

A SYNOPSIS OF  
THE FOSSIL RALLIDAE

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By STORRS L. OLSON

*Reprinted with a separate bibliography  
from Chapter 5 of*

RAILS OF THE WORLD

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A Monograph of the Family Rallidae

By S. DILLON RIPLEY

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*Let me not burst in ignorance, but tell  
Why thy canonized bones, hearsed in death,  
Have burst their cerements; why the sepulchre  
Wherein we saw thee quietly inurn'd,  
Hath oped his ponderous and marble jaws  
To cast thee up again.*

WILLIAM SHAKESPEARE (1564-1616)  
*Hamlet*, Act 1, Scene 4

BY STORRS L. OLSON

NO ACCOUNT OF THE RALLIDAE could properly be said to be complete without a consideration of the fossil and subfossil species of the family, particularly since these include some of its most bizarre and divergent members. In this chapter I have attempted to assemble and condense the primary literature concerning all the extinct forms of rails for which there are no known study skins, with the exception of the extinct rail of Tahiti, discussed elsewhere in this volume. The chapter falls into two main parts — the first treating of the more ancient forms of rails from continental deposits, usually known from a few bones or fragments only, and the second dealing with recently exterminated species from oceanic islands, most of which are represented by fairly complete skeletons.

Although the fossil history of birds begins in the Mesozoic Era, about 140 million years before present, it is not until well into the Tertiary Period of the Cenozoic Era that geologic deposits begin to yield bird fossils with any frequency. Despite first appearances, the Tertiary record of the Rallidae is meager and largely uninformative. The earliest fossils assigned to the Rallidae derive from deposits of the Lower Eocene epoch and are thus roughly 50 million years old. All the five oldest fossil species (in the genera *Palaeorallus*, *Eocrex*, *Fulicaetornis*, and *Ibidopsis*) are based entirely on the distal ends of tibiotarsi. This tells us little except that birds with rail-like tibiotarsi were in existence in the Eocene; there is no way of knowing how much the rest of these birds resembled or differed from modern rails.

The two Upper Eocene species here included in the genus *Ludiortyx* are founded on crushed skeletal impressions that are only tentatively assigned to the Rallidae. The three species of *Quercyrallus*, from the Eocene or Oligocene of France, are based on as many fragments of bone and are similarly uninformative.

Not until we come to the Upper Oligocene or Lower Miocene genera *Rallicrex*, *Palaeoaramides*, and *Paraortygometra* do we meet with fossil rails that are based on adequate and diagnostic material. By this time, between 20 and 30 million years before present, these birds had achieved a morph-

ology not significantly different from that of modern rallids. Unfortunately, none of these taxa has been compared with an adequate series of skeletons of modern forms, so their relationships within the Rallidae are not known. The affinities implied in their generic names cannot be accepted until such comparisons are made.

Except for the questionable genera *Miofulica*, *Creccoides*, and *Euryonotus*, only two other extinct genera of continental rails are recognized — *Pararallus* and *Miorallus*, both from the Upper Miocene of France, the latter based on a single fragment. All other continental fossil rails from Pliocene and Pleistocene deposits have been assigned to modern genera.

Thus, what we know so far of the ancient history of rails is something of a disappointment, the fossil record telling us almost nothing about the origins and relationships of the Rallidae. We can feel fairly confident that the family was in existence by the Eocene and probably earlier, but this is yet to be founded on solid evidence.

Quite in contrast to the continental Tertiary, the late Quaternary deposits of oceanic islands have produced numerous well-preserved species of extinct rails. As will become evident, rails are particularly successful at colonizing remote oceanic islands and an almost universal adaptation of such island rails is their loss of flight. This condition evolves very rapidly, possibly to conserve energy through the reduction of the flight muscles (Olson, 1973a). Being flightless, these rails are very susceptible to predation by rats, cats, and other mammals introduced by man, and the populations of small islands may thus be quickly exterminated.

Most of the species discussed in the second part of this chapter have become extinct in the 500 years since the beginning of extensive overseas exploration by Europeans. We may predict the discovery of many more species on oceanic islands that have not been explored paleontologically. In the next few decades the catalog presented here might easily be doubled if sufficient explorations are undertaken.

Most of the fossil species of island rails can be referred to modern genera. There are only five extinct genera, and, of these, *Hovacrex* is perhaps not separable from *Gallinula* (sensu lato). *Capellirallus* and *Diaphorapteryx* of the New Zealand region and *Aphanapteryx* of the Mascarenes are unquestionably valid and are morphologically quite distinct from living genera. However, they are evidently derived from the rather advanced rails of the *Gallirallus*-*Rallus* lineage (cf. Olson, 1973b). Likewise, the enigmatic *Nesotrochis*, with three known species in the Greater Antilles, cannot possibly be referred to any extant genus, but, in contrast to the preceding three genera, its relationships remain obscure.

In the following species accounts, etymologies and authorities are given for fossil taxa only. In the synonymies I have attempted to list only the earliest reference for each combination of names used for a particular species. In referring to the museums and collections in which particular specimens may be found, the following abbreviations have been used: AMNH, American Museum of Natural History; ANSP, Academy of Natural Sciences of Philadelphia; BMNH, British Museum (Natural History); KU, University of Kansas; LACM, Natural History Museum of Los Angeles County; MACN, Museo Argentino de Ciencias Naturales; MZUC, Museum of Zoology, University of Cambridge; NMNZ, National Museum of New Zealand; PB, collection of Pierce Brodkorb; PM, Muséum National d'Histoire Naturelle, Paris; QM, Queensland Museum; UMMP, University of Michigan Museum of Paleontology; USNM,

National Museum of Natural History, Smithsonian Institution; YPM, Peabody Museum of Natural History, Yale University.

I express my indebtedness to Mr. John Farrand, Jr., who has offered many helpful comments on the manuscript and has taken particular pains to check, and often to improve upon, the etymologies.

Bibliographical note: Milne-Edwards' great four-volume work on the fossil birds of France was issued in parts from 1867 to 1871. For convenience I have cited this simply as O.F.F. (Oiseaux Fossiles de la France). When it has been necessary to refer to the date of publication of a certain part of that work, the date is given in parentheses, *viz.* O.F.F. (1869).

TERTIARY AND QUATERNARY FOSSIL RALLIDAE  
FROM CONTINENTAL DEPOSITS

Genus *Palaeorallus* Wetmore

*Palaeorallus* Wetmore, 1931, p. 108.

TYPE: *Palaeorallus troxelli* Wetmore, by monotypy.

INCLUDED SPECIES: *P. troxelli*, *P. brodkorbi*.

ETYMOLOGY: "Ancient rail," from Greek *palaios* (ancient), and *rallus*, latinized form of German *ralle* (rail). Parajon (1968) suggests a derivation of *rallus* from Latin *rarus*, diminutive of *rarus* (thin). However, Latin *rarus* connotes "thin" in an atmospheric sense (as in English "rarefied"), the idea of slenderness being conveyed by the word *gracilis*. Thus, the traditional derivation of *rallus* seems more likely.

*Palaeorallus troxelli* Wetmore

*Palaeorallus troxelli* Wetmore, 1931, p. 108, figs. 26-29.

HOLOTYPE: Distal portion of right tibiotarsus (USNM 12042).

HORIZON: Lower Eocene, Willwood Formation.

LOCALITY: Wyoming, Big Horn County, northwest of Little Tatman Mountain, south of Burlington, south of Preator's Ranch.

MATERIAL: Holotype only.

ILLUSTRATIONS: Wetmore, 1931; Cracraft, 1973b.

ETYMOLOGY: After Dr. Edward L. Troxell, the collector.

REMARKS: Somewhat larger than modern *Rallus longirostris*, according to Wetmore (1931). Said by Cracraft (1973b, p. 44) to be "so distinct osteologically that it is difficult . . . to see any clear relationship to any modern group of rails."

*Palaeorallus brodkorbi* Cracraft

*Palaeorallus brodkorbi* Cracraft, 1973b, p. 10, fig. 2.

HOLOTYPE: Distal portion of left tibiotarsus (USNM 15161).

HORIZON: Lower Eocene, Wasatch Formation.

LOCALITY: Wyoming, Washakie County, 12 miles west of Worland, banks of Ten Mile Creek.

MATERIAL: Holotype only.

ILLUSTRATIONS: Cracraft, 1973b.

ETYMOLOGY: After Dr. Pierce Brodkorb, paleornithologist at the University of Florida.

REMARKS: Said to be very close in morphology to *P. troxelli*, but larger (Cracraft, 1973b).

Genus *Eocrex* Wetmore

*Eocrex* Wetmore, 1931, p. 107.

TYPE: *Eocrex primus* Wetmore, by monotypy.

INCLUDED SPECIES: *E. primus*.

ETYMOLOGY: "Crake of the Eocene," formed by combination of the element "Eo-", from Greek *eos* (dawn) and *krex*, a long-legged bird mentioned by Aristotle and here used in allusion to the genus *Crex*, which contains the Corncrake.

*Eocrex primus* Wetmore

*Eocrex primus* Wetmore, 1931, p. 107, figs. 21-25.

HOLOTYPE: Distal portion of right tibiotarsus (USNM 12043).

HORIZON: Lower Eocene, Wasatch Formation, Cathedral Bluffs Tongue.

LOCALITY: Wyoming, Sweetwater County, Steamboat Springs.

MATERIAL: Holotype only.

ILLUSTRATIONS: Wetmore, 1931; Cracraft, 1973b.

ETYMOLOGY: Latin *primus* (first).

REMARKS: Said by Wetmore to be slightly larger than modern *Porphyrio*. Cracraft (1973b, p. 42) noted several differences between this genus and modern rails and thought it to be "far removed" from the "Rallinae" and the "Gallinulinae." At one point he remarks that "little can be said about its relationships," while elsewhere he proposes a relationship with the Upper Eocene genus *Ibidopsis* (q. v.) of England, also known only from a distal end of a tibiotarsus.

Genus *Fulicaletornis* Lambrecht

*Fulicaletornis* Lambrecht, 1933, p. 479.

TYPE: *Aletornis venustus* Marsh, by monotypy.

INCLUDED SPECIES: *F. venustus*.

ETYMOLOGY: "A coot-like, wandering bird," from Latin *fulica* (coot), Greek *aletes* (wanderer), and Greek *ornis* (bird), coined in allusion to the genus *Aletornis* Marsh.

*Fulicaletornis venustus* (Marsh)

*Aletornis venustus* Marsh, 1872, p. 257.

*Fulica venustus*: Shufeldt, 1915.

*Fulica venusta*: Lambrecht, 1921.

*Fulicaletornis venustus*: Lambrecht, 1933.

**HOLOTYPE:** Distal portion of left tibiotarsus (YPM 206).

**HORIZON:** Middle Eocene, Bridger Formation, Twin Buttes Member.

**LOCALITY:** Wyoming, Uinta County, Henrys Fork.

**MATERIAL:** Holotype; distal end of left tibiotarsus (YPM 1027) referred by Shufeldt (1915); distal end of right tibiotarsus (YPM 874) referred by Cracraft (1973b). Both referred specimens from the same locality and horizon as the type.

**ILLUSTRATIONS:** Shufeldt, 1915; Cracraft, 1973b.

**ETYMOLOGY:** Latin *venustus* (lovely).

**REMARKS:** According to Shufeldt (1915) this species was smaller than modern *Fulica americana*, but was considered by him to be referable to *Fulica*. Cracraft (1973b, p. 44) found a number of differences between *Fulica leornis* and the coots and remarked that "despite [its] many ralline characters . . . the genus still had not attained the morphological level of modern rallids."

### Genus *Ibidopsis* Lydekker

*Ibidopsis* Lydekker, 1891, p. 74.

**TYPE:** *Ibidopsis hordwelliensis* Lydekker, by original designation.

**INCLUDED SPECIES:** *I. hordwelliensis*.

**ETYMOLOGY:** "An ibis-like bird," from Greek *ibis* (genitive *ibidos*) and *opsis* (appearance).

### *Ibidopsis hordwelliensis* Lydekker

*Ibidopsis hordwelliensis* Lydekker, 1891, p. 74, fig. 20.

**HOLOTYPE:** Distal portion of right tibiotarsus (BMNH 36793).

**HORIZON:** Upper Eocene, Hordwell beds.

**LOCALITY:** England, Hampshire, Hordwell.

**MATERIAL:** Holotype; fragmentary left tibiotarsus, portion of rostrum, distal end of right humerus, all referred by Lydekker (1891); shaft of left tibiotarsus, apparently referred by Cracraft (1973b). The referred specimens are all from Hordwell and are all in the British Museum.

**ILLUSTRATIONS:** Lydekker, 1891; Cracraft, 1973b.

**ETYMOLOGY:** "Of Hordwell," formed by addition of Latin *-ensis*, a locative suffix.

**REMARKS:** This species was originally described as an ibis (Threskiornithidae). Cracraft (1973b, p. 17) felt that the referred specimens could not be assigned with any certainty to the same species as the type but noted that in a number of characters the type was "distinct enough to warrant removing *Ibidopsis* from the Threskiornithidae, especially as these characters are very similar to those of rails." Further on (p. 44) he states that "*Ibidopsis* has no striking resemblances to modern genera [of rails]," but is "very similar to *Eocrex* and differs from

that genus in only one major character, namely in having a more rounded external condyle." The tibiae of *Eocrex* and *Ibidopsis* actually appear to be rather different and it is far from likely that a relationship between these genera could ever reasonably be demonstrated. To cite these two equivocal fragments — one from the Lower Eocene of Wyoming and the other from the Upper Eocene of England — as providing evidence for an early Tertiary dispersal of organisms across a North Atlantic landmass, as Cracraft (1973a) has done, hardly seems sound.

### Genus *Ludiortyx* Brodkorb

*Ludiortyx* Brodkorb, 1964a, p. 298.

**TYPE:** *Palaeortyx blanchardi* Milne-Edwards = *Tringa? hoffmanni* Gervais, by original designation.

**INCLUDED SPECIES:** *L. hoffmanni*, *L. adelus*.

**ETYMOLOGY:** "Quail of Ludes," from Ludes, a town on the Marne (in allusion to the Paris gypsum), and Greek *ortyx* (quail), the name having been coined in the belief that the bird was a quail.

### *Ludiortyx hoffmanni* (Gervais)

*Tringa? hoffmanni* Gervais, 1852, p. 229.

*Palaeortyx hoffmanni*: Milne-Edwards, O.F.F. (1869).

*Eortyx hoffmanni*: Brodkorb, 1967.

*Ludiortyx hoffmanni*: Brunet, 1970.

*Palaeortyx blanchardi* Milne-Edwards, O.F.F. (1869).

*Ludiortyx blanchardi*: Brodkorb, 1964a.

**HOLOTYPE:** Flattened incomplete skeleton (PM 7996).

**HORIZON:** Upper Eocene, Gypse de Montmartre.

**LOCALITY:** France, Dept. Seine, Pantin on the Montmartre.

**MATERIAL:** Holotype; crushed skeletal impression and counter-impression (PM 7921 and PM 7922); humeri (PM 7924 and PM 1925); crushed skeletal fragment (PM 7994, type of *blanchardi*).

**ILLUSTRATIONS:** Gervais, 1859; Milne-Edwards, O.F.F.; Zittel, 1887-1890; Brunet, 1970; Cracraft, 1973b.

**ETYMOLOGY:** After Dr. Hoffmann, the collector and donor of the holotype.

**REMARKS:** The convoluted nomenclatural history of this species has been dealt with by Brunet (1970) and Cracraft (1973b). The type specimen was originally thought to be a shorebird. Milne-Edwards (O.F.F.) placed the species in the Galliformes where it received more than its fair share of generic appellations. It was placed in the Rallidae by Brunet (1970), who considered *Palaeortyx blanchardi* Milne-Edwards to be conspecific with *hoffmanni*.

The specimens assigned to *L. hoffmanni* are in a poor state of preservation, being much crushed and flattened. From the illustrations it seems certain that they are not galliform, but their affinity with the Rallidae seemingly can neither be confirmed nor denied. Cracraft (1973b,

pp. 18-19), purportedly following Brunet (1970), gives in his diagnosis of the genus *Ludiortyx*, "humerus much longer than ulna," whereas, in fact, Brunet actually states that the humerus is *scarcely* (*à peine*) longer than the ulna — a fact that is readily confirmed upon examination of any of the several illustrations of *L. hoffmanni*.

*Ludiortyx adelus* (Oberholser),  
new combination

*Rallus intermedius* Milne-Edwards, O.F.F. (1869, p. 144, pl. 103, fig. 17).

*Rallus adelus* Oberholser, 1917 (new name for *Rallus intermedius* Milne-Edwards preoccupied by *Rallus intermedius* Hermann 1804 = *Porzana pusilla intermedia*).

*Quercyrallus intermedius*: Lambrecht, 1933.

*Quercyrallus ludianus* Brodkorb, 1963b (new name for *Rallus intermedius* Milne-Edwards).

HOLOTYPE: Crushed partial skeletal impression (PM 7995).

HORIZON: Upper Eocene, Gypse de Montmartre.

LOCALITY: France, Dept. Seine, Montmartre.

MATERIAL: Holotype only.

ILLUSTRATIONS: Milne-Edwards, O.F.F.; Brunet, 1970; Cracraft, 1973b.

ETYMOLOGY: Greek *adelos* (unseen or obscure), an epithet more fitting Oberholser's long-overlooked name itself than the bird it represents.

REMARKS: Because Milne-Edwards' name *Rallus intermedius* was preoccupied, Oberholser (1917) substituted for it the name *Rallus adelus*. Although the latter name was published in a well-known journal and was indexed in the Zoological Record, it was overlooked by all subsequent authors. In 1963, Brodkorb (1963b), having independently discovered that the name *Rallus intermedius* was unavailable, bestowed the name *ludianus* upon the fossil, unaware that the bird had already been rechristened by Oberholser. I have here adopted Oberholser's name, the only logical course to follow if one is to avoid a situation wherein a single specimen might be known by a different name every fifty years.

Lambrecht (1933) very provisionally placed this species in his new genus *Quercyrallus*, possibly because the specimens, although from quite different deposits, are roughly the same age. The other forms of *Quercyrallus* are known from three-dimensional humeri and a femur, whereas in the type of *adelus* such limb elements as are present are flattened and obliterated. Thus, there is no way to compare *adelus* with the forms of *Quercyrallus* and there is absolutely no evidence in support of placing it in that genus. The type of *adelus* comes from the same horizon and locality as *Ludiortyx hoffmanni* but neither Brunet (1970) nor Cracraft (1973b) discuss how these two species might differ, at either the generic or the specific level. Cracraft (p. 22) states that in *adelus* "the short bill is somewhat reminiscent of the genus *Porzana*," but this is difficult to understand because his plate shows

the bill (which is not complete) to be long, like that of *Rallus*, and not at all like that of *Porzana*. The bill of *adelus* seems to be somewhat longer than in *L. hoffmanni* but in the specimens of both species the rostra are broken, bent downwards, and lacking the tip, so it is possible that their bills may have been similar in length. Because *adelus* comes from the same horizon and locality as *Ludiortyx* and has not been differentiated from that genus and because there is no basis for associating *adelus* with *Quercyrallus*, I herewith remove *Rallus adelus* Oberholser to the genus *Ludiortyx* until evidence to the contrary has been presented.

Genus *Quercyrallus* Lambrecht

*Quercyrallus* Lambrecht, 1933, p. 461.

TYPE: *Rallus arenarius* Milne-Edwards, by subsequent designation (Brodkorb, 1952).

INCLUDED SPECIES: *Q. arenarius*, *Q. dasypus*, *Q. quercy*.

ETYMOLOGY: "Rail of Quercy," from Quercy, France, and *rallus* (rail; see *Palaeorallus*).

*Quercyrallus arenarius* (Milne-Edwards)

*Rallus arenarius* Milne-Edwards, 1892, p. 74.

*Quercyrallus arenarius*: Lambrecht, 1933.

HOLOTYPE: Left humerus lacking the distal end and portions of both the bicipital area and internal tuberosity (PM QU3072).

HORIZON: Upper Eocene or Lower Oligocene, Phosphorites du Quercy.

LOCALITY: France, Dept. Tarn-et-Garonne, Caylux.

MATERIAL: Apparently the holotype only (see below).

ILLUSTRATIONS: Cracraft, 1973b.

ETYMOLOGY: Latin *arenarius*, of or pertaining to sand.

REMARKS: A humerus from Escamps, Dept. Lot, France, illustrated by Gaillard (1908) and assigned by him to the present species, is apparently that of a charadriiform (Cracraft, 1973b). This casts doubt upon the identity of a humerus from Bach near Lalbenque (also Dept. Lot) that Lambrecht (1933) assigned to *arenarius*. According to Cracraft (1973b, p. 24), "the type specimen is too worn to make detailed comparisons with other rails. Indeed, it is questionable whether the type can be referred definitely to the Rallidae, although the general proportions and some details suggest that it is correctly placed in this family."

*Quercyrallus dasypus* (Milne-Edwards)

*Rallus dasypus* Milne-Edwards, 1892, p. 73.

*Quercyrallus dasypus*: Lambrecht, 1933.

LECTOTYPE: Right femur (PM QU3068).

HORIZON: Upper Eocene or Lower Oligocene, Phosphorites du Quercy.



LOCALITY: France, Dept. Tarn-et-Garonne, St. Antonin.

MATERIAL: Holotype only.

ILLUSTRATIONS: Cracraft, 1973b.

ETYMOLOGY: Greek *dasypos* (rough-foot), usually a vernacular for a hare, the intention in the present instance being unclear.

REMARKS: The original material of *Q. dasypos* included a humerus, which Cracraft (1973b) made the type of *Q. quercy* (q. v.) while designating the femur as the lectotype of *Q. dasypos*. The femur is reputedly from a species smaller than *Q. quercy* and larger than *Q. arenarius*, both of which, however, are based on humeri. The femur of *dasypos* is "morphologically distinct from all recent rails" according to Cracraft (1973b, p. 24).

### *Quercyrallus quercy* Cracraft

*Quercyrallus quercy* Cracraft, 1973b, p. 24, fig. 10b,c.  
*Rallus dasypos* Milne-Edwards, 1892 (part).

HOLOTYPE: Distal end of right humerus (PM Qu3071).

HORIZON: Upper Eocene or Lower Oligocene, Phosphorites du Quercy.

LOCALITY: France, Dept. Tarn-et-Garonne, St. Antonin.

MATERIAL: Holotype only.

ILLUSTRATIONS: Cracraft, 1973b.

ETYMOLOGY: See *Q. arenarius*.

REMARKS: The holotype was selected by Cracraft from the type material of *Q. dasypos* (Milne-Edwards). It is apparently from a species larger than either *Q. dasypos* or *Q. arenarius*. Cracraft (1973b, p. 42) maintains at one point that the humeri of *Quercyrallus quercy* and *Palaeoaramides beaumontii* are very similar, possibly indicating "that these two genera are fairly closely related," but three paragraphs beyond he allows that they are equally similar to modern genera, so it is doubtful whether anything is to be gained by suggesting a relationship between the two fossil taxa on the basis of material now at hand.

### Genus *Rallicrex* Lambrecht

*Rallicrex* Lambrecht, 1933, p. 463.

TYPE: *Rallicrex kolozsvarensis* Lambrecht, by monotypy.

INCLUDED SPECIES: *R. kolozsvarensis*.

ETYMOLOGY: Coined from the generic names *Rallus* and *Crex* in the belief that the bird was intermediate between those two genera.

### *Rallicrex kolozsvarensis* Lambrecht

*Rallicrex kolozsvarensis* Lambrecht, 1933, p. 463, fig. 141.

HOLOTYPE: Distal two-thirds of a right tarsometatar-

sus, Museum Königlichen Ungarischen Geologischen Anstalt (Budapest).

HORIZON: Upper Oligocene or Lower Miocene (between Stampian and Burdigalian), *Corbula* beds.

LOCALITY: Rumania, Siebenburgen, south face of Zitadelle zu Kolozsvár.

MATERIAL: Holotype; a crushed distal end of a tibiotarsus was provisionally referred to this species by Lambrecht (1933) but was not mentioned by Brodkorb (1967) or Cracraft (1973b).

ILLUSTRATIONS: Lambrecht, 1933.

ETYMOLOGY: "Of Kolozsvár," formed by addition of Latin *-ensis*, a locative suffix.

REMARKS: Said by Lambrecht (1933), who probably had but few other modern rails with which to compare it, to be morphologically intermediate between the genera *Rallus* and *Crex*. Needs comparison with *Palaeoaramides*.

### Genus *Paraortygometra* Lambrecht

*Paraortygometra* Lambrecht, 1933, p. 462.

TYPE: *Rallus porzanoides* Milne-Edwards, by monotypy.

INCLUDED SPECIES: *P. porzanoides*.

ETYMOLOGY: "Near *Ortygometra*," a genus of rails now included in *Porzana*, formed by addition of Greek prefix *para-* (beside or near).

### *Paraortygometra porzanoides* (Milne-Edwards)

*Rallus porzanoides* Milne-Edwards, O.F.F. (1869, p. 150, pl. 105, figs. 1-16).

*Paraortygometra porzanoides*: Lambrecht, 1933.

LECTOTYPE: Right tarsometatarsus (PM AV2871).

HORIZON: Upper Oligocene or Lower Miocene, Aquitanian (and possibly Upper Miocene, Tortonian).

LOCALITY: France, Dept. Allier, St. Gerand-le-Puy (type locality); possibly Dept. Isère, La Grive-St.-Alban.

MATERIAL: The lectotype, designated by Cracraft (1973b), a humerus, and a distal end of a femur constituted Milne-Edwards' original material. Five humeri and a femur from the same deposits were referred by Cracraft (1973b). Limb elements from La Grive-St.-Alban have also been referred to this species (see below).

ILLUSTRATIONS: Milne-Edwards, O.F.F.; Cracraft, 1973b.

ETYMOLOGY: "Similar to *Porzana*," formed by addition of Greek suffix *-o-eides*, from *eidos* (form).

REMARKS: *Paraortygometra porzanoides* was a small rail, roughly the size of modern *Porzana carolina*. This species and *Palaeoaramides christyi* are the earliest unquestionable rails based on adequate and diagnostic material. The hypotarsus in *P. porzanoides* is distinctive in having the two internal grooves covered with a thin sheet of bone

to form two canals. The only other rail in which this is known to occur is the unrelated extinct species *Nesotrochis steganinos* from the Quaternary of Hispaniola. *Paraortygometra* has not been compared in detail with modern genera of rails and if it is possible to determine that it has a close affinity with a particular modern group, this has not yet been done.

Specimens from the much younger Tortonian deposits at La Grive-St.-Alban have tentatively been assigned to this species (Ballmann, 1969; Cracraft, 1973b). Although these are said to be morphologically inseparable from the Aquitanian bones, because of the great difference in the ages of the two deposits Cracraft (1973b, pp. 35-36) felt that "there cannot be much doubt that [the Grive-St.-Alban specimens] represent a separate species." A left humerus of a small rail (USNM 6501) from Grive-St.-Alban is considerably larger (35 mm) than any of the humeri of *P. porzanoides* measured by Cracraft (30.9-31.9 mm), but it may represent the same form.

### Genus *Palaeoaramides* Lambrecht

*Palaeoaramides* Lambrecht, 1933, p. 462.

TYPE: *Rallus christyi* Milne-Edwards, by monotypy.

INCLUDED SPECIES: *P. christyi*, *P. beaumontii*, *P. lungi*, *P. minutus*.

ETYMOLOGY: "Ancient wood rail," from Greek *palaios* (ancient), and *Aramides*, a genus of Neotropical wood rails.

### *Palaeoaramides christyi* (Milne-Edwards)

*Rallus christyi* Milne-Edwards, O.F.F. (1869, p. 146, pl. 103, figs. 1-9; pl. 104, figs. 1-9).

*Palaeoaramides christyi*: Lambrecht, 1933.

*Rallus eximius* Milne-Edwards O.F.F. (1869).

*Palaeoaramides eximius*: Brodkorb, 1967.

*Palaeoaramides eximus*: Cracraft, 1973b (lapsus).

LECTOTYPE: Right tarsometatarsus (PM AV2868).

HORIZON: Upper Oligocene or Lower Miocene, Aquitanian.

LOCALITIES: France, Dept. Allier, Langy and Montaigu.

MATERIAL: Lectotype (designated by Cracraft, 1973b); left tibiotarsus (PM AV2867, part of the original material of *christyi* and said by Cracraft to be complete, but Milne-Edwards' illustration shows it lacking the proximal end); complete left tarsometatarsus (type of *Rallus eximius*); and a tibiotarsus in the British Museum and one in the Basel Museum that were referred to this species, apparently by Cracraft (1973b). A specimen referred by Lambrecht (1933) was in the Munich Museum but was evidently destroyed.

ILLUSTRATIONS: Milne-Edwards, O.F.F.; Cracraft, 1973b.

ETYMOLOGY: After R. M. Christy of the Royal Society of London.

REMARKS: Milne-Edwards (O.F.F.) recognized two species, *christyi* and *eximius*, differing only in size. Both

Lambrecht (1933) and Cracraft (1973b) considered this size difference to be due to sexual dimorphism, thereby making *eximius* a synonym of *christyi*.

*Palaeoaramides christyi* was a large rail with a tarsus slightly larger than that of modern *Rallus longirostris*. Cracraft (1973b) notes that *Palaeoaramides* is similar to modern rails such as *Rallus* or *Gallinula* but he does not make extensive comparisons with other modern genera, so that within the Rallidae the relationships of *Palaeoaramides* remain unknown. There is no evidence that they actually lie with *Aramides*.

### *Palaeoaramides beaumontii* (Milne-Edwards)

*Rallus beaumontii* Milne-Edwards, O.F.F. (1869, p. 152, pl. 104, figs. 10-26).

*Pararallus beaumontii*: Brodkorb, 1967.

*Tertiariaporphyryla beaumontii*: Kurochkin and Ganya, 1972.

*Palaeoaramides beaumontii*: Cracraft, 1973b.

LECTOTYPE: Distal end of right tibiotarsus (PM Sa1205).

HORIZON: Upper Miocene, Helvetian.

LOCALITY: France, Dept. Gers, Sansan.

MATERIAL: See below.

ILLUSTRATIONS: Milne-Edwards, O.F.F.; Cracraft, 1973b.

ETYMOLOGY: After a Mr. Beaumont.

REMARKS: Milne-Edwards' original material consisted of a distal end of a tibiotarsus (now the lectotype, designated by Cracraft, 1973b), proximal and distal ends of a humerus, and proximal and distal ends of a tarsometatarsus. Lambrecht (1933) noted that the tarsometatarsus resembled that of a galliform. Cracraft (1973b) agreed that it was not rallid but both he and Brodkorb (1967) mention only the distal end of a tarsometatarsus and do not say what has become of the proximal end in Milne-Edwards' original series. Cracraft has apparently referred another tibiotarsus (PM Sa1217) to this species.

Lambrecht (1933) declined to refer the species *beaumontii* to a fossil genus without seeing the type material. Brodkorb (1967) provisionally included it in the genus *Pararallus* along with *P. dispar* of the same age and locality. Cracraft (1973b, p. 30) placed *beaumontii* in *Palaeoaramides* "on the basis of the tibiotarsus, which does not differ in any significant characters (except size) from those of *P. christyi*." *P. beaumontii* is larger than *Pararallus dispar* and smaller than *Miorallus major*, both of which occur in the same deposit with it.

### *Palaeoaramides lungi* (Kurochkin and Ganya, 1972), new combination

*Tertiariaporphyryla lungi* Kurochkin and Ganya, 1972, p. 67, text fig. 12, pl. 2, fig. 10.

HOLOTYPE: Distal half of right tibiotarsus, Tiraspol Public Pedagogical Institute 4/60.

HORIZON: Late Miocene, Middle Sarmatian.

LOCALITY: USSR, Moldavia, Buzhory.

MATERIAL: Holotype only.

ILLUSTRATIONS: Kurochkin and Ganya, 1972.

ETYMOLOGY: After A. N. Lung, for his studies of the Sarmatian fauna of Moldavia.

REMARKS: Kurochkin and Ganya (1972) created the genus *Tertiariaporphyryula* for this species and *Rallus beaumontii* Milne-Edwards, the latter being designated as the type. Since Cracraft (1973b) has referred *R. beaumontii* to *Palaeoramides*, it seems expedient for the present to assign *T. lungi* to that genus also.

### *Palaeoramides minutus* Cracraft

*Palaeoramides minutus* Cracraft, 1973b, p. 30, fig. 14.

*Palaeoramides* [sic] *minimus* Cracraft, 1973b, p. 28, table 6 (lapsus, restricted to *minutus* in Olson, 1974c).

HOLOTYPE: Right tarsometatarsus (BMNH A332).

HORIZON: Upper Miocene, Tortonian.

LOCALITY: France, Dept. Isère, La Grive-St.-Alban.

MATERIAL: Holotype only.

ILLUSTRATIONS: Cracraft, 1973b.

ETYMOLOGY: Latin *minutus* (small).

REMARKS: Smaller than *P. christyi* or *P. beaumontii*. Characterized as being smaller than *Paraortygometra porzanoides* and having a differently shaped distal foramen. "This new species is provisionally included in *Palaeoramides* until better material is found... eventually... evidence may provide support for relationships to some other genus" (Cracraft, 1973b, p. 30).

### Genus *Pararallus* Lambrecht

*Pararallus* Lambrecht, 1933, p. 466.

TYPE: *Rallus dispar* Milne-Edwards, by monotypy.

INCLUDED SPECIES: *P. dispar*.

ETYMOLOGY: "Similar to *Rallus*," formed by addition of Greek prefix *para-* (beside or near).

### *Pararallus dispar* (Milne-Edwards)

*Rallus dispar* Milne-Edwards, O.F.F. (1869, p. 155, pl. 105, figs. 17-30).

*Pararallus dispar*: Lambrecht, 1933.

LECTOTYPE: Distal end of left humerus (PM Sa1201).

HORIZON: Upper Miocene, Helvetian.

LOCALITY: France, Dept. Gers, Sansan.

MATERIAL: The original material included a distal end of a left humerus (designated as the lectotype by Cracraft, 1973b), a distal end of a left tibiotarsus, a proximal end of a left tarsometatarsus, and a distal end of a right tarsometatarsus. Cracraft (1973b) lists four additional fragments of tibiotarsi and tarsometatarsi but does not include the distal end of a right tarsometatarsus illustrated by Milne-Edwards nor indicate which specimens were

in the original type series and which he himself later referred to the species.

ILLUSTRATIONS: Milne-Edwards, O.F.F.; Cracraft, 1973b.

ETYMOLOGY: Latin *dispar* (different).

REMARKS: Milne-Edwards (O.F.F.) originally remarked upon the differences between the tibiotarsus of *dispar* and that of *Palaeoramides beaumontii* from the same deposits. *Miorallus major*, also from these deposits, was much larger than *P. dispar*. Cracraft (1973b, p. 42) said that the humerus of *Pararallus* shows no particular resemblance to other known rails but that the leg elements are similar to modern genera. His choice of the humerus (which is worn and apparently still uncleaned) as the lectotype of *P. dispar* does not seem wise, particularly since Milne-Edwards depended more upon the tibiotarsus to differentiate this species from his *Rallus beaumontii*. This choice may turn out to be even more unfortunate if the humerus should prove to be of a species different from the leg elements.

### Genus *Miorallus* Lambrecht

*Miorallus* Lambrecht, 1933, p. 466.

TYPE: *Rallus major* Milne-Edwards, by monotypy.

INCLUDED SPECIES: *M. major*.

ETYMOLOGY: "Rail of the Miocene," formed by combination of the element "mio-," from Greek *meion* (less), and *rallus* (rail; see *Palaeorallus*).

### *Miorallus major* (Milne-Edwards)

*Rallus major* Milne-Edwards, O.F.F. (1869, p. 157, pl. 103, figs. 12-16).

*Miorallus major*: Lambrecht, 1933.

HOLOTYPE: Distal end of left humerus (PM Sa1200).

HORIZON: Upper Miocene, Helvetian.

LOCALITY: France, Dept. Gers, Sansan.

MATERIAL: Holotype only.

ILLUSTRATIONS: Milne-Edwards, O.F.F.; Cracraft, 1973b.

ETYMOLOGY: Latin *major* (greater).

REMARKS: Larger than *Palaeoramides beaumontii* and *Pararallus dispar* of the same deposits. Other distinguishing characters are listed in Cracraft (1973b, tables 16-18).

### Genus *Miofulica* Lambrecht

*Miofulica* Lambrecht, 1933, p. 480.

TYPE: *Fulica dejardinii* Van Beneden, by monotypy.

INCLUDED SPECIES: *M. dejardinii*.

ETYMOLOGY: "Coot of the Miocene," formed by combination of the element "mio-," from Greek *meion* (less), and *Fulica*, the genus of the coots, from Latin *fulica* (coot).

### *Miofulica dejardinii* (Van Beneden)

*Fulica Dejardinii* Van Beneden, 1871, p. 261, fig. 8.

*Fulica desjardini*: Sharpe, 1894.

*Miofulica Dejardini*: Lambrecht, 1933.

*Miofulica dejardinii*: Brodkorb, 1967.

HOLOTYPE: Distal two-thirds of left femur (University of Louvain?).

HORIZON: Middle Miocene, Anversian Black Sand.

LOCALITY: Belgium, near Antwerp.

MATERIAL: Holotype only.

ILLUSTRATIONS: Van Beneden, 1871.

ETYMOLOGY: After A. Dejardin, an engineer who studied the geology of the deposits from which the type came.

REMARKS: Van Beneden (1871) characterized this bone only as "un peu plus fort que la Foulque vivante [*Fulica atra*]." Lambrecht (1933) created the genus *Miofulica* on the basis of Van Beneden's illustration, which showed the intercondylar fossa to be wider than in *Fulica*. Van Beneden misidentified at least three other species of fossil birds as to order (Lambrecht, 1931; Brodkorb, 1962); and until the type of *M. dejardinii* is restudied, it may be seriously doubted that it pertains to the Rallidae.

### Genus *Creccooides* Shufeldt

*Creccooides* Shufeldt, 1892a, p. 125.

TYPE: *Creccooides osbornii* Shufeldt, by monotypy.

INCLUDED SPECIES: *C. osbornii*.

ETYMOLOGY: Intended as *Creccooides* (crakelike-bird), formed by combination of *Crex*, the genus of the Corn-crake, from Greek *krex*, genitive *krekos*, and Greek suffix *-o-eides*, from *eidos* (form). With the spelling *Creccooides*, the word is derivable from *crecca*, a coinage probably from Swedish *kricka* (teal), and seen in *Anas crecca*, the name of the Greenwinged Teal.

### *Creccooides osbornii* Shufeldt

*Creccooides osbornii* Shufeldt, 1892a, p. 125.

*Creccooides osbornii*: Shufeldt, 1892b (emendation).

*Creccooides osborni*: American Ornithologists' Union, 1910.

HOLOTYPE: Proximal end of left tarsometatarsus lacking hypotarsus. I have tried in vain for several years to locate this specimen. It is not cataloged in any of the institutions where it might be expected (AMNH, USNM, YPM, ANSP, New York State Museum, University of Texas in Austin).

HORIZON: Lower Pleistocene, Blanco Formation.

LOCALITY: Texas, Crosby County, Blanco Canyon.

MATERIAL: Holotype only.

ILLUSTRATIONS: None.

ETYMOLOGY: After Henry Fairfield Osborn, noted pale-

ontologist of the American Museum of Natural History.

REMARKS: Shufeldt (1892a) described this fragmentary specimen in great detail but gave no illustration. He stated that it was from a bird larger than a Limpkin (*Aramus*). In view of this and the many serious errors to which Shufeldt was subject in identifying fossils, it may be doubted that this taxon has affinities with the Rallidae.

### Genus *Euryonotus* Mercerat

*Euryonotus* Mercerat, 1897, p. 238.

TYPE: *Euryonotus brachypterus* Mercerat, by subsequent designation (Richmond, 1902).

INCLUDED SPECIES: *E. brachypterus*, *E. argentinus*.

ETYMOLOGY: The meaning is unclear. Using the Greek *eury*s and either *notos* or *nōtos* one could interpret the name as "broad-backed" or "widespread south," neither of which in this instance makes good sense. There is, however, a word *euronotos*, the south-southeast wind, which may be closer to the author's intention.

### *Euryonotus brachypterus* Mercerat

*Euryonotus brachypterus* Mercerat, 1897, p. 238.

HOLOTYPE: Right humerus lacking the proximal end (MACN).

HORIZON: Upper Pleistocene, Pampas Formation.

LOCALITY: Argentina, Buenos Aires province, Arrecifes.

MATERIAL: Holotype only.

ILLUSTRATIONS: None.

ETYMOLOGY: Latinized form of the Greek *brachypteros* (short-winged).

REMARKS: Said to be rather similar to modern *Aramides* and somewhat larger than *A. ypecaha*. The unillustrated descriptions of this and the following species are inadequate to determine the generic or familial relationships of *Euryonotus*.

### *Euryonotus argentinus* Mercerat

*Euryonotus argentinus* Mercerat, 1897, p. 239.

HOLOTYPE: Proximal portion of humerus (MACN).

HORIZON: Upper Pleistocene, Pampas Formation.

LOCALITY: Argentina, Buenos Aires province, Arrecifes.

MATERIAL: Holotype only.

ILLUSTRATIONS: None.

ETYMOLOGY: "Of Argentina."

REMARKS: Smaller than *E. brachypterus*, which see.

## Modern genus *Rallus*

### *Rallus richmondi*, new name

*Rallus dubius* Portis, 1887, p. 120, pl. 1, fig. 2 (not *Rallus dubius* Piller and Mitterpacher, 1783 = *Gallinula chloropus* Linnaeus).

HOLOTYPE: Sternum impression (in Turin?).

HORIZON: Lower Pliocene, Messiniano.

LOCALITY: Italy, Ancona province, Senigallia (Sinigaglia).

MATERIAL: Holotype only.

ILLUSTRATIONS: Portis, 1887.

ETYMOLOGY: Dedicated to ornithologist Charles W. Richmond, who, at the National Museum of Natural History, assembled one of the finest working libraries for avian nomenclature in existence and in whose monumental card catalog of species names I discovered that *Rallus dubius* Portis was preoccupied.

REMARKS: As Richmond noted in his card index, the *Rallus dubius* described by Piller and Mitterpacher (1783) appears to be the immature of *Gallinula chloropus* and their name should be placed in the synonymy of that species.

The type of *R. richmondi* is a faint impression of a sternum. Portis' types have not been restudied and it is far from certain that this specimen belongs in the genus *Rallus* or even in the Rallidae.

### *Rallus prenticei* Wetmore

*Rallus prenticei* Wetmore, 1944, p. 99, figs. 9-19.

HOLOTYPE: Right humerus (KU 3865).

HORIZON: Upper Pliocene, Rexroad and Hagerman local faunas.

LOCALITY: Kansas, Meade County, Rexroad Ranch; Idaho, Twin Falls and Owyhee Counties.

MATERIAL: Holotype; coracoids, tibiotarsi, a rostrum, a tarsometatarsus, and additional humeri were referred to this species by Wetmore (1944) and Feduccia (1968).

ILLUSTRATIONS: Wetmore, 1944; Feduccia, 1968.

ETYMOLOGY: After Mr. Sydney Prentice, who illustrated many of Dr. Wetmore's papers on fossil birds.

REMARKS: A coracoid referred to this species by Wetmore (1944) apparently belongs to the species *Pardirallus lacustris* (Feduccia, 1968). *Rallus prenticei* is described as being somewhat larger and heavier than modern *R. limicola* and may possibly be ancestral to that species.

### *Rallus philippsi* Wetmore

*Rallus philippsi* Wetmore, 1957, p. 267, fig. 1.

HOLOTYPE: Right tarsometatarsus (USNM 187424).

HORIZON: Upper Pliocene.

LOCALITY: Arizona, Mohave County, Gray Ranch near Wikieup post office.

MATERIAL: Holotype only.

ILLUSTRATIONS: Wetmore, 1957.

ETYMOLOGY: After Dr. A. R. Phillips, well-known ornithologist and collector of the type.

REMARKS: The proximal end of the type is not completely ossified, indicating that it was from a juvenile. Although Wetmore (1957) characterized *R. philippsi* as being intermediate in size between modern *R. longirostris* and *R. limicola*, with the more extensive comparative material presently available it is seen that *R. philippsi* falls well within the lower size ranges of *R. longirostris*, to which it may well have been related.

### *Rallus limicola auffenbergi* (Brodkorb)

*Porzana auffenbergi* Brodkorb, 1954, p. 103, fig. 1.  
*Rallus limicola* [auffenbergi]: Olson, 1974a.

HOLOTYPE: Left humerus (PB 742).

HORIZON: Middle Pleistocene, Arredondo Clay and Reddick beds.

LOCALITY: Florida, Alachua County, Haile (type locality); Marion County, Reddick.

MATERIAL: Holotype; tarsometatarsi, ulnae, humerus, and tibiotarsus referred by Brodkorb (1957) and Ligon (1965).

ILLUSTRATIONS: Brodkorb, 1954; Ligon, 1965.

ETYMOLOGY: After Dr. Walter Auffenberg, paleontologist at the University of Florida and collector of the type.

REMARKS: Although this species was originally described as an extinct species of *Porzana*, I believe it to be a larger, temporal form of *Rallus limicola* (Olson, 1974a). It may possibly be on a line from *R. prenticei*, which was also larger, to the modern species. Most of the referred material of *auffenbergi* falls within the range of variation of modern *R. limicola*.

### *Rallus natator* (L. Miller)

*Epirallus natator* L. Miller, 1942, p. 43, fig. 1a.  
*Rallus natator*: Olson, 1974a.

HOLOTYPE: Right tarsometatarsus (LACM 2943).

HORIZON: Upper Pleistocene (cave deposit).

LOCALITY: Mexico, Nuevo León, San Josecito cave near Aramberri.

MATERIAL: Holotype only.

ILLUSTRATIONS: L. Miller, 1942; Olson, 1974a.

ETYMOLOGY: Latin *natator* (swimmer).

REMARKS: This form belongs with the *Rallus longirostris-elegans* complex but is larger than any of the modern members of that group. The genus *Epirallus* proposed for this species by L. Miller (1942) is not considered valid

(Olson 1974a), since the only difference between *R. nator* and *R. longirostris* is in size.

### Modern genus *Pardirallus*

#### *Pardirallus lacustris* (Brodkorb), new combination

*Porzana lacustris* Brodkorb, 1958, p. 239, fig. 1.  
*Rallus lacustris*: Feduccia, 1968.

**HOLOTYPE**: Right humerus lacking proximal end (UMMP 33916).

**HORIZON**: Upper Pliocene, Hagerman and Rexroad local faunas.

**LOCALITY**: Idaho, Twin Falls County, Hagerman lake beds (type locality); Kansas, Meade County.

**MATERIAL**: Holotype; coracoids, tibiotarsi, tarsometatarsi, and humeri referred by Feduccia (1968).

**ILLUSTRATIONS**: Brodkorb, 1958; Feduccia, 1968.

**ETYMOLOGY**: "Of lakes," formed from Latin *lacus* (lake), by analogy with *palustris* (of marshes, or marshy), from *palus* (marsh).

**REMARKS**: Feduccia (1968) considered this species to be very close to "*Rallus*" *sanguinolentus*. I have shown elsewhere (Olson, 1973b) that the species *sanguinolentus*, *nigricans*, and *maculatus* are not at all closely related to the genus *Rallus* and must be placed in the genus *Pardirallus*. Therefore, on the strength of Feduccia's remarks, I provisionally place *lacustris* in the genus *Pardirallus*. *Pardirallus lacustris* should be compared with *P. maculatus*, since the latter ranges north as far as Mexico and the West Indies and its ancestors may well have occupied more northerly regions in the Pliocene.

### Modern genus *Coturnicops*

#### *Coturnicops avita* Feduccia

*Coturnicops avita* Feduccia, 1968, p. 447, fig. 3.  
*Porzana avita*: Brodkorb, 1971.

**HOLOTYPE**: Distal end of right tibiotarsus (UMMP V52530).

**HORIZON**: Upper Pliocene, Hagerman local fauna.

**LOCALITY**: Idaho, Twin Falls County.

**MATERIAL**: Holotype only.

**ILLUSTRATIONS**: Feduccia, 1968.

**ETYMOLOGY**: Latin *avita* (relating to a grandfather; hence, ancestral).

**REMARKS**: Feduccia (1968) considered this species likely to be ancestral to modern *C. noveboracensis*.

### Modern genus *Laterallus*

#### *Laterallus insignis* Feduccia

*Laterallus insignis* Feduccia, 1968, p. 447, fig. 3.  
*Porzana insignis*: Brodkorb, 1971.

**HOLOTYPE**: Distal end of right tibiotarsus (UMMP V45423).

**HORIZON**: Upper Pliocene, Rexroad Formation.

**LOCALITY**: Kansas, Meade County, Wendell Fox Pasture, Shorts Creek.

**MATERIAL**: Holotype; referred distal end of left tibiotarsus.

**ILLUSTRATIONS**: Feduccia, 1968.

**ETYMOLOGY**: Latin *insignis* (notable).

**REMARKS**: Feduccia (1968) considered that this species was not closely related to *L. jamaicensis*, the only species of *Laterallus* now occurring in northern North America. *Laterallus insignis* should be compared with *L. exilis*, as that species is now known from the Pleistocene of Florida (Olson, 1974a).

### Modern genus *Gallinula*

#### *Gallinula kansarum* Brodkorb

*Gallinula kansarum* Brodkorb, 1967, p. 125.

**HOLOTYPE**: Distal end of left humerus (KU 3994).

**HORIZON**: Upper Pliocene, Rexroad Formation.

**LOCALITY**: Kansas, Meade County, Rexroad.

**MATERIAL**: Holotype; ulna, humeri, coracoids, carpometacarpus, and tibiotarsus referred by Brodkorb (1967) and Feduccia (1968).

**ILLUSTRATIONS**: Feduccia, 1968.

**ETYMOLOGY**: "Of Kansas," formed by addition of the Latin genitive plural ending *-arum*, evidently in the belief that the name of the state is to be construed as being in the plural.

**REMARKS**: Possibly an ancestral form of modern *G. chloropus*. The holotype had originally been identified as *Fulica americana* by Wetmore (1944).

#### *Gallinula chloropus brodkorbi* McCoy

*Gallinula brodkorbi* McCoy, 1963, p. 344, fig. 3.  
*Gallinula chloropus* [*brodkorbi*]: Olson, 1974a.

**HOLOTYPE**: Right humerus (PB 16).

**HORIZON**: Upper Pleistocene.

**LOCALITY**: Florida, Columbia County, Itchtucknee River.

**MATERIAL**: Most of the major limb elements (see Olson, 1974a).

**ILLUSTRATIONS**: McCoy, 1963.

**ETYMOLOGY**: After Dr. Pierce Brodkorb, paleornithologist at the University of Florida.

**REMARKS**: McCoy's referred material is well within the range of variation of modern *G. chloropus*. Although the holotype, too, is within the uppermost size range of *G. chloropus*, some new material from the Itchtucknee

River exceeds the modern form considerably in size (Olson, 1974a) and I provisionally admit *brodkorbi* as a larger, temporal form of *chloropus*.

### *Gallinula mortierii reperta* (De Vis)

*Porphyrio reperta* De Vis, 1888, p. 1283, pl. 34, figs. 7a-b.  
*Fulica prior* De Vis, 1888 (part).  
*Gallinula strenuipes* De Vis, 1888.  
*Porphyrio mackintoshii* De Vis, 1892.  
*Gallinula peralata* De Vis, 1892.  
*Tribonyx effluxus* De Vis, 1892.  
*Platalea subremis* De Vis, 1892 (part).  
*Microtribonyx effluxus*: Lambrecht, 1921.  
*Porphyrio repertus*: Brodkorb, 1967.  
*Tribonyx mortierii reperta*: Olson, 1975a.  
*Gallinula mortierii reperta*: Olson, 1975a.

**HOLOTYPE**: Worn right tarsometatarsus lacking proximal end and distal half of outer trochlea (QM F1126).

**HORIZON**: Late Pliocene or early Pleistocene, Chinchilla Sand.

**LOCALITY**: Australia, Queensland, Darling Downs, 3 miles from Chinchilla, on the River Condamiue.

**MATERIAL**: Holotype; complete tarsometatarsus, tibiotarsi, femora, humeri.

**ILLUSTRATIONS**: De Vis, 1888, 1892; Olson, 1975a.

**ETYMOLOGY**: Latin *reperta* (discovered).

**REMARKS**: Virtually all of the fossil rail material described by De Vis from Queensland has been shown to be from a slightly smaller form of the flightless Tasmanian Native Hen, *Gallinula* (*Tribonyx*) *mortierii* (Olson, 1975a). Evidently the species evolved on the mainland and the modern Tasmanian population is a relict that became somewhat larger after the final isolation of Tasmania from the mainland about 12,000 years ago.

### Modern genus *Fulica*

#### *Fulica infelix* Brodkorb

*Fulica infelix* Brodkorb, 1961, p. 181, fig. 7.

**HOLOTYPE**: Distal end of left tibiotarsus (University of Oregon Museum of Natural History F-5758).

**HORIZON**: Lower Pliocene, Juntura Formation.

**LOCALITY**: Oregon, Malheur County, Juntura.

**MATERIAL**: Holotype only.

**ILLUSTRATIONS**: Brodkorb, 1961.

**ETYMOLOGY**: Latin *infelix* (unfortunate), in allusion to Malheur County, from French *malheur* (misfortune).

**REMARKS**: Apparently a small coot, near the minimum of modern *F. americana* in size.

#### *Fulica americana shufeldti* Brodkorb

*Fulica minor* Shufeldt, 1892b, p. 820.  
*Fulica americana minor*: Howard, 1946.  
*Fulica shufeldti* Brodkorb, 1964b, p. 186. New name for

*Fulica minor* Shufeldt, 1892b, preoccupied by *Fulica minor* Brehm, 1831 = *Fulica rufifrons*?  
*Fulica americana shufeldti*: Jehl, 1967.

**HOLOTYPE**: Left humerus (AMNH 3480).

**HORIZON**: Middle to Upper Pleistocene.

**LOCALITY**: Oregon, Lake County, Fossil Lake (type locality); six localities in Florida (see Brodkorb, 1967).

**MATERIAL**: There is abundant topotypical material of all the major limb bones and coracoids (Howard, 1946; Jehl, 1967) and additional referred material from Florida.

**ILLUSTRATIONS**: Shufeldt, 1892b.

**ETYMOLOGY**: After Robert Wilson Shufeldt, an early American student of fossil birds.

**REMARKS**: Shufeldt (1892b) originally described this form as being a smaller species that co-existed with *F. americana* in the Pleistocene. Howard (1946) concluded that only one species of coot was recognizable in the Fossil Lake deposits. This was said to differ from *F. americana* only in size, with the wing elements being smaller and the leg elements somewhat larger. Howard treated *shufeldti* as a temporal subspecies of *americana*, in which she was followed by Jehl (1967). However, all of the measurements of the fossils given by Howard (1946, p. 182) fall within the range of variation shown by a large series of skeletons of *F. americana*. There is a great deal of individual and sexual variation in size and limb proportions in modern *F. americana* and I feel that the validity of *shufeldti*, even as a subspecies, remains to be demonstrated.

#### *Fulica stekelesi* Tchernov

*Fulica stekelesi* [sic] Tchernov, 1968, p. 11, text fig. 1, pl. 1, figs. 9-10.

**HOLOTYPE**: Symphyseal portion of furcula, Hebrew University of Jerusalem (no catalog number indicated).

**HORIZON**: Middle Pleistocene, 'Ubeidiya Formation.

**LOCALITY**: Israel, southwestern bank of Sea of Galilee, 'Ubeidiya.

**MATERIAL**: Holotype only.

**ILLUSTRATIONS**: Tchernov, 1968.

**ETYMOLOGY**: After Professor M. Stekelis, who directed the excavations at 'Ubeidiya.

**REMARKS**: It is to be regretted that such an undiagnostic fossil crumb has been dignified nomenclaturally. Tchernov's illustrations do seem to indicate that the type came from a railid, but beyond that little can be said. The height of the symphysis is given as 3.05 mm which is greater than in any of the specimens of *F. atra* or *F. cristata* that I examined; but the other measurement (maximal breadth of symphyseal area along dorsal line = 6.50 mm) is well within the range of the two modern species. This part of the skeleton in rails is extremely variable individually. *Fulica stekelesi* hardly qualifies as more than a *nomen vanum*.

WEST INDIES

Genus *Nesotrochis* Wetmore

*Nesotrochis* Wetmore, 1918, p. 516.

TYPE: *Nesotrochis debooyi* Wetmore, by original designation.

INCLUDED SPECIES: *N. debooyi*, *N. picapicensis*, *N. steganinos*.

ETYMOLOGY: "Island-runner," from Greek *nesos* (island) and *trochis* (runner).

*Nesotrochis debooyi* Wetmore

FIGURE 1a

*Nesotrochis debooyi* Wetmore, 1918, p. 516, pl. 82, figs. 1-5.

HOLOTYPE: Right femur (USNM 225845).

HORIZON: Quaternary.

LOCALITY: Puerto Rico; St. Thomas (type locality), St. John, St. Croix, and possibly Virgin Gorda in the Virgin Islands.

MATERIAL: Numerous specimens of the major hind limb elements; a few humeri and fragments of pelvis.

ILLUSTRATIONS: Wetmore, 1918, 1922, 1927b, 1937.

ETYMOLOGY: After Theodoor de Booy, who collected the type material.

REMARKS: This very large, heavy, flightless rail was first discovered in pre-Columbian kitchen middens in the Virgin Islands and was later found in cave and midden deposits on Puerto Rico (Wetmore 1922, 1938; Olson 1974d). It is particularly abundant in the middens of St. Croix, and at one time it must have played a fairly important part in the diet of the island's aborigines.

When in Puerto Rico in 1912, Wetmore (1927b) heard stories of a bird known as the *carrao* which was once hunted with dogs, its wings being said to have become so wet with dew that it was unable to fly. The bird now known as *carrao* is the Limpkin (*Aramus guarana*) "which is so strong on the wing that one can hardly imagine its becoming so wet as to be unable to fly, which opens the interesting supposition . . . that the *carrao* of earlier days may have referred to the large flightless rail" (Wetmore 1927b, p. 342). However, James Bond informs me (in litt. 8 February 1975) that in the late 1920's it was "almost impossible to flush a Limpkin in Hispaniola. In fact during a six-month stay I never saw any on the wing. I deliberately tried to catch one in northern Haiti . . . This I was unable to do, but several times the bird spread its wings like a chicken to keep out of my reach! It would have been easy prey for a young man with a stick, stones or sling-shot; also, an active retriever could have caught it easily."

If *Nesotrochis* did not survive up to the 20th century in Puerto Rico, the following account could be taken to imply that it did persist in the Virgin Islands (Bond, in Nichols, 1943): "Mr. Nichols informs me that he heard of a 'flightless waterhen' (*Nesotrochis*?) that inhabited Virgin Gorda. It was said to be rare although formerly common. The older natives declared that in the past they killed many of the birds with sticks. There are no mongooses on Virgin Gorda, although this animal is found on St. Thomas, St. John and Tortola."

*Nesotrochis debooyi* was about the size of a Weka (*Gallirallus australis*) but was more robust. The most diagnostic feature of the genus is the markedly expanded and flattened distal end and low inner trochlea of the tarsometatarsus (Figure 1a). The relationships of *Nesotrochis* are as yet unknown.

*Nesotrochis picapicensis* (Fischer and Stephan)

FIGURE 1b

*Fulica picapicensis* Fischer and Stephan, 1971, p. 595, figs. 8a-15a.

*Nesotrochis picapicensis*: Olson, 1974d.

HOLOTYPE: Left humerus (University of Havana Av. 832/67).

HORIZON: Quaternary.

LOCALITY: Cuba, Pinar del Río, Pío Domingo cave, near Sumidero.

MATERIAL: Humeri, an ulna, pelvis, femora, tibiotarsi, tarsometatarsi, vertebrae, and a cranium were referred to this species in the original description. The ulna, however, is not from a rail (Olson, 1974d).

ILLUSTRATIONS: Fischer and Stephan, 1971.

ETYMOLOGY: "Of Pica-Pica," after the valley in which Pío Domingo cave lies, formed by addition of Latin *-ensis*, a locative suffix.

REMARKS: This species, also flightless, was smaller than *N. debooyi*; it probably had a wider distribution in Cuba in the past. It was originally described as a coot (*Fulica*), but its affinity with *Nesotrochis* was later pointed out (Olson, 1974d).

*Nesotrochis steganinos* Olson

FIGURES 1c, 2

*Nesotrochis steganinos* Olson, 1974d, p. 442, figs. 1, 2.

HOLOTYPE: Right tarsometatarsus (USNM 205609).

HORIZON: Quaternary.

LOCALITY: Haiti, cave deposits near St. Michel de l'Atalaye.



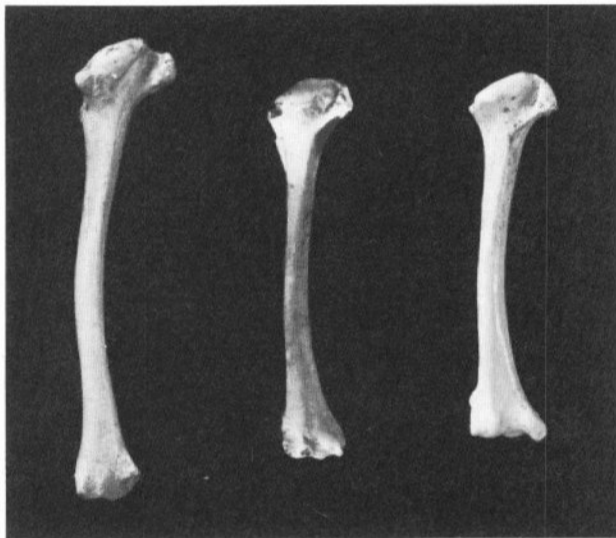
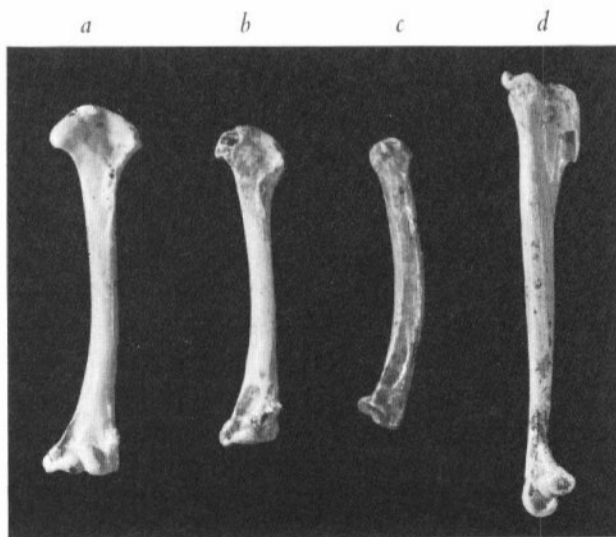


Figure 1. Tarsometatarsi (above) and humeri (below) of *Nesotrochis*: a, *N. debooyi* (tarsus, USNM 1552; humerus, AMNH 6196, with entepicondylar area abraded); b, *N. picapicensis* (from Fischer and Stephan, 1971); c, *N. steganinos* (from Olson, 1974d). All figures natural size.



MATERIAL: Holotype; another tarsometatarsus, humeri, fragmentary tibiotarsi and femora.

ILLUSTRATIONS: Olson, 1974d.

ETYMOLOGY: "With covered sinews," from Greek *steganos* (through a covered passage or tube) and *is*, genitive *inos* (sinew), coined in allusion to the closed hypotarsal canals for the flexor tendons.

REMARKS: *Nesotrochis steganinos* is the smallest species of the genus and, like the others, was flightless. There appears to have been considerable variation in size and in the conformation of the humerus in this species (Figure 2d).

### Modern genus *Fulica*

#### *Fulica podagrica* Brodkorb

*Fulica podagrica* Brodkorb, 1965a, p. 7, pl. [1].

HOLOTYPE: Left humerus (University of Florida 7458).

HORIZON: Late Pleistocene.

LOCALITY: Barbados, St. Philip Parish, Ragged Point.

MATERIAL: See remarks below.

ILLUSTRATIONS: Brodkorb, 1965a.

ETYMOLOGY: Greek *podagrikos* (afflicted with gout), applied in allusion to the large size of the leg elements (but see below).

REMARKS: This species appears to be a composite (Olson, 1974d). The type humerus is from a coot (*Fulica*) but may not be specifically distinct from *F. caribaea* or *F. americana*. Most of the fragmentary femora, tibiotarsi, and tarsometatarsi referred to *F. podagrica* seem to be from a larger rail that is not related to *Fulica* and may prove to be from an endemic, undescribed species.

### PLEISTOCENE RAILS FROM BERMUDA

Wetmore (1960) called attention to four species of rails from Pleistocene cave and fissure deposits on Bermuda. These forms are presently under study by Pierce Brodkorb, who has acquired much additional material and discerned a fifth species. One of these birds is a large, long-billed *Rallus*, obviously derived from the *R. longirostris*-*R. elegans* complex. Also represented is a very small form apparently closely related to *Porzana* (= *Poliolimnas*) *flaviventer*. Two medium-sized rails seem to be allied to

Figure 2. Limb elements of *Nesotrochis steganinos*: a, b, palmar views of two humeri to show variation in size and brachial depression; c, ulna; d, medial view of tarsometatarsus to show enclosed hypotarsal canals and position of inner trochlea. All figures natural size. (From Olson, 1974d.)

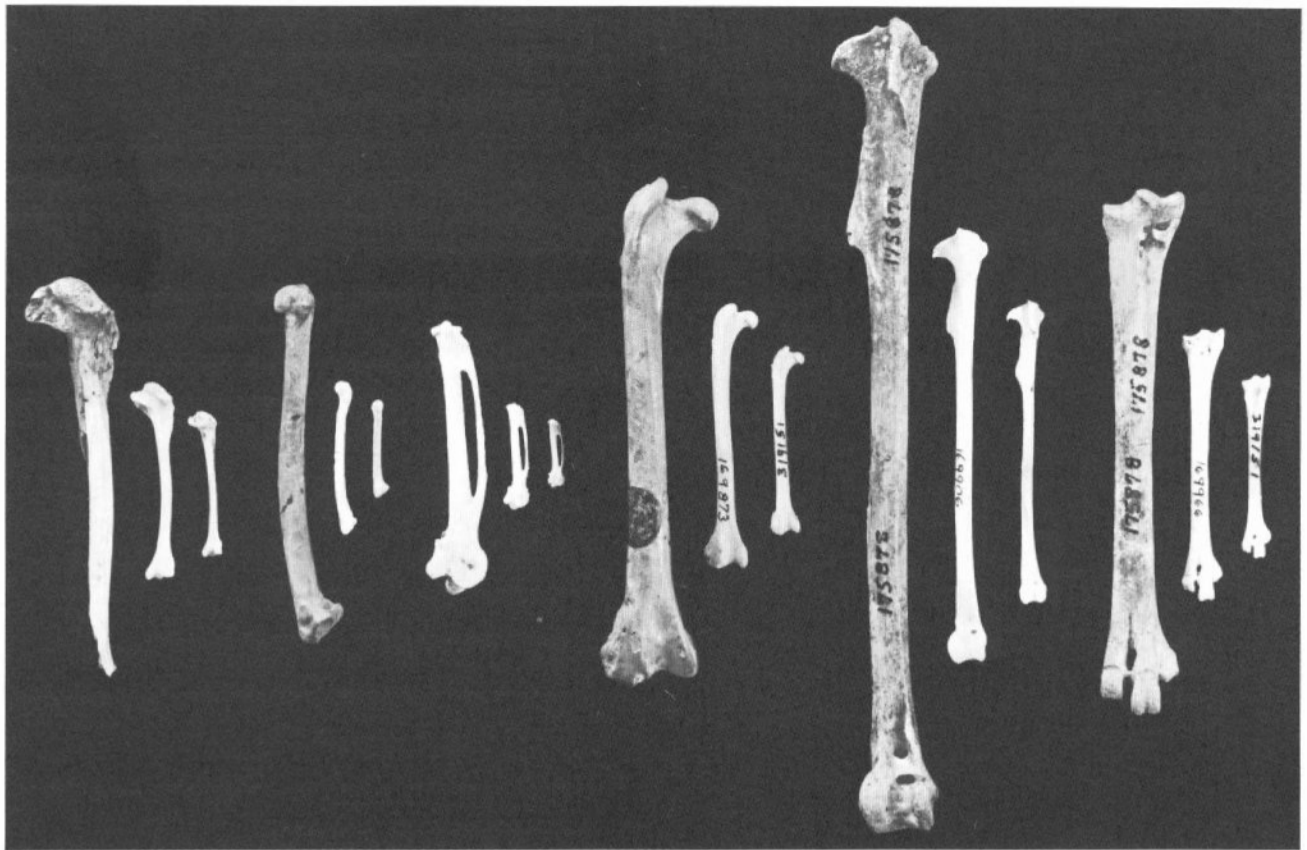


Figure 3. Limb elements of the three species of *Atlantisia*. The elements are (left to right) humerus, ulna, carpometacarpus, femur, tibiotarsus, and tarsometatarsus. In each group *A. podarces* is on the left, *A. elpenor* in the middle, and the living species *A. rogersi* on the right. Slightly reduced. (From Olson, 1973a.)

*Rallus limicola* and *Porzana carolina*, respectively. The fifth species, also medium-sized, probably was not contemporaneous with the other four, most likely being younger. These rails possess morphological characters showing them to have been flightless or nearly so. The age of these fossils is thought to be "post-Nebraskan, probably Aftonian or Kansan" (Brodkorb, personal communication). That there were four co-existing species of rails on an island as small as Bermuda, even given its greater area during glacial periods, is certainly remarkable. We wish Dr. Brodkorb all good speed in making these birds better known to science.

#### SOUTH ATLANTIC ISLANDS

##### Modern genus *Atlantisia*

##### *Atlantisia elpenor* Olson

FIGURES 3, 4

*Crecopsis* sp. Fisher and Peterson, 1964.

*Atlantisia elpenor* Olson, 1973a, p. 7, pls. 1b, 2, 3, 4a-b, 5, 10.

HOLOTYPE: Left tarsometatarsus (USNM 170129).

HORIZON: Quaternary.

LOCALITY: Ascension Island.

MATERIAL: All the skeletal elements and a crude contemporary drawing are known.

ILLUSTRATIONS: Temple and Anstey, 1936; Ashmole, 1963; Olson, 1971, 1973a.

ETYMOLOGY: After Elpenor, a member of Odysseus' crew who, like the rail, was stranded on an island and fell to his death.

REMARKS: *Atlantisia elpenor* was a medium-sized flightless rail, roughly the size of a Virginia Rail (*Rallus limicola*). It was first made known to the world through the published journal of the observant traveller Peter Mundy, who recorded on Ascension "a strange kind of fowle with wings very imperfitt such as wherewith they cannot raise themselves from the ground." Six of these birds were captured and eaten by Mundy and his shipmates on 7 June 1656. The species was exterminated sometime thereafter by introduced mammals. It was not heard of again until two bones were found by members of the British Ornithologists' Union Centenary Expedition in 1958. In 1970, abundant skeletal remains were collected at the bottoms of two extinct volcanic fumaroles and the species was then formally described and named (Olson, 1973a).

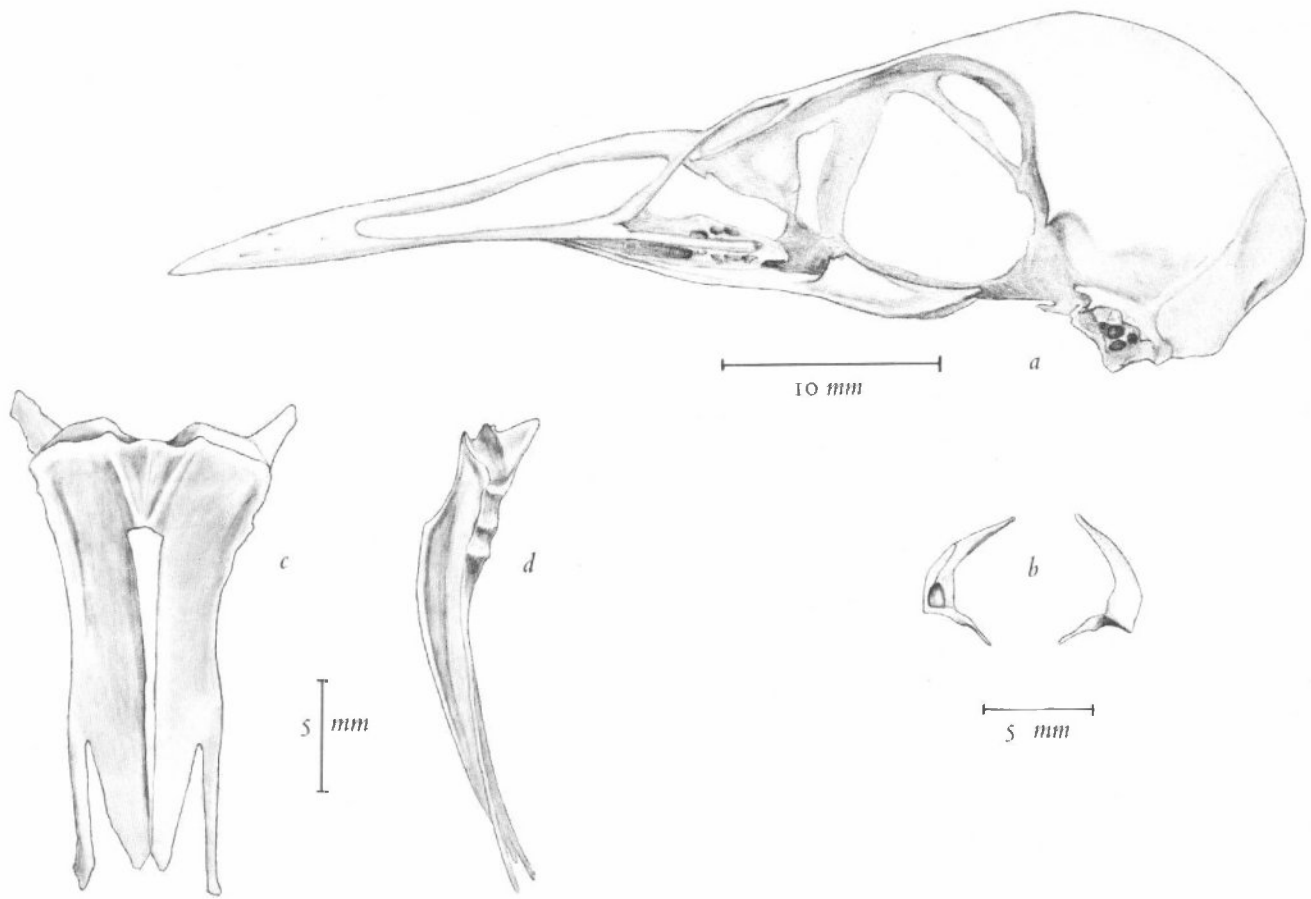


Figure 4. *Atlantisia elpenor*: a, skull; b, lacrimal (external view, left; internal view, right); c, sternum, ventral view; d, sternum, lateral view. (From Olson, 1973a.)

The terrestrial environment of Ascension is hostile in the extreme, consisting mainly of bare, waterless areas of lava and ash. The Ascension rail apparently obtained its food and water from the eggs and regurgitated prey of the seabirds that formerly nested on the island in great numbers. *Atlantisia elpenor* probably descended from a volant pro-*Rallus* stock that independently gave rise to flightless forms on Ascension, St. Helena, and Inaccessible Island in the Tristan da Cunha group (Olson, 1973a).

### *Atlantisia podarces* (Wetmore)

FIGURES 3, 5

*Aphanocrex podarces* Wetmore, 1963, p. 379, pl. 9.

*Atlantisia podarces*: Olson, 1973a.

TYPE: Left tarsometatarsus (BMNH S/1963.1.1).

HORIZON: Quaternary.

LOCALITY: St. Helena Island.

MATERIAL: All the elements of the wing and hind limb, as well as cranium, coracoid, quadrate, and fragments of pelvis and sternum have been collected.

ILLUSTRATIONS: Wetmore, 1963; Olson, 1973a.

ETYMOLOGY: Greek *podarkes* (strong-footed).

REMARKS: This species was first described in a new genus, *Aphanocrex*, but was later recognized as a very large form of *Atlantisia* that, like *A. elpenor*, was also flightless (Olson, 1973a). It is now known from four localities on St. Helena that range in age from well back into the Pleistocene to Recent. In size, *A. podarces* ranks among the larger rails, being roughly comparable to the New Zealand Weka (*Gallirallus australis*) but of more slender build. It had relatively large wings for a flightless rail and extremely long claws (Figure 5); these may have been adaptations for climbing and fluttering up the steep valley walls of St. Helena. As with the following species, it probably survived until shortly after the island's discovery in 1502.

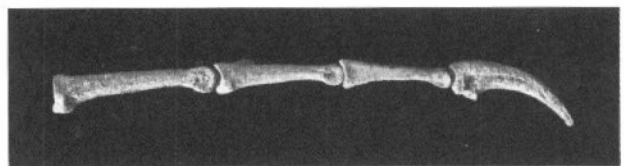


Figure 5. Middle toe of *Atlantisia podarces* to show strength and the extremely long claw core. Natural size. (From Olson, 1973a.)

Modern genus *Porzana*

*Porzana astrictocarpus* Olson

FIGURES 6-8

*Porzana astrictocarpus* Olson, 1973a, p. 17, text fig. 5, pls. 7-9, 11.

**HOLOTYPE:** Incomplete skeleton including skull, wings, legs, coracoids, scapulac, and pelvis (USNM 175893).

**HORIZON:** Quaternary.

**LOCALITY:** St. Helena Island.

**MATERIAL:** Holotype; additional limb elements and a fragment of sternum.

**ILLUSTRATIONS:** Olson, 1973a.

**ETYMOLOGY:** "Wrist drawn together," from Latin *strictus* (drawn together) and *carpus*, latinized form of Greek *karpos* (wrist), in reference to the peculiar conformation of the carpometacarpus.

**REMARKS:** This small flightless species, along with *Porzana palmeri* of Laysan Island in the Pacific, is apparently derived from Baillon's Crake (*Porzana pusilla*), a species of wide distribution in the Old World (Olson, 1973a). The hind limb and pelvis of *astricocarpus* are intermediate between the short, stocky elements of *palmeri* and the longer, more slender elements of *pusilla*. Its wing elements are as much reduced as those of *palmeri*, but the proximal ends of metacarpals II and III have grown nearly together in a manner not found in any other known rail (Figure 7). The species is known from three deposits on St. Helena, one of which is probably late Pleistocene in age. It must have been fairly abundant prior to the arrival of man.



Figure 6. Skull and mandible of *Porzana astrictocarpus* (cranium crushed dorsoventrally). Twice natural size. (From Olson, 1973a.)



Figure 7. The peculiar carpometacarpus of *Porzana astrictocarpus*. Enlarged nearly five times. (From Olson, 1973a.)

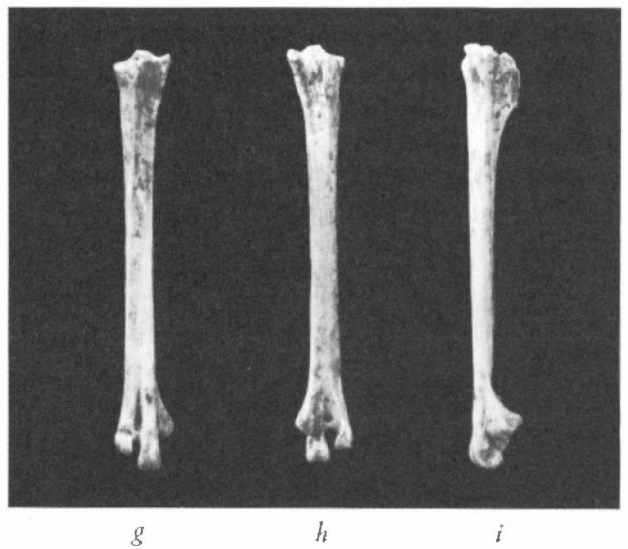
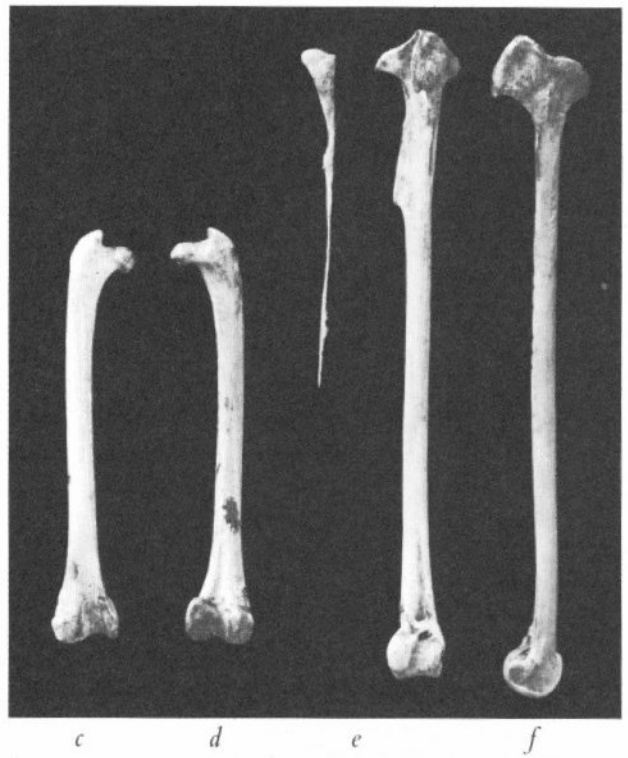
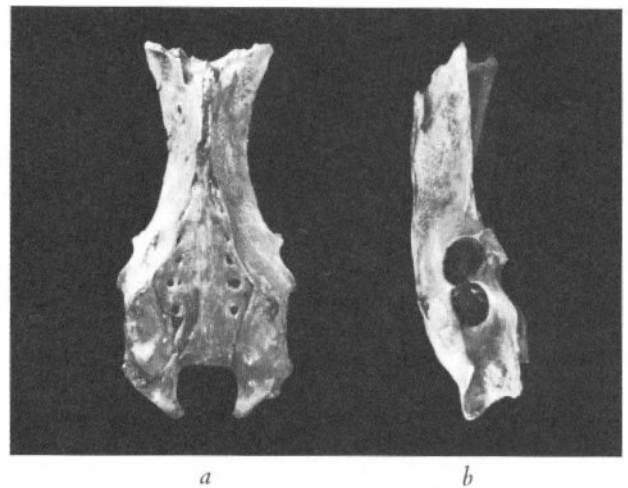


Figure 8. Pelvis and hind-limb elements of *Porzana astrictocarpus*: a, pelvis, dorsal view; b, pelvis, lateral view; c, femur, anterior view; d, femur, posterior view; e, fibula and tibiotarsus in anterior view; f, tibiotarsus, medial view; g, tarsometatarsus, anterior view; h, same, posterior view; i, same, medial view. Twice natural size. (From Olson, 1973a, where, through a printer's error, these figures were obscured beyond use.)

## A Rail from Fernando de Noronha

In 1973 I collected remains of a medium-sized species of rail from Pleistocene sand dunes on the island of Fernando de Noronha, over 200 miles east of the eastern tip of Brazil. These specimens are currently under study. The bird had reduced wings and may have been flightless. It does not appear to be referable to any of the genera of mainland Brazil and may possibly be another form of *Atlantisia*.

### ISLANDS IN THE INDIAN OCEAN

#### Genus *Aphanapteryx* Frauenfeld

*Aphanapteryx* Frauenfeld, 1868, p. 6.

TYPE: *Aphanapteryx imperialis* Frauenfeld = *Apterornis bonasia* Selys-Longchamps, by monotypy.

INCLUDED SPECIES: *A. bonasia*, *A. leguati*.

ETYMOLOGY: "Invisible-wing," from Greek *aphanes* (invisible), privative prefix *a*, and *pteryx* (wing).

#### *Aphanapteryx bonasia* (Selys-Longchamps)

FIGURES 9-16

*Apterornis bonasia* Selys-Longchamps, 1848, p. 294.

*Didus herbertii* Schlegel, 1854.

*Didus broeckei* Schlegel, 1854.

*Aphanapteryx imperialis* Frauenfeld, 1868.

*Aphanapteryx imperatoris* Frauenfeld, 1868 (lapsus or emendation).

*Aphanapteryx broeckei*: Milne-Edwards, 1868.

*Aphanapteryx broeckii*: Milne-Edwards, 1869.

*Didus herbertii*: Milne-Edwards, 1868.

*Didus broeckii*: Milne-Edwards, 1869.

*Pezophaps broeckei*: Schlegel, 1873.

*Pezophaps herbertii*: Schlegel, 1873.

*Aphanapteryx broeckei*: Günther and E. Newton, 1879.

*Aphanapteryx broeckei*: E. Newton and Gadow, 1893 (in plate).

*Aphanapteryx bonasia*: Rothschild, 1907.

*Kuina mundyi* Hachisuka, 1937a.

*Pezocrex herbertii*: Hachisuka, 1953.

HOLOTYPE: None. The name was based on historical accounts.

HORIZON: Quaternary.

LOCALITY: Mauritius Island.

MATERIAL: Five contemporary illustrations of varying quality; numerous bones including the cranium, maxilla, mandible, quadrate, humerus, sternum, pelvis, femur, tibiotarsus, tarsometatarsus, and a cervical vertebra.

ILLUSTRATIONS: Reproductions of contemporary illustrations and reconstructions: Strickland and Melville, 1848; Schlegel, 1854; Frauenfeld, 1868; Milne-Edwards, 1868, 1869, O.F.F.; Temple, 1919; Sclater, 1915; Rothschild, 1907; Hachisuka, 1953. Bones: Milne-Edwards, 1868, 1869, O.F.F.; E. Newton and Gadow, 1893; Lambrecht, 1933; Piveteau, 1945; Hachisuka, 1953.

ETYMOLOGY: Here *bonasia* is evidently intended to refer to *Tetrastes bonasia*, the Eurasian Hazel Hen, since in early accounts the Mauritian rail was referred to by vernacular names elsewhere applied to the grouse. The derivation of *bonasia* itself is uncertain and more than one interpretation has been offered, both for this word and for *Bonasa*, the genus of the American Ruffed Grouse. The most common explanation is that these words are derived from Greek *bonasos*, Latin *bonus* (a bull), in reference to the fact that the drumming of a male Ruffed Grouse sounds like the bellowing of a bull.<sup>2</sup> Choate (1973) has proposed that *Bonasa* may be derived from Latin *bonum* (good) and *assum* (a roast). Mr. Farrand offers two additional suggestions. The first is that the original authors did intend an allusion to Greek *bonasos*, but that they meant to suggest the birds' timidity, since the Greek word refers specifically to a mythical bull, found in Paeonia, whose horns were unfit for fighting and thus was obliged to save itself by fleeing ignominiously. Conversely, he suggests the possibility that the allusion may be to the well-known tameness of certain grouse, the words *Bonasa* and *bonasia* being latinized forms of French *bonasse* (simple-minded or good-natured).

REMARKS: As is evident from the above synonymy, the literature on this species is extensive and confusing. It has been no easy matter to assimilate this material, and although the summary given here is perhaps painfully detailed the author hopes it will save future workers some laborious research. I therefore beg the reader's indulgence.

The Mascarenes, which consist of the islands of Mauritius, Reunion, and Rodriguez, were home to several species of flightless birds, of which the most famous are certainly the Dodo (*Raphus cucullatus*) of Mauritius and the Solitaire (*Pezophaps solitarius*) of Rodriguez. Although some have suggested that these birds were related to rails (e. g. Lüttschwager, 1959, 1961) there is no real basis for this and the osteology of these forms shows conclusively that they were large, flightless derivatives of pigeons. According to historical accounts there was another such bird on Reunion but its bones have not yet been found.

In a number of 17th-century accounts of Mauritius there are references to flightless "hens" that obviously do not pertain to Dodos. In 1602, Reyer Cornelisz, in a ship under the command of Jacob Van Heemskerck, stopped for three months in Mauritius and recorded, among other things, "Velt-hoenders, soo groot as kleyne Indiaensche Ravens" [partridges as large as small Indian ravens] (Strickland and Melville, 1848). Peter Wilhelm Verhuffen, who was in Mauritius in 1611, also mentions "Feldhüner" and "Rebhüner" (Strickland and Melville, 1848).

In the account of Pieter van den Broecke's voyage to Mauritius in 1617 there are pen sketches of a Dodo and of another flightless bird (Figure 9), although no mention of either is made in the text (Strickland and Melville, 1848). Sir Thomas Herbert, who visited Mauritius in

1627, likewise introduced an illustration (Figure 10) of what he called a "hen," with no further comment (Strickland and Melville, 1848). This representation is so obviously crude and outlandish that it is surprising that later authors attached as much importance to it as they did.

François Cauche in 1638 found on Mauritius "red hens with the beak of a woodcock [*poules rouges au bec de bécasse*]; to capture them one need only to present them with a piece of red cloth, they follow and let themselves be taken by hand: they are the size of our hens, excellent to eat" (translated from Strickland and Melville, 1848).

In the same year the traveller and diarist Peter Mundy called at Mauritius and described "a Mauritius henne, a Fowle as bigge as our English hennes, of a yellowish Wheaten coullour, of which wee gotte only one. It hath a long Crooked sharpe pointed bill, Feathered all over, butt on their wings they are soe Few and smalle thatt they cannot with them raise themselves From the ground.

"There is a pretty way of taking of them with a redde Cappe, butt this [see Figure 11] was strucke with a sticke. They bee very good Meat, and are also Cloven Fotted, soe that they Can Neyther Fly nor swymme." (Temple, 1919, pp. 352-353.)

A similar account is that of Johann Christian Hoffmann, who lived on Mauritius from 13 February 1673 to 17 March 1675. He speaks of "a singular kind of red bird, called 'Toddärsche' [a name earlier applied to the Dodo, which had probably become extinct before 1673] and as big as a common Fowl, which though it cannot fly, yet on that account does not run the less swiftly" (from a review in *Ibis*, 1868, series 2, 4, pp. 479-480). Likewise, to catch them "a rod is taken in the right hand, and the left is wrapt in a piece of red stuff, which is thus shown to the birds, commonly assembled in numerous flocks. Whether the red colour terrifies these stupid birds, or whether it attracts them, they approach the fowler almost without fear, and he, when they are at a conven-

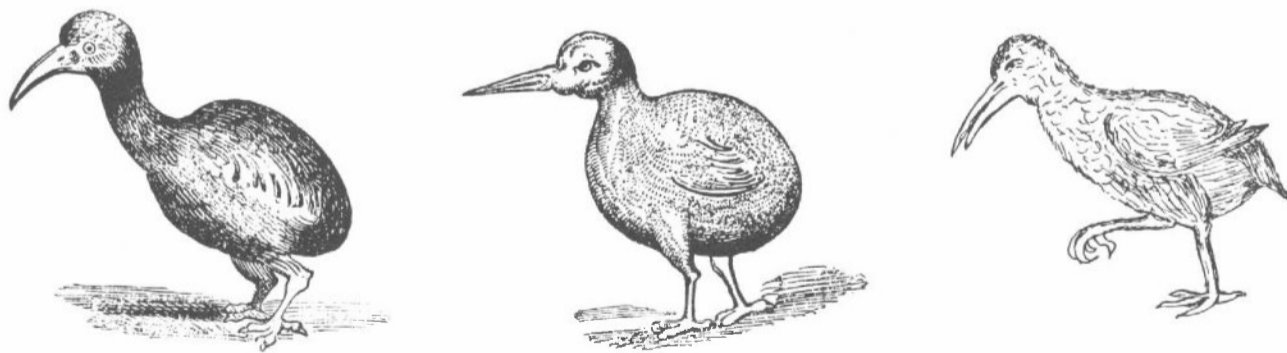
ient distance, strikes and seizes one. The cries which the captive utters attract its companions, who seek to deliver it, and thus all become the prey of the fowler." (From Milne-Edwards, 1869.)

François Leguat spent several years in the Mascarenes in the late 1600's. His account of woodhens (*gellinotes*) applies mainly to the rail of Rodriguez (see *A. leguati*) but he also mentions that on Mauritius the *gellinotes* and several other birds had become very rare by 1693 (Strickland and Melville, 1848), although whether he actually saw them there himself is not clear. The Mauritius rails evidently became extinct between 1675 and 1700.

Strickland, in his admirable treatise on the history of the Dodo (Strickland and Melville, 1848), considered that Herbert's "hen," Cornelisz's "Velt-hoenders," Leguat's Mauritian "gellinotes," the "Feldhüner" of Verhuffen, and the "poule rouge" of Cauche were one and the same species. He did not include the birds mentioned in the accounts of Hoffmann and Mundy, as these came to light later.

Baron de Sélys-Longchamps (1848) was the first to confer formal scientific names on three of the birds mentioned by Strickland as being known only from historical accounts. These he described as *Apterornis solitarius*, the dodo-like bird of Reunion; *A. caeruleus*, a flightless blue bird also of Reunion; and *A. bonasia*, based on the accounts of the Mauritius "hen" of Herbert, Cornelisz, Verhuffen, Cauche, and Leguat. *Apterornis solitarius* was said by Milne-Edwards (1868, 1869) to have been designated as the type of *Apterornis* by Sélys-Longchamps (1848) but I can find no internal evidence to this effect in the latter's paper. In any event, *Apterornis* Sélys-Longchamps 19 November 1848 is preoccupied by *Apterornis* Owen 13 April 1848 (a), a name used for an altogether different bird from New Zealand known now as *Aptornis*.

Schlegel (1854), evidently unaware of Sélys-Longchamps' work and laboring under the delusion that



Figures 9-11 (left to right): 9, Van den Broecke's 1617 sketch of *Aphanapteryx bonasia* (enlarged from Strickland and Melville, 1848); 10, Sir Thomas Herbert's Mauritius "hen" (enlarged from Strickland and Melville, 1848); 11, Peter Mundy's Mauritius "hen" (from Sclater, 1915).



Figure 12. Reproduction of the Hoefnagel painting of *Aphanapteryx bonasia*. (From Milne-Edwards, 1868.)

Herbert's "hen" and the bird figured by van den Broecke were different species of dodos, named the former as *Didus herbertii* and the latter as *Didus broeckei*.

In 1868, Frauenfeld published his discovery of two previously unknown paintings, made about 1610 and attributed to the Dutch painter George Hoefnagel, that were found in the private collection of Emperor Francis of Austria. One of these was of a Dodo, and the other Frauenfeld identified with van den Broecke's drawing and the "poule rouge" of Cauche. However, because he considered the "poule rouge" a different bird from that indicated by Herbert and Leguat, he referred the latter to *Apterornis bonasia*, while the former he named anew as *Aphanapteryx imperialis*. Milne-Edwards (1868, 1869) pointed out that if this were the case, then the species should be known as *Aphanapteryx broeckei* (Schlegel) rather than *A. imperialis*. Although Frauenfeld (1869) then defended the use of his name *imperialis*, Milne-Edwards' suggestion was generally adopted and the bird appears in much of the subsequent literature as *Aphanapteryx broeckei*, the specific name being almost invariably misspelled; the preceding synonymy probably does not include all the permutations that have seen print.

The Hoefnagel painting (Figure 12) shows a bird of a uniform, dark reddish brown color, with a long, decurved, pointed bill, and poorly developed wings. A famous oil painting attributed to Roelandt Savery was made about 1626 (Strickland and Melville, 1848) and is now in the British Museum. This shows a Dodo, several macaws and ducks that are obviously not Mascarene in origin, and the anterior portion of a reddish brown, long-billed bird with a frog in its beak (Figure 13). Frauenfeld (1868, p. 6) suggested that this bird was of the same species as that represented in Hoefnagel's painting. If this is so, the credit for identifying the bird should go to Frauenfeld and his friend Brauer, despite the fact that the Marquis Hachisuka (1937b) would seem to claim it for himself. It may be noted that it is Keuleman's copy of Savery's painting that is reproduced as the frontispiece in Hachisuka (1953) and that in this copy several details of the alleged *Aphanapteryx* have been altered from the original. In another painting showing various birds, also attributed to Savery, Renshaw (1936) found what he considered to be another representation of the "poule rouge," although to me the bird in question appears more like an immature crane.

Returning for a moment to matters of nomenclature, it was evidently Rothschild (1907) who first reverted to the earlier notion that all the various descriptions of Mauritius hens pertained to a single species, thus reviving the older name *bonasia* for the Mauritian *Aphanapteryx*. This usage has generally been followed in modern works (e.g., Lambrecht, 1933; Brodkorb, 1967) and it is employed here.

Peter Mundy's description of a Mauritius "hen" in 1638 was not made known until this century. Sclater (1915) did not hesitate to refer it to *Aphanapteryx broeckei* (= *bonasia*). However, Hachisuka (1937a) seized upon several discrepancies in Mundy's description and drawing to attempt to show that Mundy's bird formed a wholly new genus and species which he named *Kuina mundyi*. Most of these supposed differences are to be found only in



Figure 13. Sketch from the Savery painting of a bird thought to be *Aphanapteryx bonasia*. (From Frauenfeld, 1868.)

Mundy's imperfect drawing, the only disparity of any consequence being that Mundy described the single bird he saw as "yellowish-wheaten" rather than reddish in color. Perhaps this was due to its being a juvenile. Otherwise Mundy's bird appears to have been of the same size and to have had a bill similar to that of *Aphanapteryx bonasia*. Like Selater, I regard the two as the same.

Hachisuka (1953, p. 138) was later to maintain that Sélvs-Longchamps' name *bonasia* should be applied only to the "hen" of Sir Thomas Herbert. He believed not only that this represented a species different from the "poule rouge," *Aphanapteryx broeckei*, but that it required a new genus as well. Thus he created the genus *Pezocrex* for Herbert's "hen"; but he rather inconsistently employed the specific name *herberti* [sic] Schlegel, even though *bonasia*, which he regarded as a synonym, has seven years priority. The so-called generic characters of *Pezocrex* were derived entirely from Herbert's ludicrous drawing (Figure 10). Hachisuka emphasized such features as the straight bill with a "wattle" at the base, but he neglected to mention that the bird in Herbert's drawing had only two anterior toes on each foot — certainly

a much more remarkable and diagnostic feature. It seems pointless to dwell further on the inaccuracy of Sir Thomas's drawing and the absurdity of basing a new genus upon it. *Pezocrex* can only be regarded as yet another synonym of *Aphanapteryx*.

Fortunately, we have more concrete evidence of *Aphanapteryx bonasia* than that afforded by the above. It was Milne-Edwards (1868, 1869) who, upon receiving a mandible, a tarsometatarsus, and a tibiotarsus from the now famous Mare aux Songes swamp on Mauritius, first determined that the "poule rouge" was a member of the family Rallidae. The long, decurved mandible was the clue that connected the bones in question with the painting of *Aphanapteryx* then lately discovered by Frauenfeld. E. Newton and Gadow (1893) reported on additional material, including the pelvis, femur, rostrum, a vertebra, the sternum, and the humerus — the last two providing morphological evidence for the flightlessness of the species. Piveteau (1945) described and illustrated the first known cranium and quadrate and an additional rostrum. According to Günther and E. Newton (1879) and judging from the illustrations in Lambrecht (1933), there is considerable variation in size in this species.



Figure 14. Cranial elements of *Aphanapteryx*: *a*, lateral view of skull of *A. bonasia*; *b*, mandible of *A. bonasia* (reversed from original); *c*, skull and mandible of *A. leguati*; *d*, posterior view of cranium of *A. bonasia*; *e*, same view of *A. leguati*; *f*, dorsal view of mandible of *A. bonasia*. All figures natural size. (*a*, *d*, from Piveteau, 1945; *b*, *f*, from Milne-Edwards, 1869; *c*, *e*, from Günther and Newton, 1879. Bill angles in *a* and *c* have been modified from those of the original illustrations.)



This is probably correlated with sexual dimorphism in size, a common phenomenon in the Rallidae.

The relationships of *Aphanapteryx* are uncertain. The bill shape and distinctively divergent trochleae of the tarsometatarsus would appear to exclude it from any living genus. Its narrowed nasal bar and its geographical location suggest a derivation from the rather closely interrelated group that includes *Gallirallus*, *Dryolimnas*, *Atlantisia*, and *Rallus* (cf. Olson, 1973b).

### *Aphanapteryx leguati* (Milne-Edwards)

FIGURES 14-16

*Erythromachus leguati* Milne-Edwards, 1874 (1 February), p. 6, pl. 11, fig. 1, pl. 12, figs. 3, 4.

*Miserythrus leguati*: Milne-Edwards in Haast, 1874 (July).

*Myserythrus leguati*: Hachisuka, 1953 (*lapsus*).

*Aphanapteryx leguati*: Günther and E. Newton, 1879.

*Erthyromachus leguati*: Brodkorb, 1967 (*lapsus*).

SYNTYPES: Sternum, tarsometatarsus, and a fragment of cranium (MZUC 303.c).

HORIZON: Quaternary.

LOCALITY: Rodriguez Island.

MATERIAL: Syntypes; bones of several individuals including complete crania, upper and lower jaws, pelvis, scapula, humerus, ulna, radius, carpometacarpus, femur, tibiotarsus, and tarsometatarsus (Günther and E. Newton, 1879).

ILLUSTRATIONS: Bones: Milne-Edwards, 1874; Günther and E. Newton, 1879. Rather fanciful reconstructions of the species appear in Rothschild (1907) and Hachisuka (1953).

ETYMOLOGY: After François Leguat, who observed and described the species in life.

REMARKS: As with *A. bonasia*, there are historical reports of the Rodriguez rail. François Leguat, who settled on Rodriguez in 1691 and remained there several years, left the following description (from Strickland and Melville, 1848):

Our Wood-Hens [*Gellinotes*] are fat all the year round, and of a most delicate taste: Their colour is always of a bright gray, and there's very little difference in the plumage between the two sexes. They hide their nests so well that we cou'd not find 'em out, and consequently did not tast their eggs. They have a red list [hem, or border] about their eyes [*un ourlet rouge autour de l'oeil* is perhaps best interpreted as a red orbital ring, rather than as wattles, as Hachisuka (1953) was wont to believe], their beaks are straight and pointed, near two inches long, and red also. They cannot fly, their fat makes 'em too heavy for it. If you offer them anything that's red, they are so angry that they will fly at you to catch it out of your hand, and in the heat of combat we had an opportunity to take them with ease.

Alfred Newton (1875) first brought to attention the anonymous manuscript entitled "Relation de l'île Rodrigue," discovered in the archives of the Ministère de la Marine in Paris. Milne-Edwards (1875) ascertained that the work must have been transmitted to the Com-

pagnie des Indes about 1729 or 1730. In it is an account of a bird that is surely identical with the "gellinotes" of Leguat:

There is a sort of bird of the size of a young hen, which has the feet and beak red. Its beak is somewhat like that of the curlew, except that it is a little heavier and not quite as long. Its plumage is flecked with white and gray; they usually live on the eggs of tortoises which they find in the ground, which makes them so fat that they often have trouble running. They are very good to eat and their fat, which is excellent for ailments, is orange. They have little wing-tips without feathers, which renders them unable to fly, however, they run rather well. Their cry is a continual whistling. When they see someone pursuing them they produce another sort of call which one would say came from a person with the hiccup. (Translated from A. Newton, 1875.)

It was Milne-Edwards (1874) who again had the opportunity of connecting old accounts with more concrete evidence — three bones from a cave on Rodriguez which established that the bird in question was a flightless rail. This bird he named *Erythromachus leguati*, although Lambrecht (1933) wrongly cites Günther and E. Newton, 1879, as the authors of this name. Milne-Edwards believed, on Leguat's testimony, that the bird's bill was straight and also that the legs were heavier than in *Aphanapteryx bonasia*. Günther and E. Newton (1879), with better material, showed that the bill was similar to that of *A. bonasia* and that the curvature was variable, the bill sometimes being nearly straight. They also considered that the proportions of the leg bones were like those of the Mauritian species and they therefore placed *leguati* in the genus *Aphanapteryx*.

The form of the humerus in *A. leguati* differs considerably from that of *A. bonasia* (Figure 16), which is proportionately longer, but Günther and E. Newton did not regard this as of generic importance. Their illustrations show that the tarsometatarsus of *A. leguati* appears not to have the trochleae as divergent as in *A. bonasia*. There are rather striking differences in the skulls of the two species and these were regarded by Piveteau (1945) as being of generic value. In *A. bonasia* the skull is narrower and longer, the temporal fossae are deeper, and the nostrils are decidedly shorter and higher than in *A. leguati*. To judge from the early descriptions that remain, the two species differed considerably in plumage. While the overall resemblance of *A. leguati* and *A. bonasia* is close and it is probable that they were derived from the same ancestral stock, they have diverged considerably and it is possible that the genus *Erythromachus* should be recognized for *leguati*.

It is interesting that early accounts of this species and *A. bonasia* refer so frequently to the attractiveness of red objects to these birds. This habit is reflected in the derivation of the names *Erythromachus*, from Greek *erythros* (red) plus *mache* (battle), and *Miserythrus*, from Greek *misos* (hatred) plus *erythros* (red) — a fact of which Richmond (1908) must have been unaware in interpreting the latter name as referring to the Erythraean (Red) Sea. The enigmatic appearance of the name

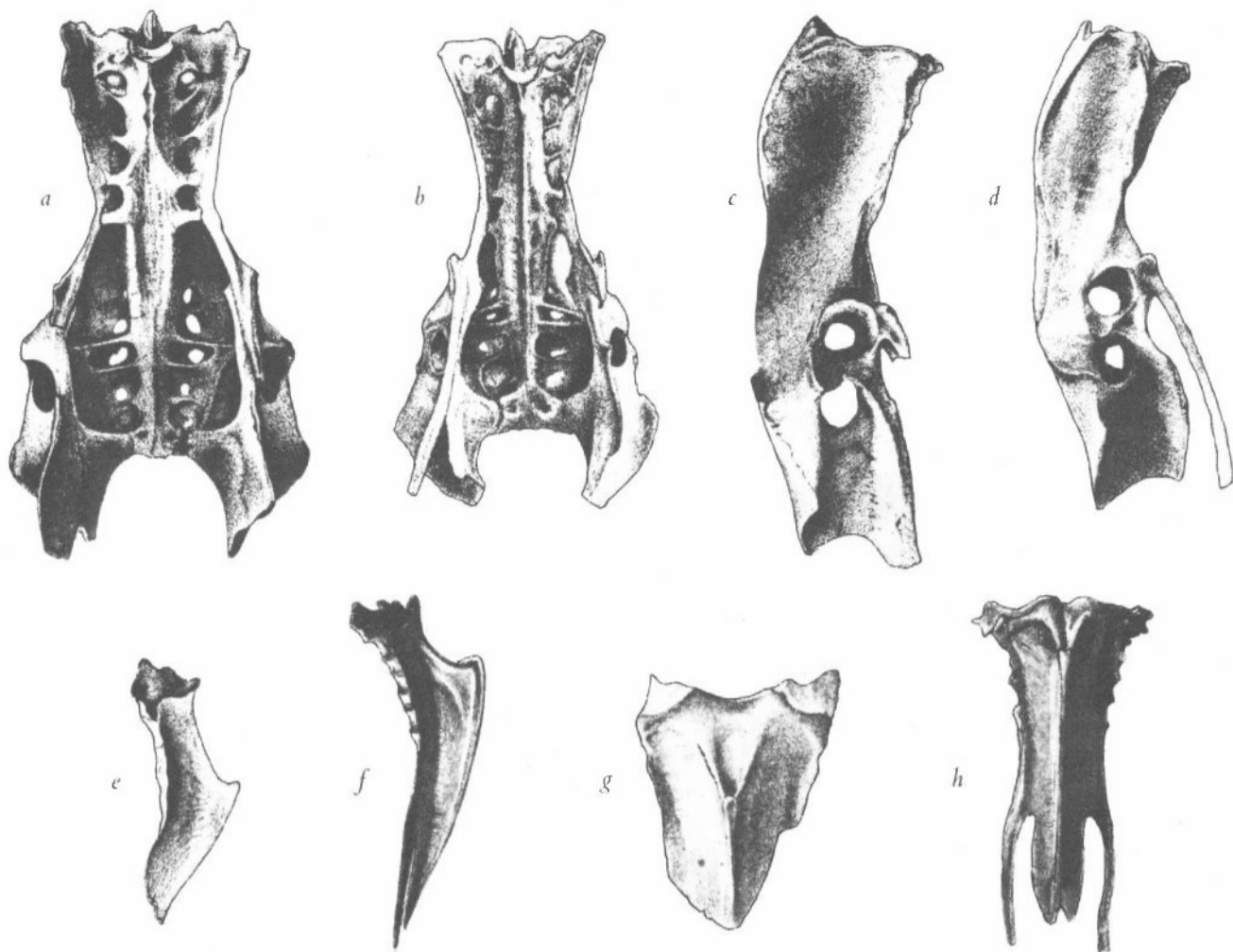


Figure 15. Pelvis and sterna of *Aphanapteryx*: a, c, ventral and lateral views of pelvis of *A. bonasia*; b, d, same views of *A. leguati*; e, g, lateral and ventral views of sternum (broken) of *A. bonasia*; f, h, same views of *A. leguati*. All figures natural size. (Figures a, c, e, g, from Newton and Gadow, 1893; b, d, from Günther and Newton, 1879; f, h, from Milne-Edwards, 1874.)

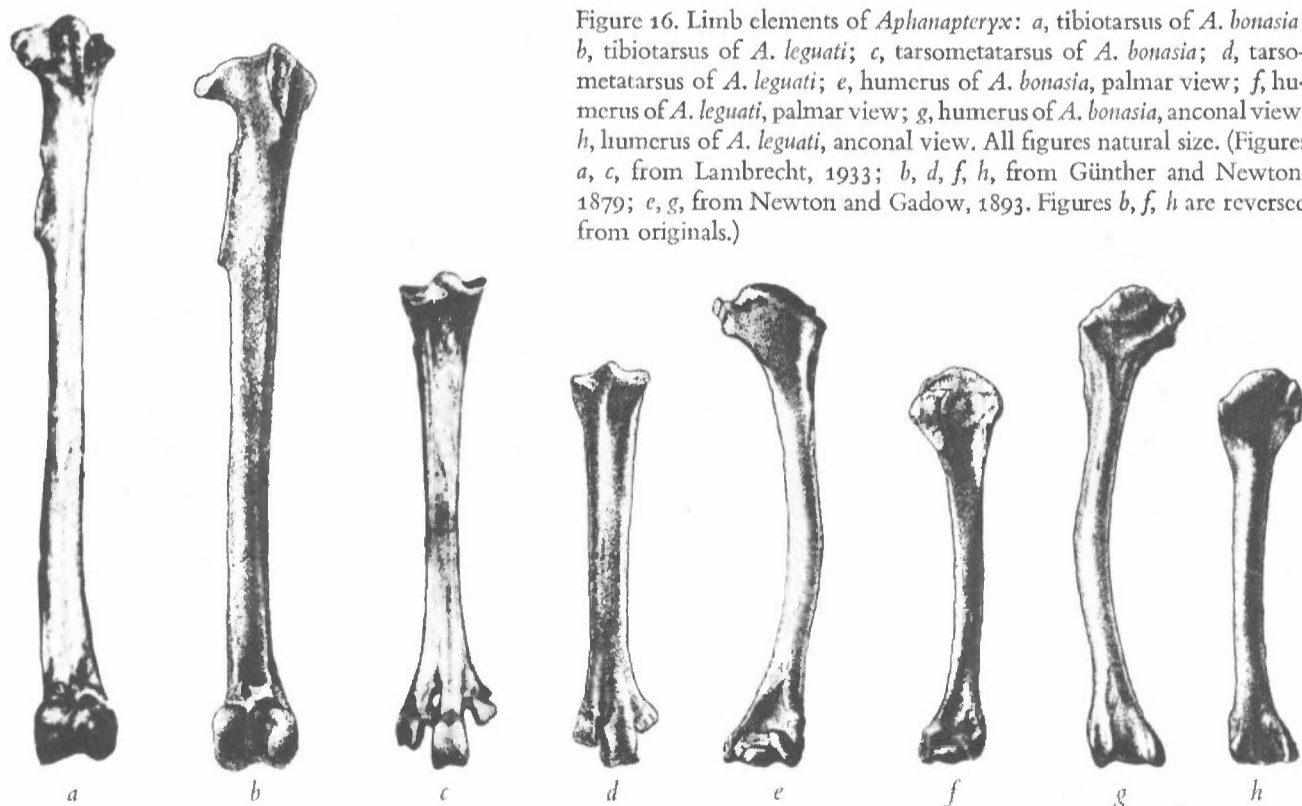


Figure 16. Limb elements of *Aphanapteryx*: a, tibiotarsus of *A. bonasia*; b, tibiotarsus of *A. leguati*; c, tarsometatarsus of *A. bonasia*; d, tarsometatarsus of *A. leguati*; e, humerus of *A. bonasia*, palmar view; f, humerus of *A. leguati*, palmar view; g, humerus of *A. bonasia*, anconal view; h, humerus of *A. leguati*, anconal view. All figures natural size. (Figures a, c, from Lambrecht, 1933; b, d, f, h, from Günther and Newton, 1879; e, g, from Newton and Gadow, 1893. Figures b, f, h are reversed from originals.)

*Miserythrus* requires some explanation. Richmond (1908) erroneously gives A. Newton (1875, Encyclopaedia Britannica, 9th edition, vol. 3, p. 733) as the original citation. Newton did indeed employ *Miserythrus* in the volume cited, as also he did on page 218 of his Dictionary of Birds (1896, issued in parts), an oversight he corrected on page 764 of the same work. However, the name appears earlier in a review in *Ibis* for October 1874 (p. 455) and was mentioned by Haast in *Ibis* for July of the same year (p. 217) where it is seen that *Miserythrus* was a manuscript name used in correspondence by Milne-Edwards. All of these citations postdate the original publication of the name *Erythromachus* by Milne-Edwards on 1 February 1874.

## Modern genus *Fulica*

### *Fulica newtonii* Milne-Edwards

FIGURES 17-19

*Fulica newtonii* Milne-Edwards, 1867, p. 203, pl. 10.

*Fulica newtoni*: Anonymous (= A. Newton), 1868, *Ibis*, ser. 2, 4, p. 482.

*Palaeolimnas newtoni*: Forbes, 1893.

*Paludiphilus newtoni*: Hachisuka, 1953.

SYNTYPES: Pelvis, tarsometatarsus, and tibiotarsus (MZUC 298.aa). The type series did not include the other elements mentioned by Brodkorb (1967).

HORIZON: Quaternary.

LOCALITY: Mauritius Island (type locality); possibly also Reunion Island.

MATERIAL: Syntypes; bones from at least 24 individuals including also the femur, sternum, humerus, cervical vertebrae, premaxilla, and ulna (E. Newton and Gadow, 1893).

ILLUSTRATIONS: Milne-Edwards, 1867, O.F.F.; E. Newton and Gadow, 1893. A crude reconstruction is found in Milne-Edwards, O.F.F.

ETYMOLOGY: After Edward Newton or his brother Alfred, both of whom made many contributions to our knowledge of the avifauna of the Mascarenes.

REMARKS: François Leguat mentions "Poules d'eau" in a list of Mauritian birds that had become very rare by 1693 (Strickland and Melville, 1848) and these very likely were *F. newtonii*. That the species may also have existed on Reunion is suggested by the following account penned by Dubois who visited that island from 1669 to 1672 and spoke of "Waterhens [Poules d'eau] which are as large as fowls; they are all black and have a large white crest on the head" (translated from Milne-Edwards, 1867).

*Fulica newtonii* was a flightless coot somewhat smaller than the huge *F. chathamensis* of the New Zealand region. Forbes (1893), believing that the Chatham Island and Mauritius coots formed a single species which was generically distinct from *Fulica*, created for them the genus *Palaeolimnas*, with *newtonii* as the type and only

species. Milne-Edwards (1896) determined that the two populations were separate species but maintained both in *Palaeolimnas*. That genus, however, was based on skull characters of the Chatham birds, so that when Brodkorb and Dawson (1962) removed *chathamensis* to its own genus, *Nesophalaris*, the result was to leave *Palaeolimnas* without any distinguishing characters. Actually, neither of these genera is acceptable, as the species they contain differ from *Fulica* only in larger size and in flightlessness, whereas such features as the distinctively narrowed pelvis (Figure 17) are specialized characters of *Fulica*. Both *F. newtonii* and *F. chathamensis* probably were derived from *F. atra* and evolved their large size and flightlessness independently.

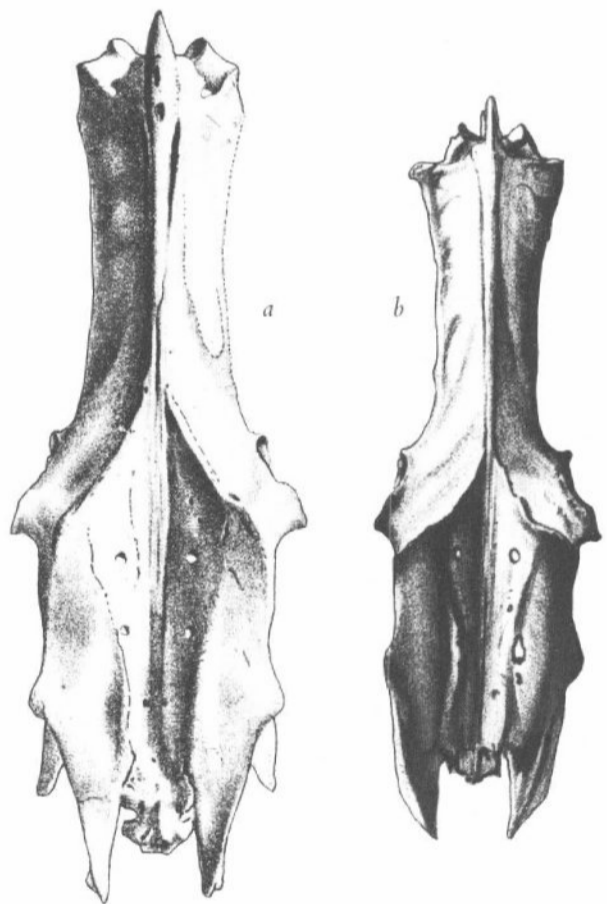


Figure 17. Pelves of extinct coots in dorsal view: a, *Fulica chathamensis chathamensis* (from Milne-Edwards, 1896); b, *F. newtonii* (from Milne-Edwards, 1867). Note the distinctive narrow shape characteristic of coots. Both figures natural size.

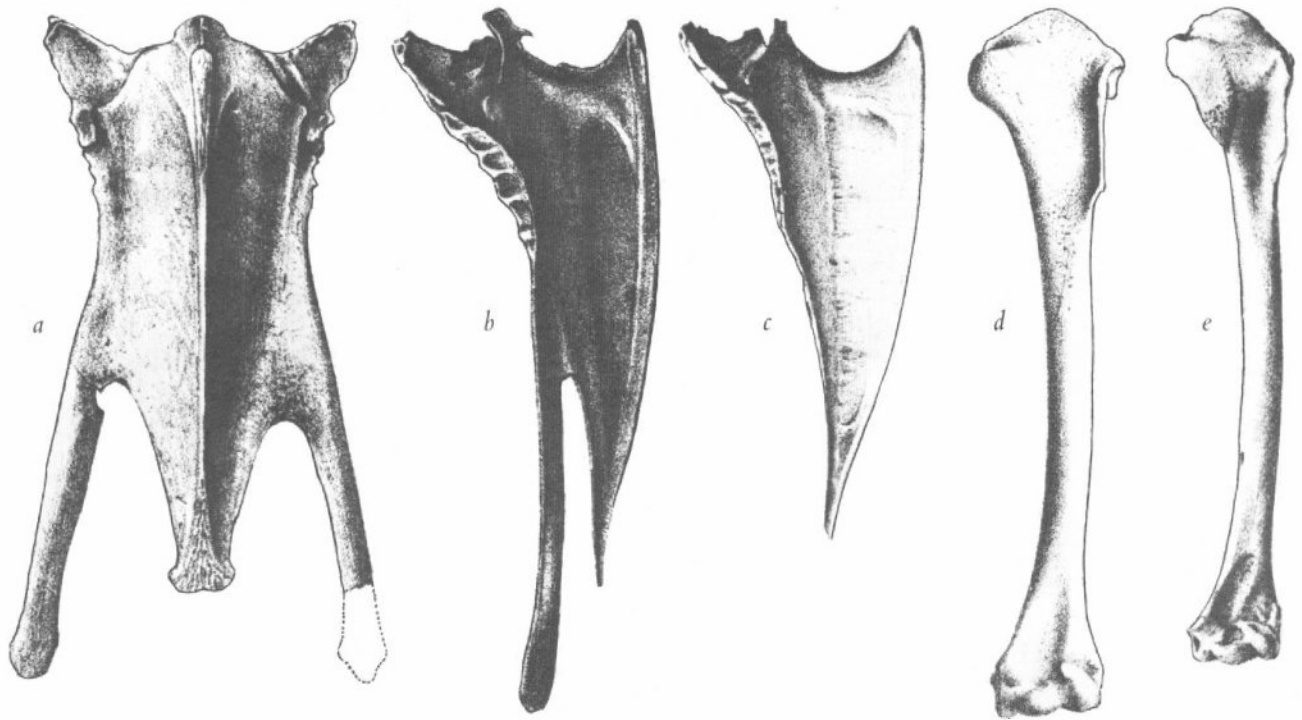


Figure 18. Bones of extinct coots: *a*, sternum of *Fulica chathamensis chathamensis*, ventral view; *b*, same, lateral view; *c*, sternum of *F. newtonii*, lateral view; *d*, humerus of *F. c. chathamensis*; *e*, humerus of *F. newtonii*. All figures natural size. (Figures *a*, *b*, from Andrews, 1896b; *c*, *e*, from Newton and Gadow, 1893; *d*, from Milne-Edwards, 1896.)

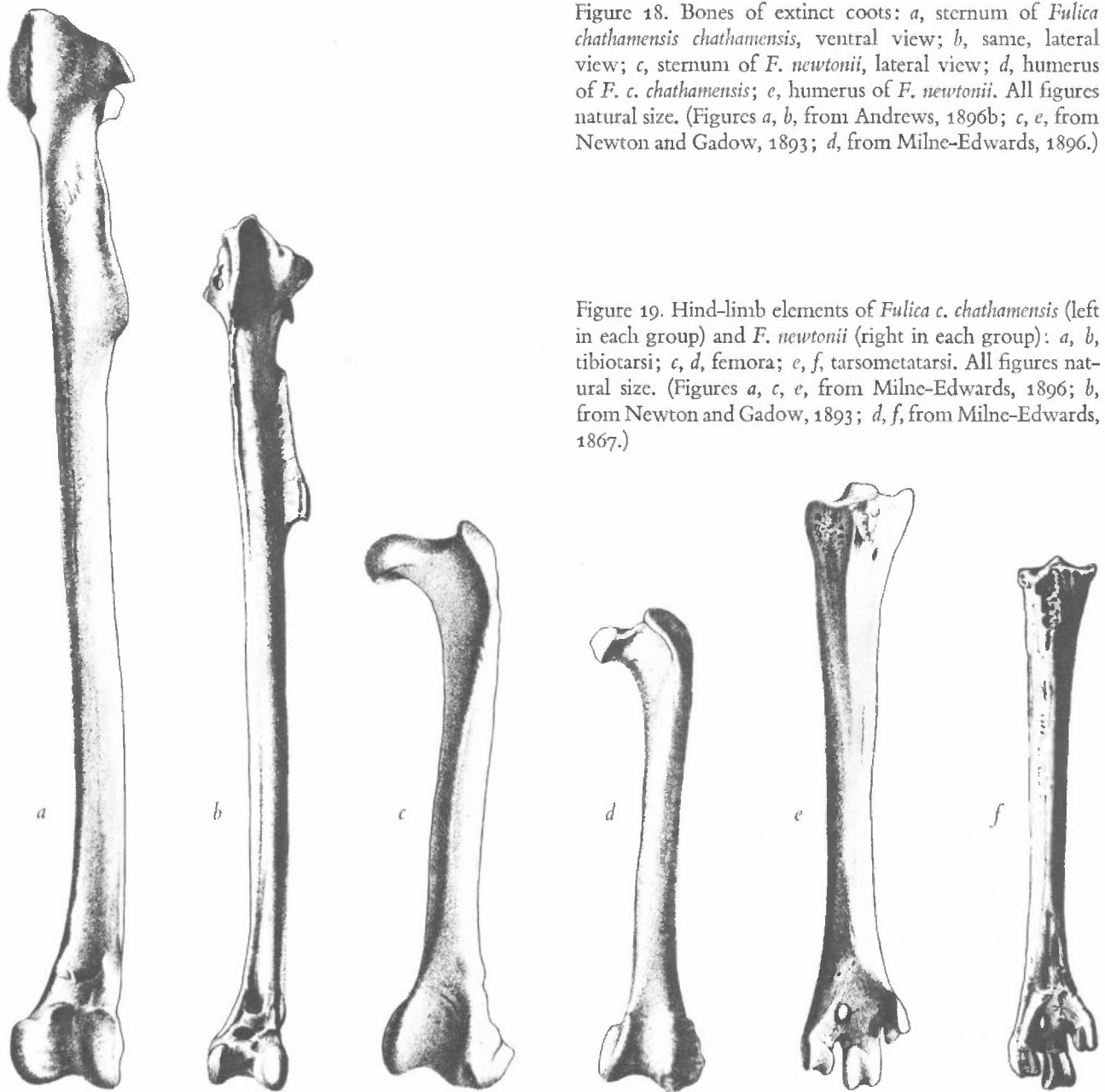


Figure 19. Hind-limb elements of *Fulica c. chathamensis* (left in each group) and *F. newtonii* (right in each group): *a*, *b*, tibiotarsi; *c*, *d*, femora; *e*, *f*, tarsometatarsi. All figures natural size. (Figures *a*, *c*, *e*, from Milne-Edwards, 1896; *b*, from Newton and Gadow, 1893; *d*, *f*, from Milne-Edwards, 1867.)

## Modern genus *Porphyrio*

### *Porphyrio caerulescens* (Sélys-Longchamps)

*Apterornis caerulescens* Sélys-Longchamps, 1848, p. 294.  
*Cyanornis erythrorhyncha* Bonaparte, 1857.  
*Porphyrio* (*Notornis*?) *caerulescens*: Schlegel, 1858, 1866 (English translation).  
*Porphyrio caerulescens*: Sharpe, 1894.  
*Apterornis caerulescens*: Rothschild, 1907.  
*Cyanornis erythrorhynchus*: Hachisuka, 1953.  
*Cyanornis caerulescens*: Hachisuka, 1953.

HOLOTYPE: None. Based on Dubois' description.

HORIZON: Quaternary.

LOCALITY: Reunion Island.

MATERIAL: Historical accounts only.

ILLUSTRATIONS: Reconstructions based on Dubois' description appear in Rothschild (1907) and Hachisuka (1953).

ETYMOLOGY: "Bluish, becoming blue," formed from Latin *caeruleus*, (blue) by analogy with *rubescens*, present participle of *rubescere* (to become red), from *ruber* (red).

REMARKS: In the manuscript of Dubois, who was on Reunion from 1669 to 1672, there is the following account of a bird now unknown in the island (from Milne-Edwards, 1869): "Oyseaux bleus, as large as the Solitaires, have their plumage all blue, their bill and feet red, and in form like those of fowls. They do not fly, but they run so quickly that a dog can hardly catch them in a course. They are very good." Upon this description Sélys-Longchamps (1848) based the name *Apterornis caerulescens*, which species Schlegel (1858) later referred to *Porphyrio*.

An account somewhat at variance is introduced in a letter written by a Jesuit missionary named Brown and published in 1724:

Towards the east of that island [Reunion] there is a little plain, at the top of a mountain, which is called the plain of Coffres, where one finds a large blue bird whose color is very bright. It resembles a Wood Pigeon [*Columba palumbus*]; it rarely flies, always hugging the ground, but it runs with surprizing speed; the natives give it no other name than 'bluc bird'; its flesh is very good and keeps a long time. (Translated from Milne-Edwards, 1869.)

This implies a bird perhaps smaller than that described by Dubois and possibly having some ability to fly. Both descriptions fit very well with a derivative of *Porphyrio*. *Porphyrio porphyrio* (sensu lato) apparently does not occur on Reunion today (Berlioz, 1946) but there is a skeleton of this species, probably a vagrant individual, labelled "Bourbon" (= Reunion) in MCZ.

In any case it seems quite within reason that there may have been an endemic derivative of *Porphyrio* on Reunion. Because someone in the future may well discover bones that will add substance to the name *caerulescens*, I have included the species here rather than with the dubious forms listed at the end of this chapter.

## Genus *Hovacrex* Brodkorb

*Hovacrex* Brodkorb, 1965b, p. 197.

TYPE: *Tribonyx roberti* Andrews, by original designation.

INCLUDED SPECIES: *H. roberti*.

ETYMOLOGY: "Crake of the Hova," the Hova (pronounced "oov") being one of the indigenous peoples of Madagascar. The word is formed by combination with the generic name *Crex* (cf. *Eocrex*).

### *Hovacrex roberti* (Andrews)

FIGURE 20

*Tribonyx roberti* Andrews, 1897, p. 356, pl. 9, figs. 4-7.  
*Hovacrex roberti*: Brodkorb, 1965b.

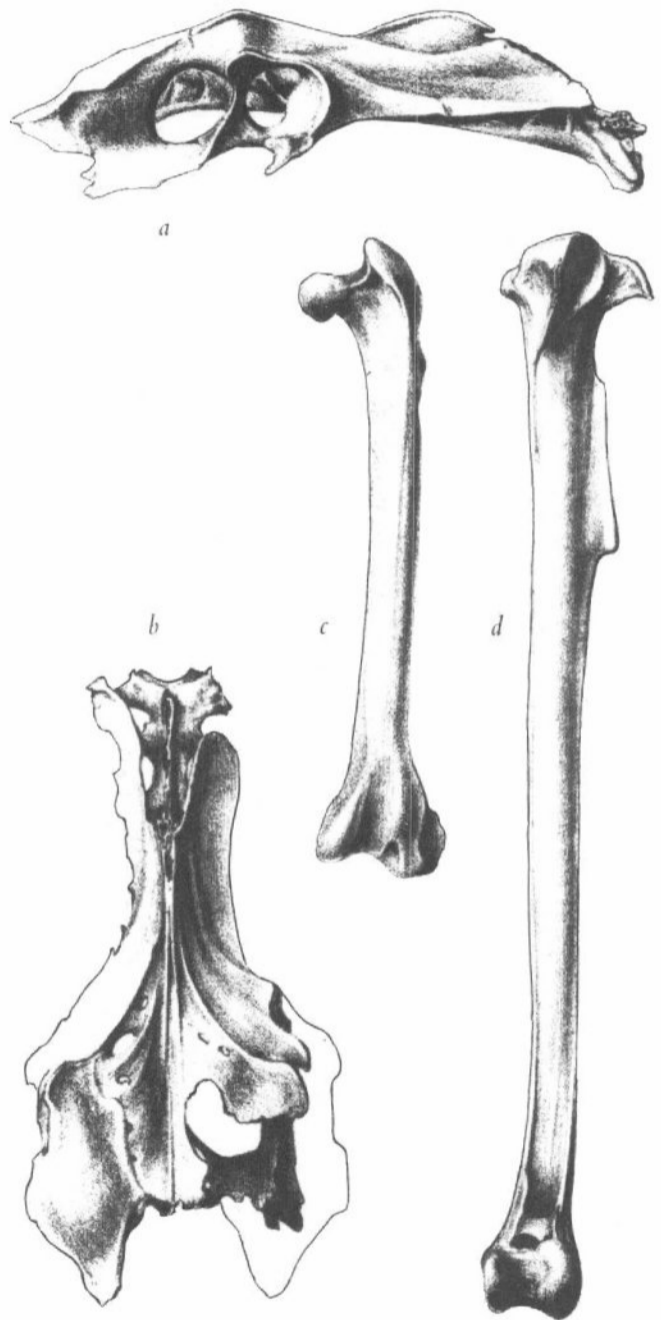


Figure 20. *Hovacrex roberti*: a, pelvis, lateral view; b, pelvis, dorsal view; c, femur; d, tibiotarsus. All figures natural size. (From Andrews, 1897.)

HOLOTYPE: Pelvis (BMNH).

HORIZON: Quaternary; from superficial black earth in a swamp deposit which A. D. Forbes-Watson (personal communication) believes to have been silted in as a result of human activity.

LOCALITY: Central Madagascar, near Sirabé (Antsirabe of modern usage).

MATERIAL: Holotype; referred femur and tibiotarsus.

ILLUSTRATIONS: Andrews, 1897.

ETYMOLOGY: After M. Robert, one of the collectors.

REMARKS: This species apparently was a large gallinule of the same size as modern *Gallinula mortierii*. Since only hind limb elements have been found, it is not known whether it was flightless. As noted by Andrews (1897), the anterior part of the ilium of *roberti* is similar to that of *Gallinula*, *Tribonyx*, and *Fulica* (also *Gallixrex* and *Amaurornis*) but not *Porphyrio*. Andrews placed the species in *Tribonyx*, a subgenus of *Gallinula* now confined to the Australian region. Differences between *roberti* and *Gallinula (Tribonyx) mortierii* prompted Brodkorb (1965b) to found the genus *Hovacrex* for *roberti*. These differences may not be of generic value and if more material were available it might be found that *roberti* could be referred to some extant genus.

## A Rail from the Island of New Amsterdam

In a report on some subfossil remains from New Amsterdam, mostly those of seabirds, Jouanin and Paulian (1960, p. 371) give the following brief bit of evidence (which I have freely translated) of a rail that may possibly have been endemic to the island and later exterminated by introduced mammals:

A mummy of a small rail was discovered in a tunnel in a lava flow, under a block that had no doubt protected it from moisture. A sketch was made *in situ*, as well as taking measurements of the beak (22 mm), the tarsus (40) and the middle toe without claw (34), but the mummy fell to dust when an attempt was made to pick it up. In this case one cannot infer the former existence of a rail peculiar to New Amsterdam, although it would be perfectly likely (endemic species of this order exist on most isolated islands), for the measurements cited coincide with those of a skin of a Corncrake (*Crex crex* Linnaeus) in the British Museum collected 100 miles to the south of Madagascar. Still, this identification is not wholly satisfactory: the mummy did not have the bulk nor the heavy bill of a Corncrake, and it is most regrettable not to have been able to remove it. [Amen.]

## NEW ZEALAND REGION

### Modern genus *Gallirallus*

#### *Gallirallus minor* (Hamilton)

*Ocydromus minor* Hamilton, 1893, p. 103.  
*Gallirallus minor*: Oliver, 1930.

SYNTYPES: The type series consisted of 7 femora, 6 tibiotarsi, 5 tarsometatarsi, 2 pelves, and the anterior portion of a sternum. The pelves and sternum are in NMNZ (s 987 - s 989) with a note to the effect that the rest of the series is missing (Olson, 1975b).

HORIZON: Quaternary.

LOCALITY: New Zealand, South Island, Castle Rocks on the Oreti River. Reported from other sites on North, South, and Stewart Islands (but see below).

MATERIAL: Numerous specimens in various states of completeness have been assigned to this form.

ILLUSTRATIONS: None.

ETYMOLOGY: Latin *minor* (lesser).

REMARKS: This dubious species has never properly been characterized or illustrated. While there are fossil specimens that are smaller and more delicate than available specimens of modern *G. australis*, it has never been established where the dividing line between the two species should be, as smaller size is the only distinguishing feature ascribed to *G. minor*. Indeed, in one series of subfossil specimens, no such line could be drawn (Olson, 1975b). The modern Weka, *Gallirallus australis*, is greatly variable in size individually, sexually, and geographically, and the Stewart Island subspecies is within the size range of *minor* given by Hamilton (1893). It seems possible that the species *G. australis* may have been even more variable in the past and that introduced predators may have eliminated the lower size ranges of the species by selectively preying on smaller individuals ("*minor*"), thus leaving the larger genetic stock we know today as *G. australis*.

#### *Gallirallus insignis* (Forbes)

*Ocydromus insignis* Forbes, 1892d, p. 188.

HOLOTYPE: Tibiotarsus (BMNH?).

HORIZON: Quaternary.

LOCALITY: New Zealand, probably South Island.

MATERIAL: Holotype only.

ILLUSTRATIONS: None.

ETYMOLOGY: Latin *insignis* (notable).

REMARKS: The description, if such it may be called, of this as yet dubious form was as follows (Forbes, 1892d, p. 188):

In the present collection [of subfossils from ten New Zealand localities] there is a considerable number of bones referable to Ralline birds, but for the present the author is unable to determine to what species they should be assigned, for want of the necessary skeletons to compare them with. One tibia is sufficiently distinct, however, to indicate a species of *Ocydromus* far exceeding in size any existing New Zealand form, and for it he proposes the name of *Ocydromus insignis*.

The name *Ocydromus* has since been replaced by *Gallirallus*. Whatever *G. insignis* may be, the name has been

largely overlooked since it was proposed. Lambrecht (1933, p. 708) merely presents it, erroneously, in a list of fossil birds from the Chatham Islands. Neither Oliver (1930, 1955) nor Brodkorb (1967) mention it, nor did Dawson (1958) say whether the type was present in the Forbes collection in the British Museum (Natural History).

There is some reason to believe that *G. insignis* might be a valid form, since subfossil material of an apparently unknown very large rail has recently come to light in New Zealand (R. J. Scarlett and J. Yaldwyn, personal communications).

### Genus *Capellirallus* Falla

*Capellirallus* Falla, 1954, p. 242.

**TYPE:** *Capellirallus karamu* Falla, by original designation.

**INCLUDED SPECIES:** *C. karamu*.

**ETYMOLOGY:** "Snipe-rail," formed by combination of the generic name of the snipes, *Capella*, with *rallus* (rail; see *Palaeorallus*), in allusion to the long, snipe-like bill of this species.

### *Capellirallus karamu* Falla

FIGURE 21

*Capellirallus karamu* Falla, 1954, p. 242, pls. 40-42.

**HOLOTYPE:** Incomplete skeleton including skull, hind limb, vertebrae, and pelvis (Auckland Museum 901.1).

**HORIZON:** Quaternary.

**LOCALITY:** New Zealand, North Island, Karamu Cave, 13 miles from Hamilton (type locality). The species is known from several other localities (Scarlett, 1970b; Olson, 1975b), all of which are on North Island.

**MATERIAL:** Complete skeletons.

**ILLUSTRATIONS:** Falla, 1954; Medway, 1967; Scarlett, 1970b; Olson, 1975b.

**ETYMOLOGY:** After the type locality, Karamu Cave.

**REMARKS:** This species is one of the most distinctive of the Rallidae. In relation to its size it had the longest bill and probably the smallest wings of any rail, and was, of course, flightless. It also had a proportionately large tarsometatarsus. The bird probably inhabited forest and with its highly adapted probing bill may have filled the niche of a tiny kiwi. *Capellirallus* may have been derived from the *Gallirallus* group, perhaps through an ancestral stage somewhat resembling *G. modestus*\* of the Chatham Islands. The bird is not particularly common in New Zealand fossil deposits. No remains of it have yet been discovered on South Island.

\* Called *Rallus modestus* in CHAPTER 4. — S.D.R.

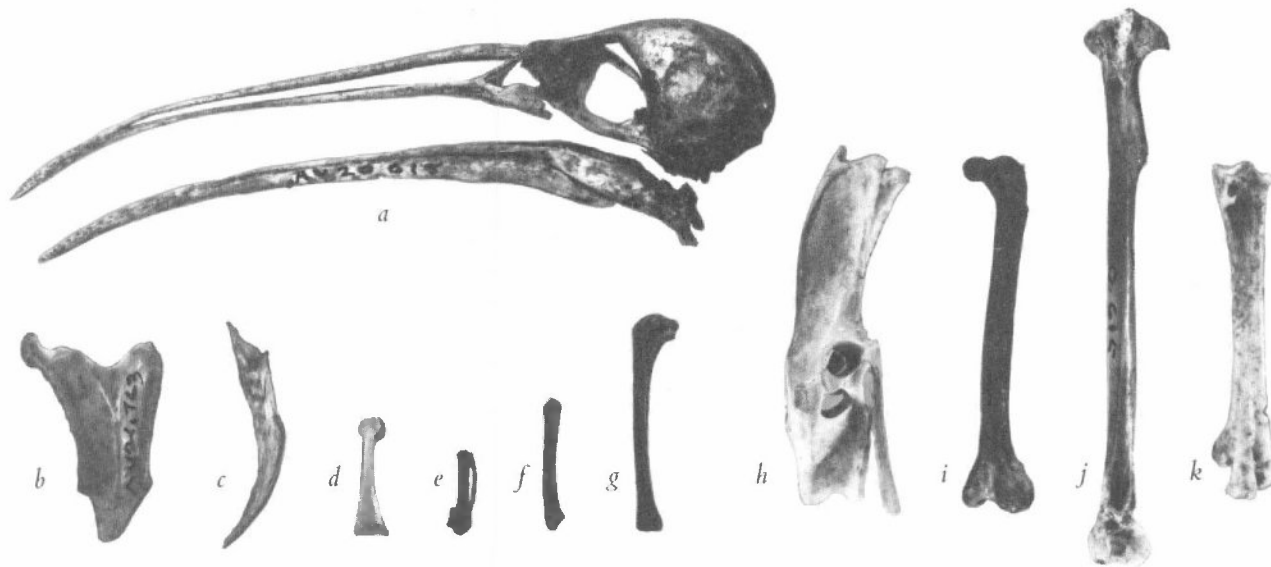


Figure 21. *Capellirallus karamu*: a, skull and mandible; b, sternum, ventral view; c, sternum, lateral view; d, coracoid; e, carpometacarpus; f, ulna; g, humerus; h, pelvis; i, femur; j, tibiotarsus; k, tarsometatarsus. Note the extremely long bill and the very reduced wing and pectoral girdle. All figures natural size. (After Olson, 1975b.)

Genus *Diaphorapteryx* Forbes

*Diaphorapteryx* Forbes, 1892c, p. 21.

TYPE: *Aphanapteryx hawkinsi* Forbes, by monotypy.

INCLUDED SPECIES: *D. hawkinsi*.

ETYMOLOGY: "Removed-wing," from Greek *diaphoreo* (to carry off), privative prefix *a-*, and *pteryx* (wing).

*Diaphorapteryx hawkinsi* (Forbes)

FIGURES 22-24

*Aphanapteryx hawkinsi* Forbes, 1892a, p. 416.

*Diaphorapteryx hawkinsi*: Forbes, 1892c.

TYPE: Skull (BMNH?).

HORIZON: Quaternary.

LOCALITY: Chatham Island, Chatham group.

MATERIAL: Complete skeletons.

ILLUSTRATIONS: Milne-Edwards, 1896 (the pelvis illustrated in this publication is anatid, probably *Pachyanas chathamica*); Andrews, 1896a, 1896b, 1896c; Oliver, 1930, 1955; Lambrecht, 1933.

ETYMOLOGY: After Mr. Hawkins, one of Forbes' collectors.

REMARKS: The remarkable *Diaphorapteryx* is known from abundant remains taken from dune deposits on Chatham Island. It was a very large, ponderous, flightless rail, standing approximately 16 to 17 inches high. It had a long, pointed, decurved bill, very deep temporal fossae, much reduced sternum and wings, and heavy legs with very much shortened tarsi such as those seen in graviportal birds like moas. Although quite distinctive, it is believed to be descended from a *Gallirallus* ancestor (Andrews, 1896a; Olson, 1975b), perhaps through a stage resembling *G. sylvestris* of Lord Howe Island, which, although smaller, has a somewhat similar bill shape and deepened temporal fossae.

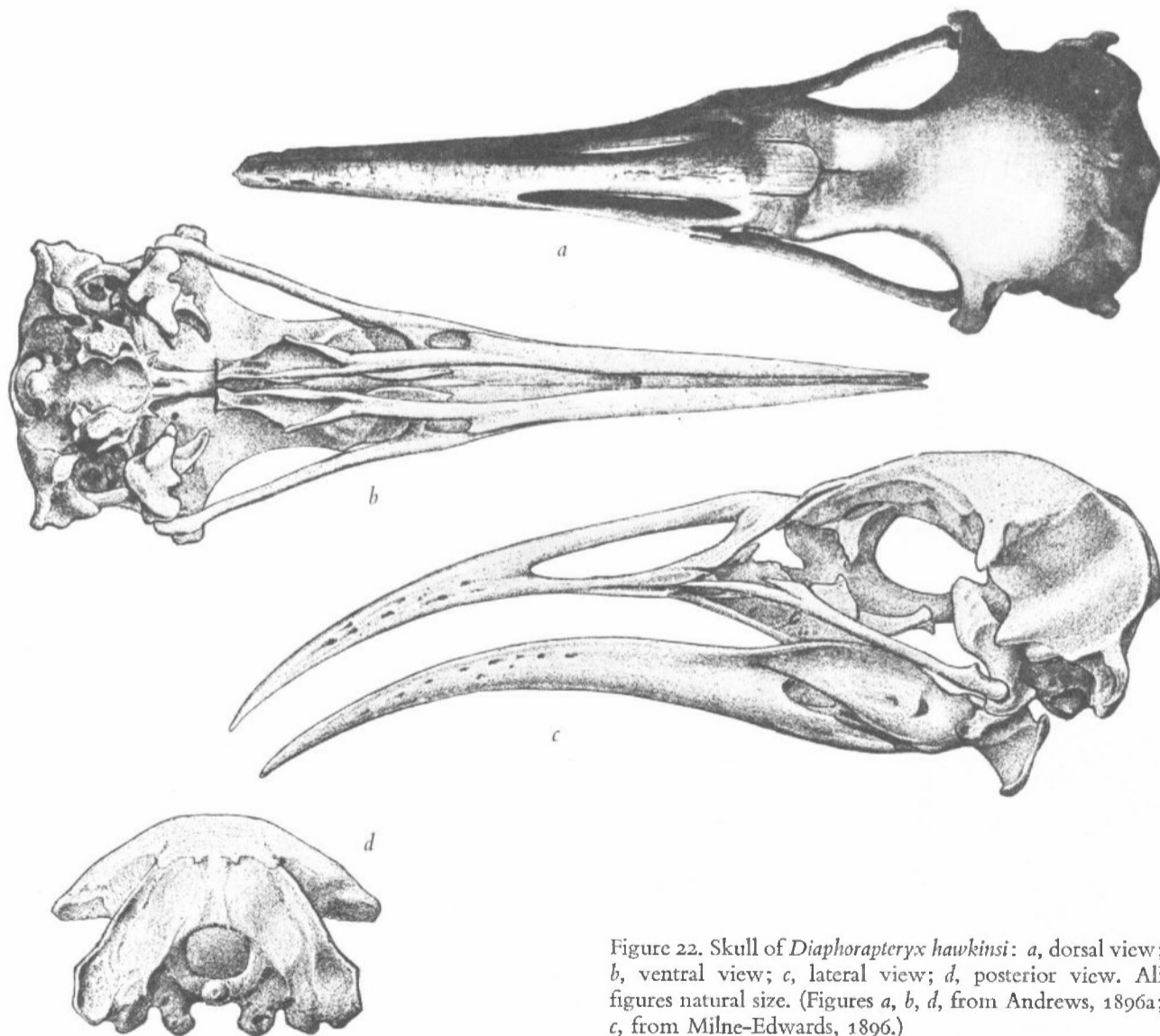


Figure 22. Skull of *Diaphorapteryx hawkinsi*: a, dorsal view; b, ventral view; c, lateral view; d, posterior view. All figures natural size. (Figures a, b, d, from Andrews, 1896a; c, from Milne-Edwards, 1896.)



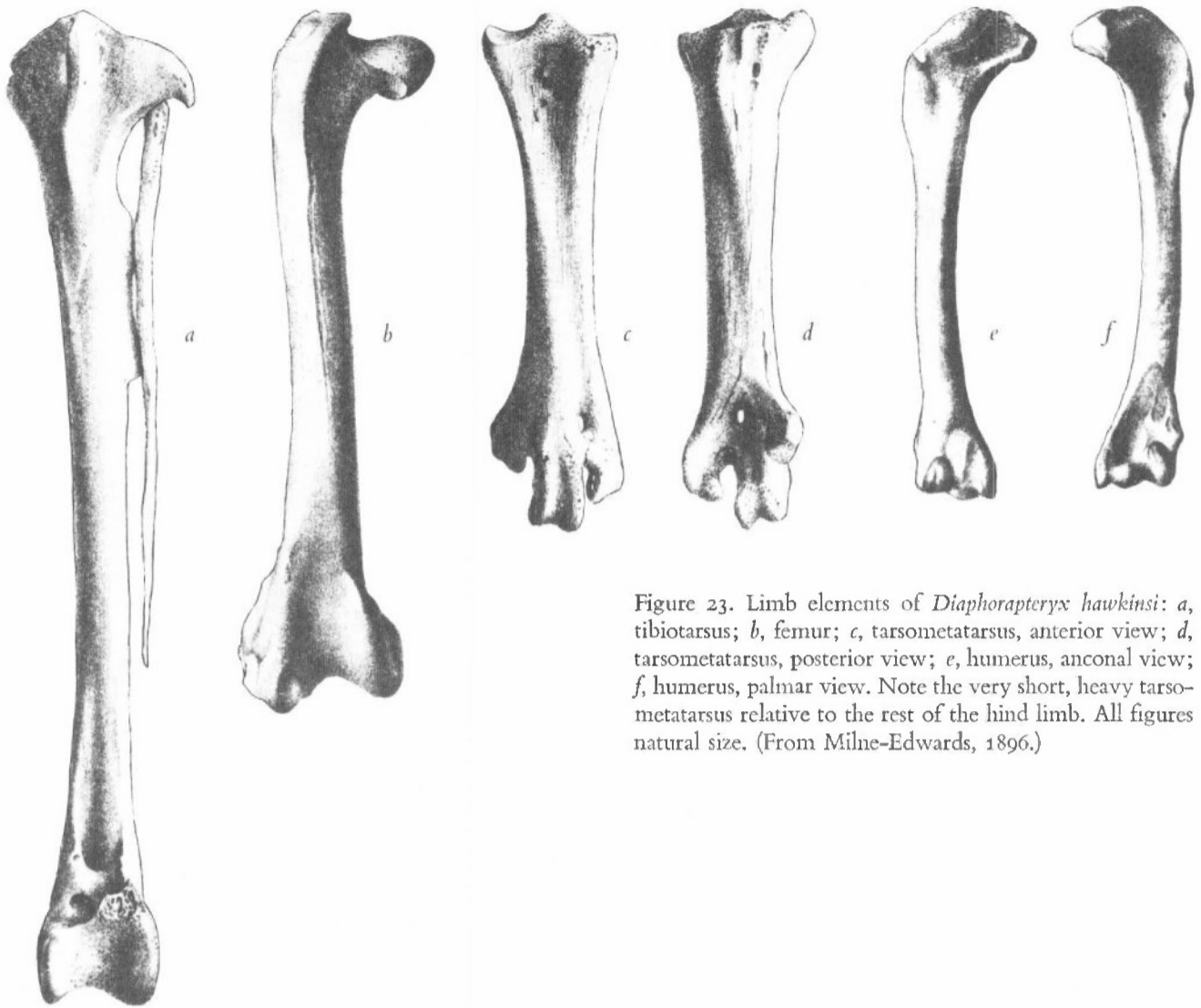


Figure 23. Limb elements of *Diaphorapteryx hawkinsi*: *a*, tibiotarsus; *b*, femur; *c*, tarsometatarsus, anterior view; *d*, tarsometatarsus, posterior view; *e*, humerus, anconal view; *f*, humerus, palmar view. Note the very short, heavy tarsometatarsus relative to the rest of the hind limb. All figures natural size. (From Milne-Edwards, 1896.)

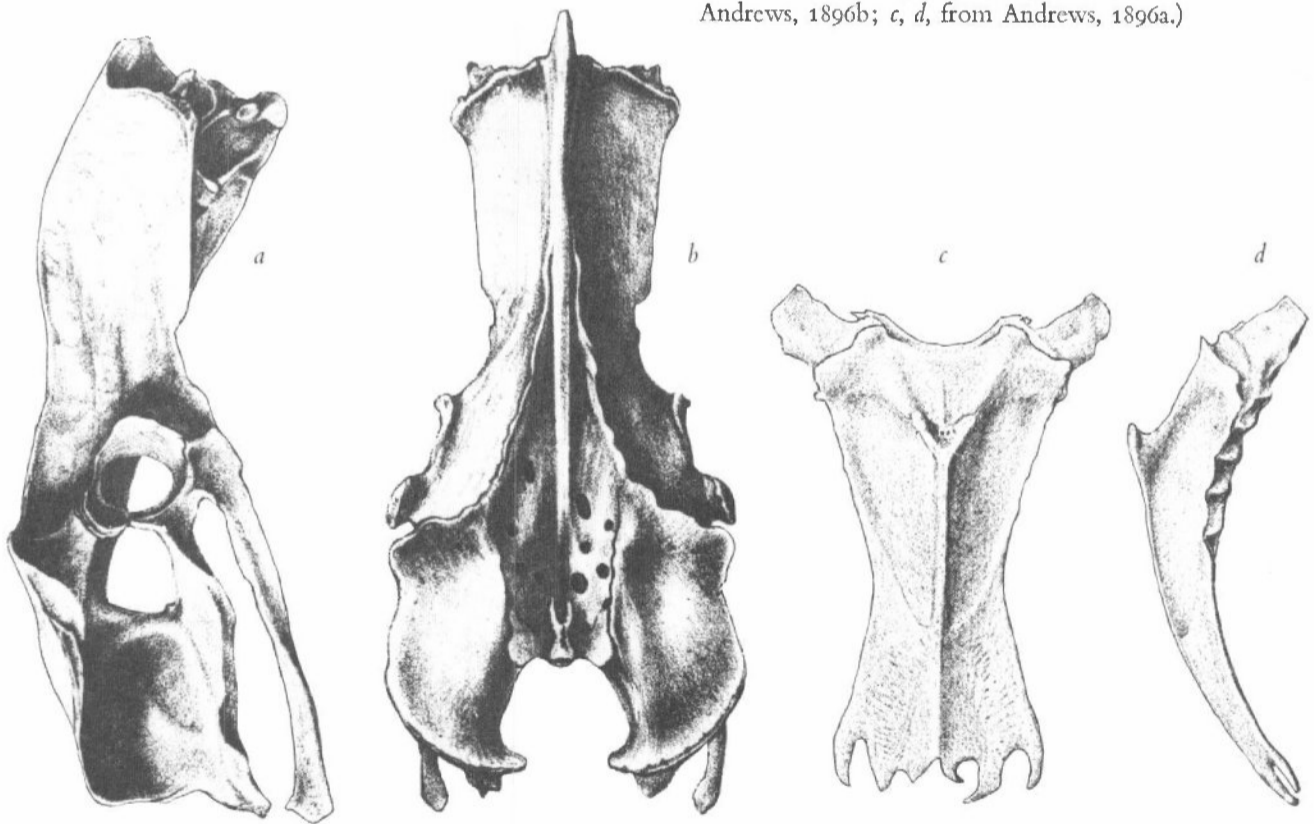


Figure 24. *Diaphorapteryx hawkinsi*: *a*, pelvis, lateral view; *b*, pelvis, dorsal view; *c*, sternum, ventral view; *d*, sternum, lateral view. All figures natural size. (Figures *a*, *b*, from Andrews, 1896b; *c*, *d*, from Andrews, 1896a.)

## Modern genus *Gallinula*

### *Gallinula hodgeni* (Scarlett)

FIGURE 25

*Rallus hodgeni* Scarlett, 1955b, p. 265.

*Pyramida [hodgeni]*: Oliver, 1955.

*Pyramidia hodgeni*: Oliver, 1955 (lapsus).

*Capellirallus hodgeni*: Scarlett, 1970a; 1970b.

*Capellirallus lodgeni*: Scarlett, 1970b (lapsus).

*Gallirallus hodgeni*: Scarlett, 1970a (lapsus).

*Gallirallus hartreei* Scarlett, 1970a.

*Pyramidula [hodgeni]* F[leming], 1975 (lapsus).

*Tribonyx hodgeni*: Olson, 1975b.

*Gallinula (Tribonyx) hodgeni*: Olson, 1975b.

**HOLOTYPE**: Incomplete pelvis (Canterbury Museum AV6197).

**HORIZON**: Quaternary.

**LOCALITY**: New Zealand, South Island, Pyramid Valley swamp (type locality); also known from numerous other localities on both North and South Islands (Scarlett, 1970b).

**MATERIAL**: Virtually all of the major elements of the skeleton are known.

**ILLUSTRATIONS**: Scarlett, 1970a, 1970b; Olson, 1975b.

**ETYMOLOGY**: To "Messers. J. and R. Hodgen, owners of the Pyramid Valley swamp."

**REMARKS**: The relationships of this species were obscured until the discovery of skulls and bills showed that *hodgeni* belongs with the Australian gallinules of the subgenus *Tribonyx* (Olson, 1975b). The species described as *Gallirallus hartreei* (Scarlett, 1970a) was found to be identical to *hodgeni* (Olson, 1975b). *Gallinula hodgeni* was

a flightless species, about the size of the living volant Australian species *Gallinula ventralis* but with much shorter, heavier tarsi. The skull, however, is more similar to that of the flightless species *G. mortierii*. It appears more likely that *hodgeni*, *mortierii*, and *ventralis* are descended from a common volant ancestor than that either of the flightless forms was derived from *ventralis* itself (Olson 1975a, 1975b).

## Modern genus *Porphyrio*

### *Porphyrio mantelli mantelli* (Owen)

*Notornis mantelli* Owen, 1848b, p. 347.

*Notornis parkeri* Forbes, 1891.

*Notornis mantelli mantelli*: Medway, 1967.

*Porphyrio (Notornis) mantelli mantelli*: Greenway, 1958.

*Porphyrio mantelli mantelli*: Greenway, 1958.

**SYNTYPES**: Cranium (BMNH 21695; from Wainganui); rostrum and mandible (BMNH 21968; from Waingonoro).

**HORIZON**: Quaternary.

**LOCALITY**: New Zealand, North Island, known from numerous fossil localities (see G. R. Williams, 1960).

**MATERIAL**: Known from complete skeletons.

**ILLUSTRATIONS**: Owen, 1848b, 1871; Medway, 1967. (There are, of course, many illustrations of the living race, *hochstetteri*.)

**ETYMOLOGY**: After the collector, Walter Mantell.

**REMARKS**: This species comes under consideration in this chapter because the North Island race *P. mantelli*

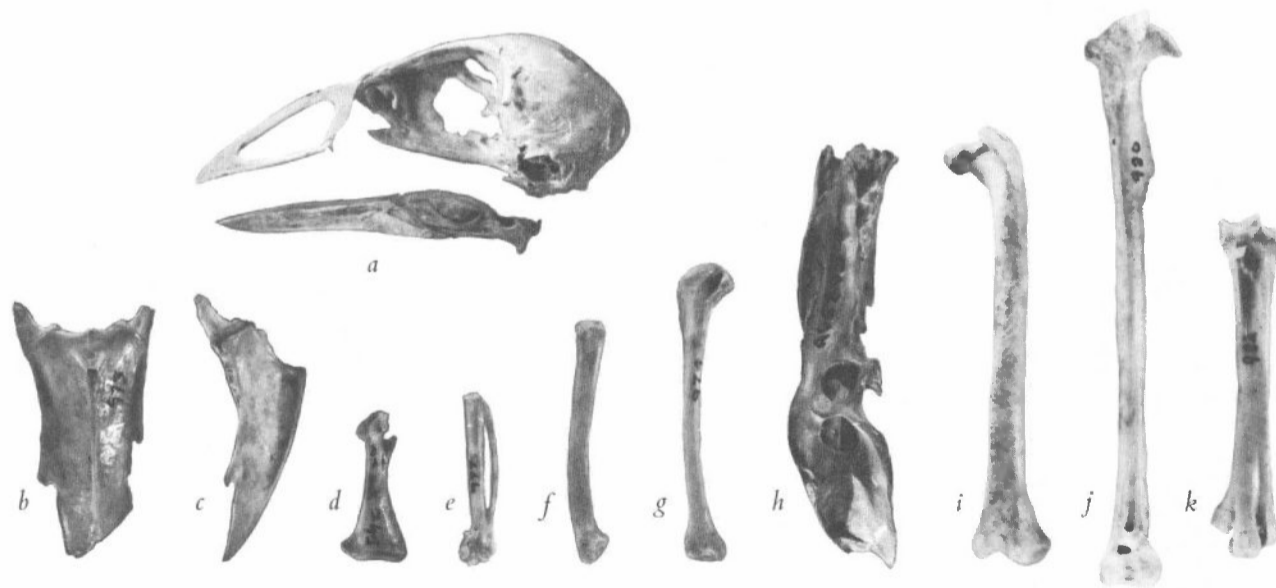


Figure 25. *Gallinula hodgeni*: a, skull and mandible; b, sternum, ventral view; c, sternum, lateral view; d, coracoid; e, carpo-metacarpus; f, ulna; g, humerus; h, pelvis; i, femur; j, tibiotarsus; k, tarsometatarsus. All figures natural size. (After Olson, 1975b.)

*mantelli* is known only from fossil remains. The species was first described as *Notornis mantelli* by Owen. *Notornis*, however, is now considered no more than a large, flightless *Porphyrio* (Greenway, 1958; Olson, 1973b). The living form discovered later on South Island was given the name *Notornis hochstetteri* which is now recognized as being but a race of *mantelli*. The North Island population (*P. mantelli mantelli*) is distinguished by its larger size (G. R. Williams, 1960; Scarlett, 1972).

### Modern genus *Fulica*

#### *Fulica chathamensis chathamensis* Forbes

FIGURES 17-19, 26

*Fulica chathamensis* Forbes, 1892, p. 252.

*Palaeolimnas newtoni*: Forbes, 1893.

*Palaeolimnas chathamensis*: Milne-Edwards, 1896.

*Nesophalaris chathamensis*: Brodkorb and Dawson, 1962.

*Fulica chathamensis chathamensis*: Olson, 1975b.

SYNTYPES: Pelvis, femur, tibiotarsus, tarsometatarsus (BMNH; see Dawson, 1958).

HORIZON: Quaternary.

LOCALITY: Chatham Island, Chatham group.

MATERIAL: Complete skeletons.

ILLUSTRATIONS: Milne-Edwards, 1896; Andrews, 1896b; Oliver, 1930, 1955; Lambrecht, 1933; Scarlett, 1972; Olson, 1975b.

ETYMOLOGY: "Of Chatham," the type locality, formed by addition of Latin *-ensis*, a locative suffix.

REMARKS: This was a flightless coot of great size. Apart from its size, it does not differ greatly from typical coots of the genus *Fulica* and generic separation is not considered tenable (Olson, 1975b). Enlarged supraorbital impressions in most individuals (Figure 26) reflect hypertrophied salt-excreting glands, indicating that these coots were adapting to the salt stress imposed in their new habitat in the lagoons of Chatham Island.

#### *Fulica chathamensis prisca* Hamilton

*Fulica prisca* Hamilton, 1893, p. 98.

*Palaeolimnas prisca*: Rothschild, 1907.

*Palaeolimnas chathamensis*: Scarlett, 1955a.

*Nesophalaris prisca*: Brodkorb and Dawson, 1962.

*Fulica chathamensis prisca*: Olson, 1975b.

LECTOTYPE: Right humerus (NMNZ s 990), designated by Olson (1975b).

HORIZON: Quaternary.

LOCALITIES: New Zealand, South Island, Castle Rocks on the Oreti River (type locality); known from at least 15 other sites on South Island and from one site on North Island.

MATERIAL: In the original type series are pelvis, mandibles, crania, a rostrum, vertebrae, clavicles, sterna,

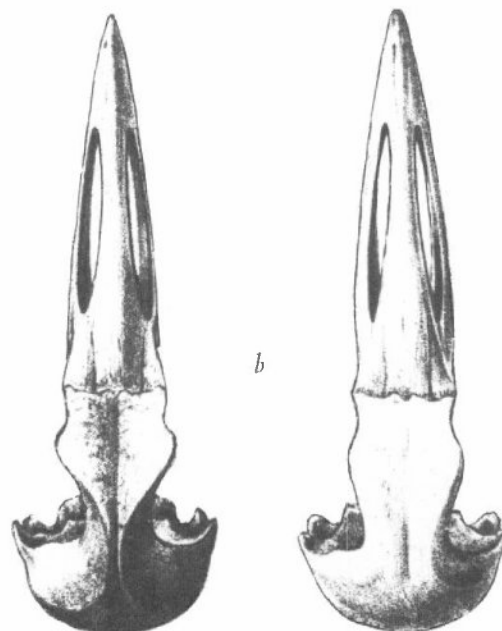
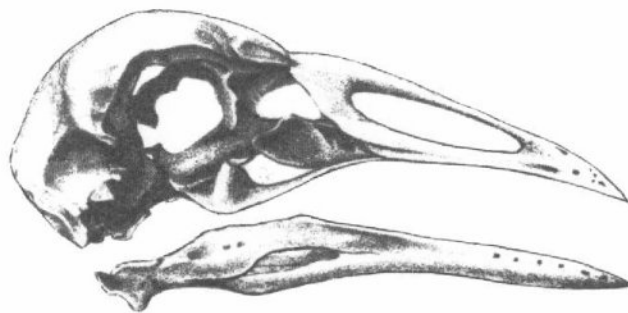


Figure 26. Skulls of *Fulica c. chathamensis*: a, lateral view; b, dorsal views showing differences in the development of the depressions for the supraorbital salt-excreting glands. Natural size. (From Andrews, 1896b.)

coracoids, humeri, femora, tibiotarsi, and tarsometatarsi; so most of the skeleton is known.

ILLUSTRATIONS: Olson, 1975b.

ETYMOLOGY: Latin *prisca* (of former times, ancient).

REMARKS: Despite claims to the contrary (Rothschild, 1907, and others) the mainland New Zealand form of this coot was as large as the Chatham Island form and had the sternum equally reduced. Characters of the humerus allow its subspecific separation from typical *chathamensis* (Olson, 1975b). The species was probably derived from a colonization of New Zealand by *F. atra* stock from Australia; the birds achieved large size and then colonized the Chathams, whereupon both populations became flightless.

### UNDESCRIBED PLEISTOCENE RAILS FROM THE HAWAIIAN ISLANDS

Fossils of three species of flightless rails from Hawaii have recently been sent from the Bishop Museum to the

Smithsonian Institution for study. Two are from a lava tunnel on the island of Maui. Remains of one of these indicate a rail the size of "*Pennula*" [= *Porzana*] *sandwichensis*, while the other species is larger and represents an unknown rail for the Hawaiian fauna. Abundant remains of a third flightless rail come from a Pleistocene dune deposit on Molokai. This species is remarkable for its tiny size, being smaller than any of the known members of the family Rallidae. The morphology and relationships of these species will be treated at a later date. [Since this was written I have made collections of fossils in the Hawaiian Islands and found remains of rails of the

size of *P. sandwichensis* to be present but uncommon on Molokai and Kauai.]

#### A PLEISTOCENE RAIL FROM OKINAWA

When I visited Tokyo recently, Dr. Yoshikazu Hasegawa of the National Museum there showed me a collection of vertebrate fossils from a Pleistocene deposit on Okinawa in the Riu Kiu Islands. Among these specimens, which I studied only briefly, were remains of at least one undescribed species of flightless rail of medium-large size. I intend to describe this species in a future publication.

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### PLEISTOCENE SPECIES SYNONYMIZED WITH MODERN FORMS

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#### *Rallus sumiderensis* Fischer and Stephan, 1971

Fischer and Stephan (1971) described "*Rallus sumiderensis*" on abundant material from Pleistocene cave deposits near Sumidero, Piñar del Río, Cuba. They did this in apparent ignorance of the existence of *Cyanolimnas cerverai*, a recent species now confined to Cuba's Zapata Swamp. I have synonymized *R. sumiderensis* with *C. cerverai*, to which species I have also referred specimens from cave deposits on the Isle of Pines (Olson, 1974d). Obviously *Cyanolimnas* had a wider distribution in Cuba in the past and the present population is a relict one.

#### *Laterallus guti* Brodkorb, 1952

The species *Laterallus guti* is known from several humeri and a tibiotarsus from two Middle Pleistocene localities in central Florida. These were found to be inseparable from those of the modern Graybreasted Crane, *Laterallus exilis* (Olson, 1974a). This species today is found mainly

in northern South America, with six widely scattered records in Central America. Since it occurred in Florida in the Pleistocene, it would appear that the species is withdrawing into South America rather than expanding its range.

#### *Fulica hesterna* Howard, 1963

*Fulica hesterna* was described from very fragmentary specimens from Middle Pleistocene deposits in the Anza-Borrego Desert, California. These specimens do not present sufficient characters to distinguish them from the modern coot *Fulica americana* (Olson, 1974a).

#### *Fulica prior* De Vis, 1888

*Fulica prior* was based on a proximal end of a humerus from Plio-Pleistocene deposits in Queensland, Australia. This proved to be inseparable from the modern coot *Fulica atra* (Olson, 1975a).

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### UNCERTAIN, DUBIOUS, OR NON-RALLINE FORMS

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Briefly noted here are various fossil species that have at some time in the past been assigned to the Rallidae but which either have been removed to other families or are based on inadequate or undiagnostic material. Several of the species in the preceding accounts could easily be listed here but have not been because more extensive discussion of them was deemed warranted.

#### *Aletornis nobilis* Marsh, 1872

#### *Aletornis pernix* Marsh, 1872

#### *Aletornis marshi* (Shufeldt), 1915

These three large species from the Middle Eocene of Wyoming are based on very imperfect material. Craft (1973b) may well be correct in removing them

from their current position in the Gruidae but his reasons for placing them in the Rallidae are not convincing.

*Pararallus hassenkampii* Martini, 1967

Based on several associated toe bones from the Lower Oligocene of Germany, this species is probably not even identifiable to family.

*Palaeocrex fax* Wetmore, 1927

This species is based on a very large tarsometatarsus from the Lower Oligocene of Wyoming (Wetmore, 1927a). My examination of the type indicates that it is not from a rail, but its proper allocation is not as yet apparent.

*Palaeorallus alienus* Kurochkin, 1968

The type is a tibiotarsus from the Middle Oligocene of Mongolia (Kurochkin, 1968a) that Cracraft (1973b) believes may be galliform and not rallid.

*Megagallinula harundinea* Kurochkin, 1968

The type is the proximal end of an ulna from the Middle Oligocene of Kazakhstan (Kurochkin, 1968b) that Cracraft (1973b, p. 38) considers "almost certainly not a rallid."

*Limicorallus saiensis* Kurochkin, 1968

This form is based on a distal end of a humerus from the Middle Oligocene of Kazakhstan. Kurochkin's (1968b) description and illustrations of this specimen indicate that it is not rallid. Cracraft (1973b) considered it to be a duck.

*Antarctichnus fuenzalidae* Covacevich and Lamperein, 1970

This taxon is based entirely on footprint impressions from Oligocene to Miocene rocks from the South Shetland Islands, Antarctica. I follow Brodkorb (1963a) in regarding such evidence as insufficient for the establishment of valid taxa.

*Thiornis sociata* Navás, 1922

The holotype, according to the original illustration, is a nearly complete postcranial skeletal impression from the Lower Pliocene of Spain that Navás (1922) assigned to the Rallidae. Another specimen, housed in the British Museum and much inferior in preservation, is labelled as this species and was erroneously regarded as the type by Cracraft (1973b). Although most of Cracraft's comments on this species are thus invalidated, he is correct in pointing out that, on the basis of Navás' original measurements of the actual type, the proportions of *Thiornis* are not those of a rail. For instance, in *Thiornis* the humerus is 117 percent longer than the femur, whereas in the Rallidae the humerus is never more than

34 percent longer than the femur (Olson, 1973b). In the files of Dr. Alexander Wetmore, I recently discovered a small note stating that Dr. Wetmore had seen the type of *Thiornis sociata* on exhibition at the Muséum d'Histoire Naturelle in Paris on 28 May 1930. This specimen will have to be consulted before the true identity of the species can be determined.

*Telmatornis priscus* Marsh, 1870

*Telmatornis affinis* Marsh, 1870

*Telmatornis rex* Shufeldt, 1915

These species, from the Cretaceous of New Jersey, were rightly removed from the Rallidae to the Charadriiformes by Cracraft (1972).

*Gypsornis cuvieri* Milne-Edwards, O.F.F.

(1869)

This species, from the Eocene of France, was removed from the Rallidae to the extinct family Idiornithidae by Cracraft (1973b). It appears, however, to be very close to the modern genus *Psophia* (Olson, 1974c).

*Telecrex grangeri* Wetmore, 1934

This form, from the Eocene of Mongolia, has been transferred from the Rallidae to the Numididae (Olson, 1974b).

*Aptornis otidiformis* (Owen), 1844

*Aptornis defossor* Owen, 1871

These remarkable birds, from the Quaternary of New Zealand, appear to be North and South Island representatives of the same species. Although *Aptornis* is usually placed in the Rallidae, it merits its own family and appears to have its nearest affinity with the Rhynchoetidae of New Caledonia (Fürbringer, 1888; Beddard, 1898; S. L. Olson and R. L. Zusi, MS).

*Leguatia gigantea* Schlegel, 1858

Schlegel (1858, 1866 [English translation]) based this name on the 1708 description by François Leguat of what appears to have been a flamingo from the island of Mauritius. With his account Leguat published what can be regarded only as a poorly executed figure of a gallinule (Stresemann, 1923), which caused Schlegel to place his supposed new form in the Rallidae. It later turned out that this figure was taken from an engraving made by Adriaen Collaert more than 120 years prior to Leguat's voyage to the Mascarenes; consequently, Schlegel's reasons for placing the species with the Rallidae "fell to the ground" (A. Newton, 1907, p. 71). The recent action of Holthuis, Muller, and Smeenk (1971) in designating Leguat's illustration as lectotype of *Leguatia gigantea* seems to have made the worst of a bad situation.

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