of Germany, Pleistocene of Sardinia and Quaternary of New Zealand, most of which

escaped attention of modern paleornithologists. Re-examination of their taxonomic and nomenclatural status yielded the following new conclusions:

(1) *Todarna* REICHENBACH 1852 is synonymous with *Tadorna* OKEN 1817, while *Todarna wagneri* REICHENBACH 1852 is synonymous either with *Tadorna tadorna* (LINNAEUS 1758) or *Tadorna ferruginea* (PALLAS 1764).

(2) *Tantalatos* REICHENBACH 1852 and *Tantalus fossilis* GIEBEL 1847 are available for nomenclatural purposes, representing probably an idiornithine cariama.

(3) *Numenius gypsorum* GERVAIS 1844a and *Numenius gypsorum* GERVAIS 1844b are nomina nuda, but the name is attributable to GERVAIS (1848). A lectotype of *Numenius gypsorum* was selected.

(4) *Tantaleus* REICHENBACH 1852, *Tantalus brecciensis* GIEBEL 1847, *Protopelargus* REICHENBACH 1852, and *Protopelargus meyeri* REICHENBACH 1852 are nomina nuda.

(5) *Struthionanax* REICHENBACH 1852, *Struthiopappus* REICHENBACH 1852 and *Camelornis* REICHENBACH 1852 are not available for nomenclatural purposes.

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