

Rails of the World,  
a Compilation of New Information,  
1975–1983 (Aves: Rallidae)

S. DILLON RIPLEY  
and  
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SMITHSONIAN CONTRIBUTIONS TO ZOOLOGY • NUMBER 417

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SMITHSONIAN INSTITUTION PRESS

City of Washington

1985

## ABSTRACT

Ripley, S. Dillon, and Bruce M. Beehler. *Rails of the World, a Compilation of New Information, 1975–1983 (Aves: Rallidae)*. *Smithsonian Contributions to Zoology*, number 417, 28 pages, 2 figures, 1985.—The senior author's monographic treatment of the Rallidae, published in 1977, was based on data available to 1975. Corrections and additions to that treatment are presented here in the form of species accounts of rails, following the sequence presented in *Rails of the World* (Ripley, 1977). Relevant new information on the biology of the Rallidae are summarized, and appended is a bibliography of recent publications treating the members of the family. The accounts include the description of one species new to science, *Rallus okinawae* Yamashina and Mano, and four new subspecies: *Rallus philippensis tounelieri* Schodde and De Naurois, *Laterallus jamaicensis tuerosi* Fjeldså, *Amaurornis phoenicurus midnicobaricus* Abdulali, and *Fulica "ardesiaca" atrura* Fjeldså. A new systematic arrangement for the genus *Laterallus*, devised by Storer, is compared with that in Ripley (1977). Taxonomic notes are made on populations of *Rallus pectoralis*, *Laterallus jamaicensis*, *Amaurornis phoenicurus*, and *Gallinula chloropus*. Previously undescribed plumages of *Atlantisia rogersi*, *Laterallus leucopyrrhus*, *Porzana spiloptera*, and *Gallinula tenebrosa* are detailed. Range extensions are documented for *Eulabeornis wolfei*, *Rallus maculatus*, *Coturnicops ayresi*, *C. schomburgkii*, *Laterallus levraudi*, *L. xenopterus*, *Porzana albicollis*, and *P. erythropterus*. New ecological data for *Rallus limicola*, *Gallirallus australis*, *Porzana fluminea*, *Gallinula alleni*, and *Fulica americana* are reviewed. Remarks on behavior are included for *Porzana flavirostra*, *P. carolina*, *Gallinula mortieri*, and *G. tenebrosa*. New nesting observations are described for *Eulabeornis castaneiventris*, *E. concolor*, *Rallina tricolor*, *Gallinula chloropus*, and *Fulica gigantea*. Descriptions are made of calls of *Canirallus cuvieri*, *Rallina euryzonoides*, and *Coturnicops rufa*, among others. Status reports on the following endangered populations are summarized: *Rallus poecilopterus*, *R. owstoni*, *R. semiplumbeus*, *R. longirostris levipes*, *Porzana marginalis*, and *Gallinula nesiotis*. Finally, emendations of the original text are made for *Rallus philippensis*, *Rallina leucospila*, *Rallina canningi*, *Laterallus exilis*, *L. melanophaius*, and *Amaurornis akool*. The species accounts are followed by a list of references cited in the accounts, supplemented by uncited works that offer additional specialized information; in combination, this bibliography represents a nine-year survey of the copious rallid literature.

OFFICIAL PUBLICATION DATE is handstamped in a limited number of initial copies and is recorded in the Institution's annual report, *Smithsonian Year*. SERIES COVER DESIGN: The coral *Montastrea cavernosa* (Linnaeus).

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Library of Congress Cataloging in Publication Data

Ripley, Sidney Dillon, 1913-

Rails of the world.

(Smithsonian contributions to zoology ; no. 417)

Bibliography: p.

Supt. of Docs. no.: SI 1.27:417

I. Rallidae. I. Beehler, Bruce McP. II Title. III. Series.

QL1.S54 no. 417 [QL696.G876] 591s [598'.31] 84-600393

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# Rails of the World, a Compilation of New Information, 1975–1983 (Aves: Rallidae)

*S. Dillon Ripley  
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## Introduction

*Rails of the World* (Ripley, 1977) was the product of 12 years of research, from 1963 to 1975, and the distillation of many years of field work in the Old World tropical zones and islands. In the nine years that have elapsed since the research for the original volume was completed, a remarkably rich assortment of new material on rails has been published, stimulated in part by the publication itself as well as by prior papers of Storrs Olson (e.g., 1973). This new material includes descriptions of new taxa (both fossil and recent) and abundant new data on distribution, behavior, and ecology of the Rallidae.

Originally, the senior author planned to publish a general "corrigenda" and brief supplement that were to appear in the recently published "Portfolio Edition" of the monograph (Ripley, 1984). As the quantity of new material was so copious, such a plan had to be abandoned. It was decided that the present authors should collaborate on a detailed summary of all new information available on rails. This entailed a search of the literature and a request to regional field-

workers for novel observations from various parts of the world. The response was positive, and many of the data presented below are based on unpublished observations generously provided by our correspondents. It is this added component in our base of information that makes this compilation something more than a simple review.

When the senior author published the original "Rails text," he was well aware of how incomplete our knowledge was of this widespread but retiring family. Studies by Rowley on the Tasmanian Native Hen had provided a glimpse of the complexity of rallid social lives. Recent studies by Garnett (1978) on the Dusky Moorhen and by Craig (1980) on the Purple Swamphen further elucidate how unusual these birds' social interactions can be. The legendary dispersal ability of rails, who so often appear inept when flying short distances, has been strikingly highlighted by Silbernagl (1982) in his summary of 21 records of apparent trans-Atlantic flights by the Purple Gallinule.

Many of the rails are inhabitants of the Tropics. It is in these less well-studied regions where we can make our greatest strides in the study of this group. In the species accounts, we review work by Frith (1977) on the Whitethroated Rail

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on Aldabra, by Stiles (1981) on the Uniform Crake in Costa Rica, and by Mason et al. (1981) on the Rednecked Rail in northern Queensland. These are three examples of a welcome and heightened interest in the study of the rails of tropical regions.

Our changing view of rails marks the continually evolving role we play in our environment. Today rails are only a minor component in American sport-shooting. This is partly because of the reduction in our need to shoot "for the table" and, sadly, in part caused by the reduced rail populations in many parts of the United States. The marshes of the western shores of the Chesapeake Bay formerly were important hunting grounds for the Sora in autumn. "Pole-pushing" was the traditional manner of going after these tiny and elusive marsh-dwellers. The hunter was poled by a guide operating a narrow, shallow-draft skiff, the only craft that could successfully maneuver the thick marsh vegetation. Meyers (1983) documents the end of pole-pushing in the western Chesapeake, and he points to habitat degradation and water pollution as the two main causes for the demise of migrant Sora populations in this region.

Thus we can regard the rails, in some instances, as clear indicators of environmental change. Leck (1979) speculates how forest insularization in the northern Neotropics might adversely affect rails and other forest-dwelling birds. King (1981) links human habitat despoliation to the decline of the endemic population of the Clapper Rail in the San Francisco Bay estuaries. Let us hope that in the next "update" of rails information, we will be able to report more good news than bad news in the ongoing struggle between man, the environment, and the Rallidae.

**RALLID SYSTEMATICS.**—Given the collaboration between Olson and the senior author in the 1977 monograph, there has been some confusion regarding the source of the systematic treatment used in the original *Rails of the World* text. That treatment was solely based on the judgment of the senior author; the fossil accounts in the last chapter of the text followed the system of Olson

(1973). The senior author acknowledges the intellectual input of Olson, especially the material in his 1973 paper, but takes full responsibility for the systematic treatment offered in the 1977 text, which is followed herein.

**THE ACCOUNTS.**—This review is organized as an annotated list following the nomenclature and systematic sequence of the 1977 work (herein called the "Rails text"). For each account a reference page number is given for location in the original text. This is followed by a brief corrigenda of the introductory chapters and a complete bibliography. No new systematic revision has been undertaken by the authors, although we take note of other authors who have expressed opinions on systematic questions.

The species accounts are presented topically, with material organized into one of 10 categories: (1) *systematics*, notes on generic and specific relationships; (2) *taxonomy*, nomenclatural points and subspecific treatments; (3) *description*, new taxa and previously undescribed plumages; (4) *identification*, notes on species' identification either by plumage or biometric measurements; (5) *distribution*, new range extensions or unusual occurrences; (6) *ecology*, data on diet, habitat preferences, predation, etc.; (7) *behavior*, courtship, nesting, and individual interactions; (8) *voice*; (9) *status*, new information on the condition of rare or endangered populations; and (10) *corrigendum*, emendation to the original text, figures, or plates.

**ACKNOWLEDGMENTS.**—Gorman M. Bond provided the initial base for this review: a thick stack of file cards listing recent rail publications. Various ornithologists shared new rail information with us: J. Albuquerque, R. Beck, R. Behrstock, R. Breisch, S. Breisch, T.-H. Cheng, R. Delaruelle, J.M. Diamond, G. Donnelley, J. Fitzpatrick, J. Fjelds , F. Haverschmidt, G. Kaufmann, L. Kilham, I. Mason, B. Massey, J. McKean, B. Miller, E.S. Morton, C. Munn, S. Olson, T. Parker, W.H. Phelps, Jr., C. Pickett, R. Ridgely, S. Robinson, R. Schodde, H. Sick, N. Smith, D. Steadman, R. Storer, A. Stokes, P. Taylor, D.M. Teixeira, R. Todd, C. Wemmer, D. Wingate,



and Y. Yamashina. S.L. Olson and K.C. Parkes offered helpful criticisms on an earlier draft. We thank these, and others, who kindly sent reprints, for helping to make the review a more complete one.

### Annotated List of Species Accounts

NKULENGA RAIL *Himantornis haematopus* (p. 32)

*Corrigendum:* The illustration of the downy young (p. 33) shows the bill unnaturally compressed proximally.

WOOD RAIL *Canirallus kioloides* (p. 38)

*Status:* Keith (1978) reported that habitat destruction threatens the population of the nominate subspecies in eastern Madagascar.

WHITETHROATED RAIL *Canirallus cuvieri* (p. 39)

*Ecology:* On Aldabra, Frith (1977) observed an immature bird kill and consume a small ghost crab (*Ocypode corimanda*), one inch across at the carapace. He also observed five rails attack and eat hatchlings of the Green Turtle (*Chelonia mydas*) at a nest on the beach. The rails also ate unhatched eggs from nests of this turtle. In another instance Frith observed birds feeding upon eggs, larvae, and some adults of the Red Wood Ant (*Camponotus maculatus*).

*Behavior:* Frith (1977) recorded the mating habits of this rail on Aldabra. The female solicits copulation by spreading and lowering her white outer tail feathers, bending, and touching her bill to the ground. The male then mounts, dropping a wing over either side of the female. Frith also discovered that these rails successfully defend themselves from introduced rats that share this island habitat; the rails aggressively strike at any rat that approaches too closely, pecking the rodent forcefully with the bill.

*Voice:* Huxley and Wilkinson (1977) studied the vocal behavior of the species on Aldabra. They recognized 10 types of calls, falling into two categories: one related to alarm and aggression, the other related to sexual communication. Birds duetted, but not in the strict antiphonal

sense. On some occasions, three or more birds joined in on these calling bouts. Vocalization appears to facilitate individual identification. In this light, the function of duetting may be cooperative defense of territory.

CHESTNUT RAIL *Eulabeornis castaneiventris* (p. 44)

*Ecology:* Ragless (1977) encountered this species in mangroves, feeding on small crabs.

*Behavior:* Ragless (1977) found an active nest in northern Queensland, 19 October 1972. The nest was placed in the crotch of a mangrove, 2.6 meters above the ground. It had been used successively for a number of years. The nest contained four warm eggs, measuring 5.35–5.58 × 3.59–3.65 mm. J.L. McKean (in litt.) noted an individual bathing in salt water, dipping its head under the water then raising itself up and letting the water pass over its back.

*Voice:* The trumpeting call reported in the Rails text has a territorial function, is usually given as a duet, and may be answered by neighboring pairs (J.L. McKean, in litt.).

*Status:* Common in northern Australia wherever there is suitable mangrove forest habitat (I.J. Mason, pers. comm.).

BARE-EYED RAIL *Eulabeornis plumbeiventris* (p. 45)

*Corrigendum:* The illustration on plate 4 should show a prominent reddish eye-ring and a pale post-ocular patch of bare skin.

BROWN WOOD RAIL *Eulabeornis wolfi* (p. 50)

*Distribution:* Graves (1982) observed a single individual of this species on 26 September 1977, at Puerto Pizarro, Dept. Tumbes, Peru, a first record for this country.

*Ecology:* Leck (1979) studied populations of forest birds in a small "habitat island" of tropical forest in Ecuador. In this small forest patch, the population of the rail was very small, and Leck predicted extinction for the rail in this and similar isolated patches of humid forest in tropical

South America. Further observations would seem to be imperative.

GRAYNECKED WOOD RAIL *Eulabeornis cajaneus* (p. 51)

*Ecology:* At Tikal, Guatemala, L. Kilham (1979) observed this rail eat a 30 cm snake, after killing it with repeated contusive blows. These rails also consumed the large water snail *Pomacea flagellata*.

*Behavior:* Teixeira (1981) reported that this species constructs a "nursery nest" for fledglings recently hatched to as old as 40 days.

*Voice:* C. Munn (pers. comm.) found this species in the Manú National Park, eastern Peru. He noted that when the bird is foraging solitarily or in pairs, it gives a low series of upslurred "umm" notes, three or four notes per series. This call is easy to imitate and will attract birds of the species.

RUFUSNECKED WOOD RAIL *Eulabeornis axillaris* (p. 61)

*Voice:* Meyer de Schauensee and Phelps (1978) write: "often calls at night; a high prolonged yelping, answered by other birds. May respond to imitation of the calls of chicks, like the peeping of young chickens."

UNIFORM CRAKE *Eulabeornis concolor* (p. 61)

*Description:* Stiles (1981) observed this bird in Costa Rica and noted its similarity to a small wood-rail in build, posture, and color of soft parts: iris red, bill greenish yellow, legs orange-red.

*Distribution:* Meyer de Schauensee and Phelps (1978) recorded it for the first time in Venezuela, from Boquerón and Carabobo, 700 meters above sea level, in swampy woodland.

*Ecology:* Stiles (1981) reported that birds search leaf litter and dig in soft mud for food. He recorded spiders, a frog, and an anole lizard as prey.

*Behavior:* This species has an erect stance and walks with its head high and tail cocked, except when foraging (Stiles, 1981).

*Voice:* The species gives conspicuous whistled calls and notes, as follows: (a) a series of six to nine clear upslurred whistles, in which successive notes first increase in pitch and volume, then accelerate, drop in pitch and volume—"tooeee, Tooee, Tooeeee, TOOOEEE, Tooee, tooee-tooee-tuee-tui"; this is probably a territorial "song"; (b) at close range a soft, low-pitched, pigeon-like "cuuuuuuuu" is audible; (c) two birds, perhaps a mated pair, may call back and forth with one or several clear, not very loud, whistled "tooo" notes, either level in pitch or downslurred; (d) a startled bird delivered a sharp, nasal "kek" (Stiles, 1981).

*Nesting:* Stiles (1981) found a nest with eggs at La Selva, Costa Rica, on 14 November 1973. It was a loose cup of leaves filling a hollow in the top of a vine-covered stump in a swamp forest opening, five meters from a stream. The nest contained four sub-elliptical, slightly glossy eggs. The ground color was pale buffy, marked mostly near the large end with bold superficial reddish brown splotches and subsurface spots and blotches of gray and purplish brown. Range of measurements of the four eggs: 33.28–44.41 × 25.74–26.18 mm.

PLATEN'S CELEBES RAIL *Rallus plateni* (p. 67)

*Corrigendum:* The bird illustrated in plate 7 should show a chestnut nape.

WALLACE'S RAIL *Rallus wallacii* (p. 67)

*Description:* Five specimens collected by Paul Taylor from Kampung Pasir Putih, Jailolo, Halmahera, provide additional data on the species. All five were caught in snares. Two were prepared as study skins: Male, USNM 571491, 3 May 1981, skull ossified, iris reddish orange, bill 70 mm from base, wing (chord) 182 mm, tarsus 82 mm, tail 71 mm. Female, USNM 571490, 10 March 1981, skull ossified, iris red-orange, bill 84 mm, wing 185 mm, tarsus 99 mm, tail 62 mm. Two specimens were prepared as skeletons, and one as a spirit specimen. Informants reported to Taylor that an adult had been observed with 4–5 striped chicks. If the report is accurate,

this would indicate an atypical plumage for this *Rallus* species.

*Ecology:* It was reported that the birds preferred marsh-edges, especially peninsulas of land that jut into marshy expanses. It is at such sites that snares are set. In the local language, Tobelo, this species is referred to as "o hétaka" or, more specifically, as "o hetaka ma you itoka-tókara."

**NEW CALEDONIA WOOD RAIL** *Rallus lafresnayanus* (p. 68)

*Status:* A. Stokes (in litt.) visited New Caledonia and searched unsuccessfully for this species in late 1976.

**LORD HOWE WOOD RAIL** *Rallus sylvestris* (p. 68)

*Identification:* Fullagar and Disney (1981) analyzed biometric data on this rail in order to determine the best parameters for sexing the birds. They concluded that tarsus and wing length are the most effective measures, and they provide a discriminant function for sexing the birds from measurements: for study skins,  $1.8 \times \text{tarsus length} + \text{culmen length} > 135$  for males; for live birds,  $1.7 \times \text{tarsus} + \text{culmen} > 141$  for males.

*Ecology:* B. Miller (in litt.) recorded the following in the diet: earthworms, white larvae of Coleoptera and Hemiptera, Crustacea, spiders, lichens, fungus and, rarely, flowers.

*Status:* Based on a two-year study, B. Miller (in litt.) reported that feral pigs are the most important limiting factor for this rail. Lourie-Fraser (1982) noted that the captive breeding program successfully raised 13 chicks in 1980.

**BARREDWING RAIL** *Rallus poecilopterus* (p. 69)

*Status:* Holyoak (1979) saw a single individual in an old garden patch that was surrounded by second growth and some tall trees, on the Nadrau Plateau, Vitu Levu. He also reported that he could find no evidence that the species was still extant on Taveuni. Watling (1982) presented evidence that indicates that this species was rare even before introduction of the mongoose to the island. It was regularly hunted with dogs.

**PLUMBEOUS RAIL** *Rallus sanguinolentus* (p. 73)

*Distribution:* Contreras (1980) delineated the relative ranges of the two subspecies *landbecki* and *sanguinolentus* in the Río Negro Province of Argentina.

*Status:* For the Lake Junin area, central Peru, Fjeldså (in press) estimated a population of thousands or tens of thousands. Harris (1981), studying in the same locale, found the species common in May but absent in October.

**SPOTTED RAIL** *Rallus maculatus* (p. 80)

*Distribution:* Clements (1979) described a sight record from the Zapata Swamp, Cuba, and provided a photograph documenting the first record from the Dominican Republic. Emanuel (1980) noted a first positive sight record from Panama. Dod (1980) presented the first specimen records from the Dominican Republic. The first was captured by children in a field on 17 April 1978, near Nagua. A second bird was taken in the same area on 29 June 1978 (a male with enlarged testes). A third was taken alive at the edge of a rice field near Pimentel, on 3 January 1979, and died in captivity. These birds resemble the South American and Cuban forms (*maculatus*), not the Central American race (*insolitus*). The species is probably a long-time resident of Hispaniola. Bond (1980) reported a sighting by Keith (*Gosse Bird Club Broadsheet*, 33:3, 1979) from the Black River Marshes, Jamaica.

Parkes et al. (1978) describe records of this species from western Pennsylvania, Texas, western Mexico, and Bolivia, all of which represent range extensions.

Scott Robinson observed this species at Cocha Cashu Biological Station, Manú National Park, Dept. Madre de Dios, Peru, alt. 350 m, July 1980. The bird was very tame, permitting close approach. This is apparently the first record for western Amazonia (J.W. Fitzpatrick, in litt.). R. and S. Breisch (in litt.) observed and photographed this species (apparently the race *insolitus*) at Coiba, Quintana Roo, Mexico, on 31 January 1983. This is a first record for the Yucután.

*Ecology:* Parkes et al. (1978) note that the specimen found in Pennsylvania had consumed pondweed *Potamogeton epihydrus*.

**BANDED RAIL** *Rallus philippensis* (p. 81)

*Systematics:* Schodde and De Naurois (1982) reviewed dispersal and differentiation of this species through the southwestern Pacific, and they found that Australia supports only one somewhat variable subspecies; they also found evidence of movement between Australia and southern New Guinea. They recognize two valid races from New Guinea: *lacustris* Mayr (northern lowlands) and *reductus* Mayr in the east. A new race from the islets of the Coral Sea east of northern Queensland, named *tounelierii*, was described.

*Status:* Holyoak (1979) reported that the population on Vitu Levu, Fiji, is probably extinct, while the Taveuni population is thriving in the grassland habitats of that island. Reed (1980) observed the population living on Savai'i, Western Samoa, and found it common in the open habitats near the coast. Kinsky and Yaldwyn (1981) found the race *goodsoni* to be very common on Niue Island (south of Samoa).

Badman (1979) studied the birdlife southwest of Lake Eyre, South Australia, in September 1977, and found this species to be rare. Cox and Pedler (1977) reported an individual from northeasternmost South Australia; they suspected it to be a vagrant that had moved inland because of the rains.

Pratt et al. (1980), studying the birdlife of the Palau Islands, found this species abundant on Peliliu and Angaur; in the savannas of southern Babelthuap it was fairly common, but no longer abundant as was reported by Ripley 35 years before.

*Ecology:* On Niue Island, this rail feeds on invertebrates and seeds, foraging in areas covered by low, second growth scrub and fern, gardens, taro plantations, *Phaseolus* paddocks, and grassy areas (Kinsky and Yaldwyn, 1981).

*Behavior:* Kinsky and Yaldwyn calculated the egg-laying period on Niue Island to be July, or thereabouts.

*Corrigendum:* See map 3, p. 85, Rails text; populations from the Indonesian islands from Bali east to Timor and north to Morotai (exclusive of those on South Flores and Gunung Api islands) are imperfectly understood, taxonomically.

**BLUEBREASTED BANDED RAIL** *Rallus striatus* (p. 97)

*Description:* Tso-Hsin Cheng (in litt.) noted that *jouyi* is variable in size, with specimens examined showing wing length ranging from 117–121 mm.

*Distribution:* The range of this species includes Hainan Island (Cheng, in litt.).

**BARRED RAIL** *Rallus torquatus* (p. 100)

*Status:* C. Wemmer (in litt.) reported that the race *celebensis* is common in the lowlands of Minahassa Peninsula and north-central Sulawesi. He observed single birds foraging along roadsides.

**OKINAWA RAIL** *Rallus okinawae* (not in text)

*Description:* Yamashina and Mano (1981) described a striking new species from Okinawa Island. It is similar in most respects to *Rallus torquatus*, except for four prominent characters: (1) the white facial stripe is reduced, being absent from the pre-ocular region; (2) the bill is reddish instead of blackish; (3) the legs are reddish instead of dark brown; and (4) the wings are much reduced, thus the bird is probably flightless.

*Systematics:* This new rail, discovered in 1981, is a close relative of *Rallus torquatus*. The Okinawa bird appears closest to two subspecies of *torquatus*: *sulcirostris*, from Peleng and Sula, Indonesia, and *limarius*, from Salawati Island and northwestern New Guinea. The Okinawa Rail and *torquatus* can be considered to form a super-species, which should perhaps also include *insignis*.

*Status:* The present existence of this new form was first brought to light by T. Mano's observation of a rail near Mt. Yonaha in June 1978, and later in 1979 and 1980. Mr. Chosei Tamaki of Nago City secured a carcass of this form (the

holotype) on 2 June 1981, from a woodland path near Mt. Fuenchiji, Kunigami-gun. To have eluded notice for so long indicates that this is a rare, as well as elusive species. Its population is probably very small. Several other individuals have been mist-netted and released. S. Olson (p. 372, Rails text) noted the fossil presence of this rail on Okinawa before the discovery of the living form. See also the report of Ikenaga (1983).

GUAM RAIL *Rallus owstoni* (p. 105)

*Description:* Plumage of the chick is entirely black, as is typical for the genus (see Figure 1).

*Ecology:* The birds forage at night. They are wary, seldom wandering far from the cover of vegetation. They can fly as high as one or two meters above the ground, but they seldom do so.

To feed, they peck food items from the ground, taking snails and slugs; they also "hawk" insects, primarily flying butterflies. The birds obtain additional food in the form of seeds and flowers from grasses and shrubs. The rail, however, prefers animal food; for instance, the African snail (*Achatina fulica*), geckoes, Orthoptera, Dermaptera, or Lepidoptera. Finally, coral chips were eaten for grit (Jenkins, 1979).

*Behavior:* Jenkins found the species to be monogamous and territorial. The rail spends much time bathing and preening. The nest contains a clutch of three or four eggs, typically, and these measure  $39 \times 29$  mm each. One clutch took 19 days to hatch. Eggs hatched asynchronously and young were highly precocial.

*Status:* It has virtually disappeared from south-

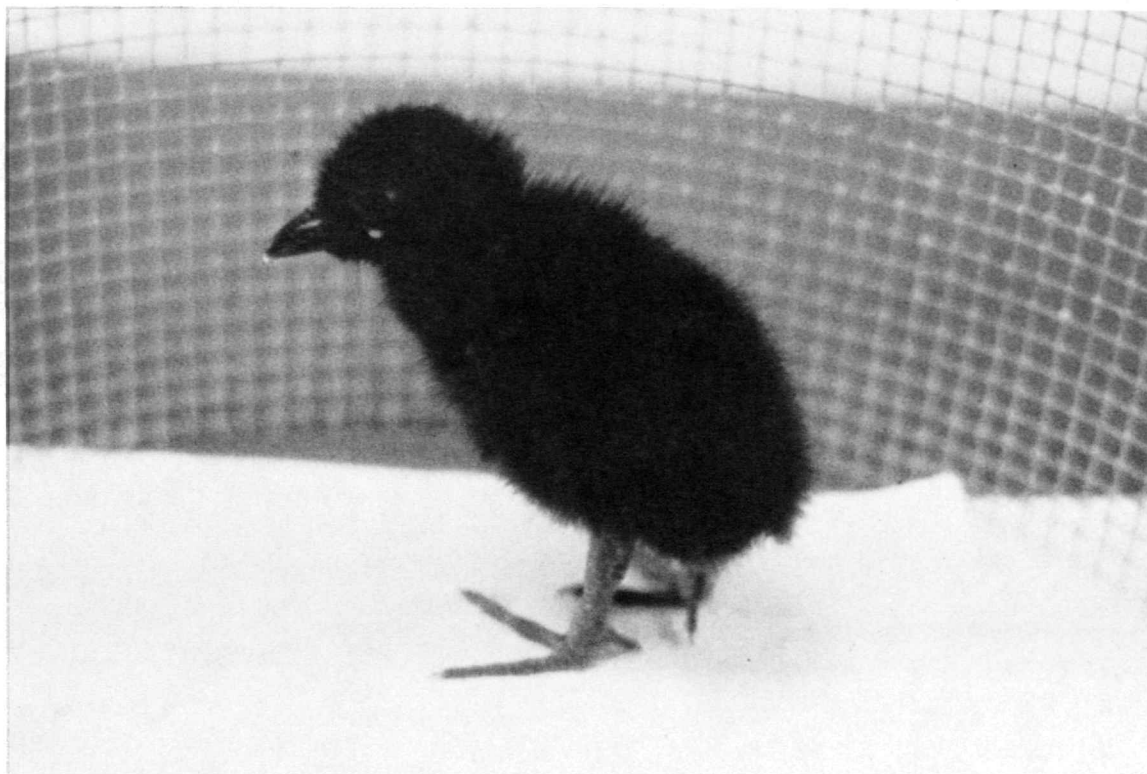


FIGURE 1.—A captive-raised chick of the Guam Rail (*Rallus owstoni*). Photograph by Guam Aquatic and Wildlife Division.

ern Guam, as well as from the central portion of the northern plateau. Initially, circumstantial data indicated the decline was from poisoning by pesticides. Also, introduced predators may have been to blame (Jenkins, 1979). More recent information (R.E. Beck, in litt.) has ruled out pesticides and postulates that avian disease may be the cause. Pratt et al. (1979) reported healthy numbers of this species from northern Guam.

Eugene Morton visited Guam in early 1984; from his study, it appears that populations of this species are declining rapidly. The present estimate is that no more than 50 birds survive. Cause of decline may be a virus or the introduced snake *Boiga irregularis*. A captive breeding program has produced offspring in both Guam and Front Royal, Virginia.

#### WAKE ISLAND RAIL *Rallus wakensis* (p. 106)

*Ecology:* R.R. Delarevelle (in litt.) noted that during World War II rats were very common on Wake Island, and certainly were, in part, responsible for the demise of this rail.

#### SLATEBREASTED RAIL *Rallus pectoralis* (p. 117)

*Taxonomy:* Harrison (1975) contended that the subspecies *clelandi* is valid. It is darker than the nominate form, and measurements of specimens show it to be larger, as well. Harrison's measurements (in mm) are as follows:

	Wing	Bill	Tarsus	
<i>pectoralis</i>	90-98	29-32	23-30	(n=9)
<i>clelandi</i>	109-114	39-45	35-37	(n=3)

*Status:* The subspecies *muelleri* is now known only from Adams Island, 500 km south of New Zealand. It was most recently observed in 1966, when a single individual was captured (King 1981).

#### KAFFIR RAIL *Rallus caerulescens* (p. 117)

*Identification:* Individuals are externally sexable by examination of the position of the pubic bones (see Schmitt, 1976).

*Distribution:* Schmitt (1976) reported an influx of birds to his South African study site in April and May; these were probably migrants.

*Behavior:* Schmitt studied this species for five years, commencing January 1970, in the Transvaal. The birds were active from sunrise to sunset. They were not nocturnal; night-trapping failed to capture any individuals. The birds climb well and have been observed as high as four meters above the ground in *Phragmites*. They fly infrequently. When a predator enters the habitat, the birds "freeze" rather than attempting to escape. Breeding birds are territorial. Three complete clutches contained three, four, and six eggs. Four nests were placed in *Carex*, three in *Juncus*. After the chicks leave the nest they sleep on a platform built by the parents. Schmitt recorded breeding between July and February.

*Voice:* This rail has been recorded to call as late as 2030 hrs during the breeding season: "creea - creea - creea . . ." at first delivered in rapid succession, then slowing in tempo (Schmitt, 1976).

#### WATER RAIL *Rallus aquaticus* (p. 118)

*Identification:* King (1980) noted that for population studies, birds can be identified individually by the unique pattern of markings on the undertail coverts. Those with deep black markings are fully adult males.

*Ecology:* King observed that after a rainfall these rails fed by probing the soft ground for earthworms.

#### BOGOTÁ RAIL *Rallus semiplumbeus* (p. 124)

*Status:* This species is an endangered inhabitant of the Bogotá savanna of the eastern Andes. It is now known only from the marshes of Lake Tota and the Parque del Florida near Bogotá (R. Ridgely, cited in King, 1981).

#### CLAPPER RAIL *Rallus longirostris* (p. 125)

*Status:* The subspecies *levipes* in California is still endangered (Wilbur et al., 1979). A survey of the winter population in 1977 counted some 300 individuals, largely confined to the Tijuana Estuary, San Diego Bay, Upper Newport Bay, and Anaheim Bay (King, 1981). In addition, a significant population also inhabits estuaries in Baja, Mexico (Massey, in litt.).

The subspecies *obsoletus* is continuing to be threatened by habitat destruction in the San Francisco Bay area (King, 1981).

*Distribution:* Delap (1979) reported a breeding record for the subspecies *elegans* in June 1977, Washington County, Oklahoma. Crawford et al. (1983) discussed winter distributions and dispersal of subspecies of *longirostris* in the southeastern USA, noting significant movements of forms previously considered sedentary. There were data indicating overland movement in at least one population (*crepitans*).

R.L. Todd (ms) reported apparent breeding populations of the endangered subspecies *yumanensis* at various inland sites in Arizona. S. Hilty documented the second record for this species in Ecuador, in coastal Nariño (Boca Grande, south of Tumaco), September 1979 (R. Ridgely, ms).

*Behavior:* Jorgensen and Ferguson (1982) reported an instance of this rail preying on an adult Savannah Sparrow (*Passerculus sandwichensis*) in the Tijuana Estuary, California, 24 April 1980.

#### VIRGINIA RAIL *Rallus limicola* (p. 136)

*Distribution:* Griese et al. (1980) found birds breeding in Colorado between altitudes of 1120 and 2730 meters above sea level. Censuses in this state showed a breeding distribution of 2.6 responding birds per hectare (from vocal play-back tests). The same authors noted that the species winters in Colorado in small numbers.

*Ecology:* In Colorado, this species preferred marshes dominated by *Typha*. Horak (1970) examined feeding habits of this rail in Iowa and found the diet to consist of Coleoptera, Hydrophilidae, Curculionidae, crayfish, snails, and seeds of *Polygonum*, *Carex*, *Lemna*, *Scirpus*, and *Agropyron*. Campbell and Wolf (1977) reported a Great Egret (*Egretta alba*) killing and eating a rail of this species.

Kaufmann (1977) discussed the breeding requirements for captive birds: in the spring, allow each pair at least an area of five by nine meters of simulated marsh habitat, with stable pool level, free of predators, and with plenty of aquatic invertebrates.

*Behavior:* Irish (1974) found the territory size

of one individual in a Michigan marsh to be ~10,000 ft<sup>2</sup> (900 m<sup>2</sup>).

#### INACCESSIBLE ISLAND RAIL *Atlantisia rogersi* (p. 140)

*Description:* M.E. Harrison (ms) describes three distinct plumages: (1) Juvenal—black with a brown iris. (2) Intermediate—sexually immature; gray plumage with no obvious white barring. Females are mid- to pale slate-gray with brown wash above and below; these have buffy or faint white ralline barring; iris brown or orange-red. Males are blackish gray with no brown in underparts, no barring, and with orange-red iris. (3) Adult—obvious white barring on flanks and on belly. Note also chestnut on back and bright orange-red iris. The sexes in adult plumage differ slightly, the female being paler gray, with a faint brown wash below.

#### WEKA *Gallirallus australis* (p. 141)

*Ecology:* In a study of marked birds on the South Island, New Zealand, Coleman et al. (1983) recorded a population decline between 1975 and 1978, and noted a sex ratio biased towards males. Home ranges averaged less than 4.5 ha. Diet included native fruits, especially *Comprosmia* sp., plant foliage, and earthworms.

#### ROUGET'S RAIL *Rougetius rougetii* (p. 147)

*Behavior:* Keith (1978) reported that north of Addis Ababa, Ethiopia, this rail is a common and unwary forager in open habitats by roadsides.

#### NEW GUINEA CHESTNUT RAIL *Rallina rubra* (p. 152)

*Corrigendum:* Plate 17 (Rails text, p. 155) illustrates the male. Female plumage for this species and its three closest relatives is quite different.

#### WHITESTRIPED CHESTNUT RAIL *Rallina leucospila* (p. 152)

*Corrigendum:* Plate 17 illustrates a male of Forbes' Chestnut Rail (*Rallina forbesi*), inadvertently identified as *leucospila*.

**FORBES' CHESTNUT RAIL** *Rallina forbesi* (p. 153)

*Distribution:* Diamond (in litt.) has recorded a chestnut rail from the Foya Mountains of north-western New Guinea. Its specific identity is presently unknown.

*Behavior:* I.J. Mason collected a nest of this species from Mindik, Huon Peninsula, Papua New Guinea, in November 1973. Located in primary forest, the nest was a thick platform of dry vegetative fibre and skeletonized leaves (dicot), 18 × 25 cm, placed 5–6 m up on a horizontal fork of a small tree. The eggs were smooth, glossy white, rounded oval, markedly pointed at one end. Nestlings were blackish with rusty tipping to feathers and a dark rusty crown, side of face, and throat (Mason, pers. comm.).

**REDNECKED CRAKE** *Rallina tricolor* (p. 158)

*Distribution:* It is an abundant resident in coastal northern Queensland. According to Mason et al. (1981) there may be two distinct populations present: one from the Torres Strait Islands south to the McIlwraith Range, and the other from Cooktown south to Ingham and coastal offshore islands. The difference between the populations is primarily ecological. The northern group inhabits thickets of vine and monsoon scrub, as well as rainforest. The southern population inhabits only dense rainforest. Both populations prefer to live in the vicinity of permanent creeks.

*Ecology:* The diet is variable: aquatic invertebrates (insects and their larvae, Crustacea, and water spiders), frogs, tadpoles, terrestrial insects, amphipods, snails, worms, and seeds (Mason et al., 1981).

*Behavior:* The species is apparently crepuscular; the birds roost during the day in bushes and other hiding places. The pair-bond is apparently strong, as indicated by the birds' duetted vocalizations that are confined to set territories maintained year-round. The nest is placed near a watercourse, between the buttresses or in the fork of a tree, atop a stump, or in a tangle of vines. One nest was placed in the heart of a *Pandanus* palm, two meters above the ground. The nest is a shallow circular cup, 150–200 mm

in diameter, and made of small pieces of dead twigs, vine tendrils, and broad leaves. The same site, or an adjacent site, may be used in successive years. In northern Queensland, birds lay throughout the rainy season (November–March). Eggs are laid on consecutive days, with clutches totalling three to seven. Fifteen eggs measured 37.6–39.7 × 27.8–29.2 mm (Mason et al., 1981).

Incubation takes 18–22 days and begins after the clutch is complete. On one occasion, three birds were observed tending two nests, with one bird taking an active role at both. Chicks were able to feed themselves shortly after leaving the nest, but were fed by their parents for some time after this (Mason et al., 1981).

An active nest of this species was found on 11 October 1973 at Wagau, Morobe Province, Papua New Guinea. Located in primary forest, the nest was a flat, ~15 cm diameter platform of dried leaves and plant stems placed on the ground under shrubbery. Nestlings are pure black, otherwise similar to young of Forbes' Chestnut Rail (I.J. Mason, pers. comm.).

*Voice:* Harsh, penetrating and rapidly repeated in a descending scale with emphasis on the first note; the call may be repeated for more than one minute: "naak-nak-nak-nak-nak . . .," also a monotonous "tock-tock-tock-tock . . ." (Mason et al., 1981). Gill (1965) reports: "gurk-gurk-gurk . . ." and "clock-clock-clock . . ."

**ANDAMAN CRAKE** *Rallina canningi* (p. 160)

*Corrigendum:* Abdulali (1970) points out that Port Canning is in Bengal, and that citation of the type-locality for this species should simply be Andaman Islands.

**BANDED CRAKE** *Rallina eurizonoides* (p. 161)

*Status:* In the Palau Archipelago, Pratt et al. (1980) found this rail to be both secretive and uncommon. Owen reported to Pratt et al. that adults and young had been observed on Koror, in addition to a single individual seen on Angaur, in 1977. Another individual was seen on Malakal in 1978 (reported to Pratt et al., 1980).

*Voice:* A monotonous "ow-ow-ow" given at night; may also be uttered in flight (Pratt et al., for Palau).



REDCHESTED CRAKE *Coturnicops rufa* (p. 168)

*Voice:* Gillard (1976) described the call as "whooh-whooh-whooh . . ." repeated 15–20 times, increasing in volume and slowing in pace towards the end of the call. At times, each "whooh" call is followed by a brief grunt. In some instances two birds called simultaneously, and judging by the pitch of the two calls, they were of opposite sex.

STREAKYBREASTED CRAKE *Coturnicops boehmi* (p. 174)

*Corrigendum:* Plate 19 illustrated the male plumage.

BUFFSPOTTED CRAKE *Coturnicops elegans* (p. 179)

*Voice:* It is reported that the call of this crane can be heard on calm nights for distances of as much as a kilometer (Gillard, 1976). The call is a mournful, drawn-out, "whoohOOO" of three seconds duration. Each note is separated by ~8 seconds. The bird calls from shrub perches, as high as 1.5 meters above the ground.

WHITEWINGED CRAKE *Coturnicops ayresi* (p. 181)

*Distribution:* Mendelsohn et al. (1983) reported the discovery of small numbers of this species, often associated with *C. rufa* and *C. affinis*. Birds were observed in the Franklin Marsh, East Griqualand, Natal, South Africa, between 25 October 1982 and 6 January 1983.

OCELLATED CRAKE *Coturnicops schomburgkii* (p. 185)

*Taxonomy:* Graham et al. (1980) took a specimen from eastern Peru that agrees with *chapmani* in measurements, but differs in having olive-brown dorsal coloration and pronounced spotting on the rump and upper tail coverts, both of which are characteristics of the nominate form. The specimen is not assigned to subspecies.

*Distribution:* A first record for Peru was documented by Graham et al., who took a single bird in a rodent trap baited with oatmeal, at Pampas de Heath.

DARWIN'S RAIL *Coturnicops notata* (p. 186)

*Description:* D.M. Teixeira (pers. comm.) obtained a live specimen of this very rare species, which he has kept in captivity (see Figure 2).

YELLOW RAIL *Coturnicops noveboracensis* (p. 186)

*Status:* The race *goldmani* is confined to one marsh near Mexico City. Dickerman noted that habitat destruction is rapidly reducing the available range for this small population (in King, 1981).

*Distribution:* This is a rare migrant to the eastern coastal states of the USA. On 4 October 1980, M.C. Perry collected an individual in Reed Marsh, Anne Arundel County, Maryland. This was an immature male (Martin and Perry, 1981).

*Behavior:* The incubation period for the eggs in a nest in Ontario was ~18 days. During this period the weight of the eggs decreased from a mean of 6.9 to 5.6 g (Elliot and Morrison, 1979).

*Ecology:* The Maryland specimen had the following in its gut: seeds of *Setaria* and *Polygonum*, the arthropods Curculionidae, Tettigoniidae, and *Dysticus*, and snails of the family Amnicolidae.

GENUS *Laterallus* (p. 192)

Storer (1981) presents an opinion on the linear sequence and relationships of this genus that differs somewhat from that presented in the Rails text. Both are listed below:

Ripley (1977)	Storer (1981)
<i>fasciatus</i> *	<i>melanophaius</i> †
<i>leuraudi</i>	<i>leuraudi</i> †
<i>ruber</i>	<i>ruber</i>
<i>viridis</i> *	<i>albigularis</i>
<i>exilis</i>	<i>exilis</i>
<i>spilonotus</i>	<i>jamaicensis</i> ‡
<i>melanophaius</i>	<i>spilonotus</i> ‡
<i>albigularis</i>	<i>leucopyrrhus</i>
<i>leucopyrrhus</i>	<i>xenopterus</i>
<i>jamaicensis</i>	
<i>xenopterus</i>	

\* Considered by Storer to belong to *Anurolimnas*, along with [*Rallina*] *castaneiceps*.

† Members of the same superspecies.

‡ Members of the same superspecies.

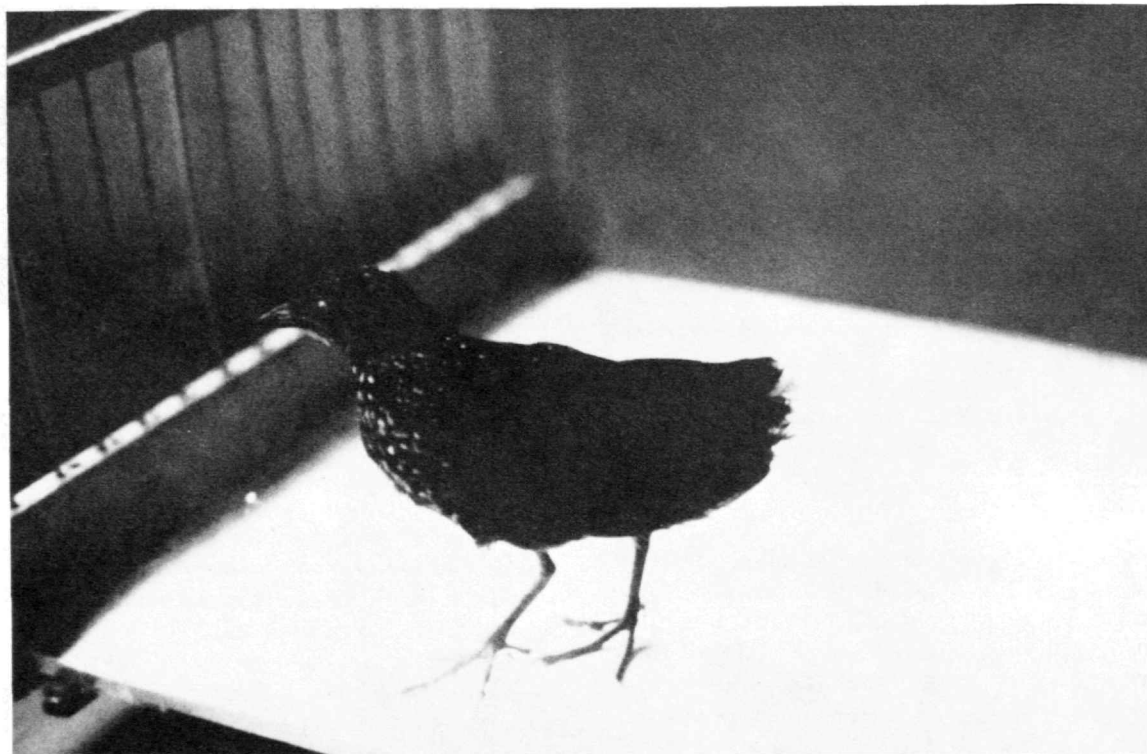


FIGURE 2.—A captive adult Darwin's Crake (*Coturnicops notata*), taken in Brazil by D.M. Teixeira. Photograph by L. Weinberg.

**RUSTYFLANKED CRAKE** *Laterallus levraudi* (p. 192)

*Description:* The illustration shown in plate 23 of the Rails text may be atypical. From a series of 10 study skins from the Phelps Collection (Caracas), a typical bird was colored as follows: crown and upper back olive with traces of grayish wash; secondary wing coverts fuscous; tail dark fuscous; cheek cinnamon-rufous; throat white; sides of throat and pectorals tawny; breast white, grading on the sides to tawny; lower flanks tawny; underwing cinnamon.

*Distribution:* A rail attributable to this species was collected by Jorge Albuquerque on its nest near Paraiba, northeastern Brazil, on 18 June 1980 (H. Sick, in litt.). The specimen appears to be in immature plumage. More material would be valuable for taxonomic analysis.

*Ecology:* Meyer de Schauensee and Phelps (1978) recorded that in Venezuela this species inhabits swamps, wet marshy meadows, and sometimes dry grasslands and second growth up to 1200 m altitude. The bird feeds on insects and seeds.

*Corrigendum:* Iris is orange and eye-ring red (Meyer de Schauensee and Phelps, 1978). The color may vary with age or sex.

**GRAYBREASTED CRAKE** *Laterallus exilis* (p. 197)

*Behavior:* Meyer de Schauensee and Phelps (1978) noted that this species is shy and secretive, seen only when flushed.

*Voice:* In Panama the call is a series of 4–10 "kick" notes, followed by a descending musical rattle "dee-dee-dee-deh" (R. Ridgely, ms).

*Corrigendum:* Haverschmidt (in litt.) noted that

the upperparts of this species are brighter and more contrasting with the underparts than indicated by the illustration on plate 24 of the Rails text.

**GALÁPAGOS RAIL** *Laterallus spilonotus* (p. 198)

**Taxonomy:** Fjeldså (1982) considered this population to be a race of the Black Rail *L. jamaicensis*.

**Behavior:** Franklin et al. (1979) examined three nests; these were deep semi-domed cups with side entrances. Each nest was of herbaceous stems, built on the ground, and covered by dense, low vegetation. This rail is active throughout the day, is tame, and walks and runs rather than flies (Franklin et al.).

**Status:** Reported to be abundant in the highlands of Santa Cruz, sympatric with *Porzana erythroptera* (D. Steadman, in litt.).

**Corrigenda:** Several observations on behavior and ecology of this species, appearing in the original text, derived from a manuscript for a paper written later by Franklin et al. (1979), though not specifically credited at the time.

Page 198, left column, fifth paragraph, should read: "in all months of the garua, or cool, dry season, from June through December."

**RUFOUS-SIDED CRAKE** *Laterallus melanophaius* (p. 198)

**Ecology:** Meyer de Schauensee and Phelps (1978) record the bird's habitat as forest, swamps, wet marshy meadows, mud flats, lagoons, and dry grasslands, to altitudes of 900 m. Shy and secretive, this species commonly hides in rushes.

**Voice:** "Frey-eee, frey-eee, frey-ooo" (Meyer de Schauensee and Phelps, 1978).

**Corrigendum:** Van Praet (1980) points out that the photograph on page 336 of the Rails text shows the species *leucopyrrhus*, not *melanophaius*.

**RED-AND-WHITE CRAKE** *Laterallus leucopyrrhus* (p. 203)

**Description:** A fledgling born in captivity was all black, except for a white tip to the upper

mandible (Gibson, 1979).

**Behavior:** Gibson (1979) observed this species in captivity, and found that it spends much of its time off the ground, up in the aviary vegetation. Individuals are quiet and communicate with a low whistle. A juvenal roosted for the night on the back of an adult, covered by the adult's wings. All four adults in the aviary fed the young bird.

**Corrigendum:** Van Praet (1980) noted that on plate 24 of the Rails text, this species is shown with incorrect leg color. The legs should appear reddish pink. A photograph of this species, not *melanophaius*, appears on page 336.

**BLACK RAIL** *Laterallus jamaicensis* (p. 204)

**Taxonomy:** Fjeldså (1982) described a new subspecies, *tuerosi*, from Lake Junin, 4080 m, central Peru. The key to diagnosis is the bold white barring on the back, absent in all other populations. Moreno (1953) synonymized the subspecies *pygmaeus* with the nominate race. This synonym was omitted from the original text. The designation of *pygmaeus* was by Blackwell, *Edinburgh Journal of Science*, new series, 6:7-78, 1832.

**Distribution:** Repking and Ohmart (1977) reported on populations of this species on the lower Colorado River. The birds were most numerous in seepage areas below Imperial Dam, where the authors found an average of 1.14 rails per hectare in the spring of 1973. Kiff (1978) documents a previously unidentified set of eggs, for proof of breeding at Newark, Alameda County, California. This set of eggs was collected by H.A. Snow, 10 April 1911. Manolis (1978) surveyed a population in central California, primarily the estuaries around San Pablo and San Francisco bays. Fourteen localities were found where rails responded to taped play-backs of calls. All birds, except one, were found in tidal marsh.

**Ecology:** Manolis (1978) found that the birds inhabited marsh at the upper limit of tidal flooding. The birds inhabiting the Lower Colorado preferred stands of *Scirpus olneyi*, shallow-water depth, and minimum water level variations (Repking and Ohmart, 1977).

**HORQUETA CRAKE** *Laterallus xenopterus* (p. 210)

**Distribution:** Previously known only from the unique type specimen, Myers and Hanson (1980) report four additional specimens: three from Paraguay in 1978 and 1979 (24°43'S, 55°44'W), and one from Brazil taken 7 July 1978 (15°40'S, 48°W).

**Ecology:** The Brazilian specimen was taken in bunch grass growing in a marsh, with water 3–4 cm deep. The Paraguayan specimens were taken at the edge of a marsh where three other *Porzana* species were found: *exilis*, *melanophaius*, and *leucopyrrhus*.

**Corrigendum:** Storer (1981) noted that the type-locality shown on map 9, p. 205 of the Rails text, is in error. The site should be Horqueta, Paraguay, not the point shown in Brazil.

**Note:** Storer (1981) provided the first illustration of this species.

**BLACK CRAKE** *Porzana flavirostra* (p. 217)

**Ecology:** Child (1972) records that this crane preys on the eggs of the Rufous-bellied Heron (*Ardeola rufiventris*) in mixed heronries in Botswana.

**YELLOWBREASTED CRAKE** *Porzana flaviventer* (p. 221)

**Distribution:** Meyer de Schauensee and Phelps (1978) noted that this species occurs to 2500 meters above sea level in Venezuela.

**Behavior:** The same authors record that the bird is not at all shy. It flushes easily when approached.

**WHITEBROWED CRAKE** *Porzana cinerea* (p. 224)

**Status:** Found to be uncommon in the Palau group (Pratt et al., 1980). It was rare on Babelthuap in a habitat similar to that in which it was common on Yap. Recorded recently at two localities on Peliliu. Reed (1980) found it uncommon on Savai'i, Western Samoa, inhabiting swamps.

**DOTWINGED CRAKE** *Porzana spiloptera* (p. 227)

**Description:** R. Escalante (in litt.) encountered a plumage that he presumes to be of the imma-

ture: Above—blackish brown with terminal edges of feathers or barbs vinaceous buff to vinaceous cinnamon. Upperwing coverts the same but many feathers are crossed subterminally with white. Quills of the wing, still growing in this specimen and partially sheathed, were grayish dark brown. Below—chin, throat and sides of face whitish, washed more or less with grayish vinaceous-buff; breast and belly were grayish or ecru-drab or drab gray. Flanks dark vinaceous gray crossed with some bands of vinaceous buff or pale cinnamon. Undertail coverts blackish with vinaceous ends and crossed and spotted with dirty white or light capucine buff.

**WHITENECKED CRAKE** *Porzana albicollis* (p. 227)

**Taxonomy:** Specimens from Pampas de Heath, Peru, are similar in measurements to the nominate race, but paler gray on the underparts, and with olivaceous margins on the dorsal feathers, characters more typical of *olivacea* (Graham et al., 1980).

**Distribution:** The two specimens from Pampas de Heath are the first for Peru (Graham et al.). Meyer de Schauensee and Phelps (1978) noted that the species occurs to 1200 meters in Venezuela.

**Behavior:** The two above-cited sources noted that this species is solitary, shy, and flushes suddenly when the observer is at close range; one bird that was flushed landed in a one-meter-high shrub.

**STRIPED CRAKE** *Porzana marginalis* (p. 228)

**Status:** Hopkinson and Masterson (1975) note that the population in Zimbabwe (Rhodesia) is not so rare as previously believed. The bird has been overlooked because of its secrecy.

**Behavior:** Six nests were found in Zimbabwe, all in January. The clutches were each of five eggs. Nests were situated 10–15 cm above water, in areas with tufts of dry grass remaining from the previous growing season. The nest is composed of grasses and fine annuals. The eggs measured 26–33 × 20–23.5 mm (Hopkinson and Masterson, 1975).

**Voice:** The call ascribed to this species, given

at night, is a series of notes sounding like "tack-tack-tack . . ." delivered at a rate of two notes/sec, and having a mechanical sound (Hopkinson and Masterson, 1975).

PAINTBILLED CRAKE *Porzana erythroptis* (p. 228)

*Status:* D. Steadman (in litt.) wrote: "abundant in the highlands of Santa Cruz [Galápagos], often seen along roads or in pastures adjacent to tall grasses."

*Distribution:* Arnold (1978) provided additional details of the Texas record documented by Oberholser (1974). The bird was taken in Brazos County: a male, obtained 17 February 1972 by D. Baker. Arnold (1978) dismissed the notion that the Texas bird was an escape. Blem (1980) recorded a specimen from western Henrico County, Virginia, 15 December 1978. R.C. Banks identified the specimen as probably belonging to the subspecies *olivascens*. Osborne and Beissinger (1979) published a record for Guyana (6°28'N, 57°45'W) on 8 August 1977.

Two specimens were taken at Changuinola, Bocas del Toro, Republic of Panama, on 10 November 1981, by Donald C. Booth and Wilberto Martinez (N.G. Smith, in litt.). We identified the specimen we examined as *olivascens*, from northern South America. Both specimens were taken from the margins of large rice fields. The collectors reported that this species appeared to be common, inhabiting tall grass and near drainage ditches around the rice cultivation. The birds were readily observed at dusk, frequently in pairs. *Laterallus albigularis* is found in the same habitat. Both Booth and Smith (in litt.) believe *erythroptis* is only a seasonal resident in the area. The details of any migration, and the locality where the birds breed, are mysteries that deserve further study.

*Behavior:* D. Steadman (in litt.) noted that this species always flies when disturbed, whereas the sympatric *Laterallus spilonotus* always runs when threatened.

COLOMBIAN CRAKE *Porzana colombiana* (p. 229)

*Distribution:* On several dates in late February 1982, R.A. Behrstock (ms) recorded several

adults and one apparently non-flying juvenile individual of this species from the Tocumen marshes, Panama. This is the first evidence for breeding of *columbiana* in that country.

*Corrigendum:* The original (and correct) spelling of the specific epithet is *colombiana*, not *columbiana* (see Bangs, 1898).

SPOTLESS CRAKE *Porzana tabuensis* (p. 230)

*Taxonomy:* Onley (1982b) does not recognize *Porzana tabuensis plumbea*, citing that there are no reliably diagnostic characters between the various, named southern Pacific populations and the nominate *tabuensis*. Banks (1984) disputes this.

*Distribution:* In the interior of South Australia, this rail is recorded as uncommon, but widespread, sharing the habitat with *Porzana fluminea* (Badman, 1979).

*Behavior:* Skinner (1979) noted this species duetting with the Fernbird (*Bowdleria punctata*), in New Zealand.

*Status:* A census of the population on Aorangi, Poor Knights Island, off New Zealand, showed a decline since the 1940s. At present, an estimated 50 adult pairs survive. Habitat alteration is the probable cause for decline (Onley, 1982a).

LITTLE CRAKE *Porzana parva* (p. 241)

*Distribution:* Wilkinson et al. (1982) recorded a wintering population of this species 30 km ENE of Kano, Nigeria, in December 1981. This represents the first record for that country and shows that this species is wintering southward into central West Africa.

BAILLON'S CRAKE *Porzana pusilla* (p. 241)

*Distribution:* Mason and Wolfe (1975) reported that three specimens were taken in the Northern Territories, Australia, one kilometer south of Kapalga, on the western bank of the Alligator River. This is the first record for this province. Rogers (1978) recorded an individual from South Glamorgan, UK, 7–8 February 1976. This species occasionally winters in Britain.

*Corrigendum:* The record from Mt. Giluwe,

Papua New Guinea, in the Rails text, is based on Shaw-Mayer's specimen (Sims, 1956).

AUSTRALIAN SPOTTED CRAKE *Porzana fluminea* (p. 247)

*Distribution:* Reported by Badman (1979) to be fairly common in scattered localities south of Lake Eyre, South Australia. At least three individuals were recorded at Kopperamanna Bore, northeastern South Australia by Cox and Pedler (1977).

*Ecology:* In South Australia the bird favors dense reeds at artesian bores and mound springs; it is usually very secretive (Badman, 1979).

*Voice:* A single "kek" (Cox and Pedler, 1977).

SPOTTED CRAKE *Porzana porzana* (p. 248)

*Status:* Sharrock et al. (1980) recorded five unconfirmed breeding sites in Britain: Bedford, Dunbarton, Dyfed, Inverness, and the Western Isles.

SORA *Porzana carolina* (p. 249)

*Distribution:* Studying this rail in Colorado, Griese et al. (1980) found the bird in marshes at altitudes from 1120 to 3140 m. Allsopp and Hume (1981) reported on a Sora that was trapped in Bardsey (Gwynned), England, 5 August 1981. Trapp et al. (1981) documented a first breeding record for Alaska.

*Ecology:* In a Michigan marsh, Irish (1974) measured the territory of two individuals to be 3400 and 2600 ft<sup>2</sup> (315 and 242 m<sup>2</sup>), respectively. In Colorado, the preferred habitat was that dominated by *Typha* (Griese et al., 1980). Studying the feeding habits of this species in Iowa, Horak (1970) found that 73% of its diet was seeds. The Virginia Rail, which shared the habitat with the Sora, took more insects than seeds. Horak suggested that this difference accounts for the two species' ability to coexist. The Sora diet included seeds of *Polygonum*, *Carex*, *Setaria*, *Lemna*, and *Scirpus*, snails, and species from nine families of arthropods. Artmann and Martin (1975) reported that lead shot was found

in the gut of 12.8% of 767 specimens taken in Maryland.

*Behavior:* Kaufmann (1983) made a detailed comparison of behavior between this species and the Virginia Rail. It was concluded that the more complex behavioral repertoire of the Sora is probably caused by its more aggressive, territorial habits.

*Status:* Habitat degradation and water pollution in the tributaries of the western shore of the Chesapeake Bay have greatly reduced the use of local marshes by migrant Sora, and thus has brought to an end the sport of "pole pushing" for this species in the region (Meyers, 1983).

BROWN CRAKE *Amaurornis akool* (p. 258)

*Corrigendum:* On plate 31, p. 251, Rails text, the legends for this species and *A. bicolor* are reversed. In addition, the illustrated bird should show more yellow at the base of the bill.

BLACKTAILED CRAKE *Amaurornis bicolor* (p. 259)

*Corrigendum:* See preceding account.

WHITEBREASTED WATERHEN *Amaurornis phoenicurus* (p. 263)

*Taxonomy:* Abdulali (1978) restricts the type-locality of *insularis* to the South Andaman Islands, and *leucocephalus* to Car Nicobar. A new subspecies is described from central Nicobar: *midnicobaricus*. It differs from *leucocephalus* in that the white of the head extends only half way over the top of the head (about 15 mm), underparts are more olive, and the bill is heavier. Abdulali also notes that specimens from Great Nicobar are "not separable from nominate *phoenicurus*."

*Distribution:* Gallagher and Rogers (1980) documented a first sighting of this species for peninsular Arabia: a single bird seen by S. and C. Brogan on 29 November 1977, Salalah, Dhofar, Oman.

*Ecology:* A pair was noted feeding in a dry nullah at dusk; one pecked at the ground, while the other pecked seeds off standing grass (Abdulali, 1978).

*Behavior:* When alarmed, the bird first opens and shuts its wings and then runs off (Abdulali).

BLACKTAILED NATIVE HEN *Gallinula ventralis* (p. 267)

*Distribution:* Although this species normally is scarce or absent in the vicinity of Alice Springs, Northern Territories, in the period from December 1978 through January 1979, it was very common, with counts of more than 200 on a number of occasions (Roberts, 1981). Badman (1979) reported that the species is a regular visitor to Lake Eyre, South Australia, between November and February. During the very dry period of November to December 1972, in South Australia, this species showed irruptive movements and appeared in the Big Desert, inhabiting desert *Banksia* vegetation (Brooker et al., 1979).

*Ecology:* Remains of this species were found under the nest of a Wedge-tailed Eagle in the Nullarbor Plain (Brooker et al.).

TASMANIAN NATIVE HEN *Gallinula mortierii* (p. 268)

*Behavior:* Holyoak and Sager (1970) made observations on a captive pair that shared a pond with wild pairs of *G. chloropus* at the London Zoo. The Native Hens defended a territory on the land adjacent to the pond and aggressively expelled intruders; but when the chicks of *G. chloropus* wandered into this territory, then the Native Hens did not drive them away, but actually fed them. When the parents of the chicks entered this territory, these adult Moorhens were harassed by the Native Hens except when the Moorhens were feeding their chicks, during which time the Native Hens ignored the intruding parents.

The definitive study of behavior and ecology of this species was carried out by Ridpath (1972), who provides information too voluminous and detailed to be summarized here.

*Corrigendum:* Page 269, footnote: the taxonomic opinion expressed in the footnote is that of Olson; thus the reference to "the author" is to him, not SDR.

SAN CRISTOBAL GALLINULE *Gallinula silvestris* (p. 269)

*Description:* Olson (1975) provided an additional color rendition of the type, painted by F.L. Jacques.

*Systematics:* Olson (1975) placed this species and the extinct Samoan Wood Rail (*pacifica*) into the genus *Pareudiastes*, basing this decision on the construction of the bill, skull, and tarsus, and plumage pattern.

*Status:* Ornithologists visiting San Cristobal Island in 1953 were told that the bird was still locally common, and a member of the field party reported seeing one (Cain and Galbraith 1956).

SAMOAN WOOD RAIL *Gallinula pacifica* (p. 273)

*Status:* Reed (1980) wrote: "Mr. Kurt Stoenzer of Apia confirmed that this species is extinct, probably since 1907." No data are presented by Reed to indicate how this assessment was made. Mees (1977) reported on the availability of extant specimens in museums: Hamburg (1), Rijks (2), Liverpool (2), British Museum (Natural History) (3), American Museum of Natural History (2).

ISLAND COCK *Gallinula nesiotis* (p. 273)

*Status:* M.E. Richardson (ms) reported rediscovery of a population on Tristan da Cunha in 1972. Five specimens were collected. Clancy (1981) reported that the population on Gough Island (*comeri*) is abundant.

*Ecology:* Clancy reported that breeding took place in October and November on Gough Island. He saw birds feeding on carcasses of *Pterodroma mollis* and *Pachyptila vittata*, which had been killed by skuas. They fed this meat to their offspring. The stomachs of three specimens contained grass (Clancy, 1981). The stomachs of the birds taken by Richardson contained seeds, other vegetable matter, egg shell, and gravel.

*Voice:* Richardson reported that the rediscovered population on Tristan is vocal but secretive. There is continual exchange of calls between birds in family groups. Three calls are described: (1) "koo-ik," harsh, high-pitched and staccato; (2)

“koo-ik koo-ik koo-ik,” a scream that travels far; and (3) “ik-ik ik-ik ik-ik,” low and monotonous.

DUSKY MOORHEN *Gallinula tenebrosa* (p. 274)

*Description:* In Australian populations in winter plumage, adults have red tibiae, while juvenals have dull-colored tibiae (Eskell and Garnett, 1979). The authors further suggested that the presence of white feathering on the forewing is indication that *tenebrosa* may be conspecific with *chloropus*.

*Ecology:* Baldwin (1975) reported that in Australia, birds were observed with young in August. Studying a population near Canberra, Garnett (1978) found birds eating seeds and grass tips, flying insects, small fish, and water weeds. Martin et al. (1979) studied this species where it lived sympatrically with two other large rallids, *Fulica atra* and *Porphyrio porphyrio*. He found that the moorhen was a shallow water feeder, whereas the coot preferred deep water, and the swamphen generally grazed on land.

*Behavior:* Garnett (1978), studying the birds near Canberra, found that this species forms living groups of 2–7 birds, with usually 1–3 males per female in these groups. A female mates with all males in her group, and all members help with building the nest. When there is more than one female per group, they all lay into the same nest, each bird laying an egg per day. All members incubate.

*Corrigendum:* In the Rails text, p. 275, the account for *neumanni* should read “northern drainage of New Guinea, from Lake Sentani east at least to the Sepik River.”

COMMON GALLINULE *Gallinula chloropus* (p. 279)

*Taxonomy:* The original text omitted the subspecies from Barbados, *barbadensis* (Bond, 1954). In addition, Bond (1978) suggests lumping the race *cachinnans* into *cerceris*.

*Ecology:* Byrd and Zeillemaker (1981) studied nesting ecology of the Hawaiian subspecies (*sandvicensis*) and found nesting success to be 75%; birds were recorded nesting in all months of the year, with an April nesting peak.

*Behavior:* In Iowa, Fredrickson (1971) located 13 nests; the mean clutch-size was 7.1, with a range of 5–10. Nests were initiated from mid-May to late June. Measurements of 29 eggs: 40.0–47.4 × 29.7–33.7 mm. Most of these nests were placed in *Typha*; only a few were in *Scirpus*. Both sexes incubated. One pair incubated and hatched the egg of a Ruddy Duck (*Oxyura jamaicensis*) along with the rest of their clutch. In England, Wood (1974) found the mean size of clutches to be 5.3 eggs. Freethy (1980) documented that when an occupied nest was flooded by a rainstorm, the nesting pair hastily constructed a “reserve” nest in 15 minutes.

Studying birds in Norfolk, England, Petrie (1983) found that females within the local population competed among themselves for males, and that the most successful females (the heaviest) won most agonistic encounters, and that they paired with males with the largest fat reserves. Because males of this population carry out most post-laying parental-care, it is assumed that these males are best equipped to care for nestlings.

*Status:* Pratt et al. (1980) report that the population in Palau is rare and endangered. The population on Guam has been reduced in numbers by hunting and other pressures and should be classified as endangered (Pratt et al., 1979). The species is abundant on Lake Junin, Peru; 316,000 were censused in June 1969 (Harris, 1981). Pulliainen (1980) reviews the history of colonization of Finland by this moorhen. The first record was in 1842, but significant colonization of most of the country did not occur until the 1970s.

SPOTFLANKED GALLINULE *Gallinula melanops* (p. 289)

*Corrigendum:* The illustration on plate 28 of the Rails text should show a brighter bill color for the individual of this species.

AZURE GALLINULE *Gallinula flavirostris* (p. 290)

*Distribution:* Parker (1982) presented a first record of this species for Peru. As many as 10 were observed at the Tambopata Reserve, near



Puerto Maldonado, in late 1977. One was collected (wt. 68 g) and was deposited in the Louisiana State Museum of Zoology.

ALLEN'S GALLINULE *Gallinula alleni* (p. 291)

*Distribution:* The first records of this species from the southwest Cape region, South Africa, were reported by Langley (1979, 1981). A juvenile was found dead on 26 June 1978, and a live adult was observed between 19 March and 3 April 1979. Both records were near the Rondevlei Bird Sanctuary.

*Ecology:* Observing birds of this species northwest of Accra, Ghana, Wood (1977) noted one individual foraging on the fruit of *Drepanocarpus lunatus* (Linn.). The green, disc-shaped fruits, 30 mm in diameter by 2 mm thick, were plucked from the bush with the bill, then transferred to the foot and held between the three foretoes and hind toe. With the leg raised, the bird proceeded to pick off and swallow small pieces of the green fruit.

PURPLE GALLINULE *Gallinula martinica* (p. 295)

*Distribution:* The first breeding record from Maryland was confirmed by the observation of an adult with downy young near Upper Marlboro in July 1976 (Patterson, 1976). The first fall record from Oklahoma was a bird shot on 10 September 1977 in Noble County, north-central Oklahoma (Heller, 1979).

Silbernagl (1982) summarized the 21 records of vagrants of this species in the southwestern Cape Province, South Africa. Nearly all records fall between late April and early July. Most birds were juvenals. It appears that individuals starting north from Buenos Aires Province, Argentina, or Uruguay, are caught in strong westerly winds and carried across the Atlantic. They appear in South Africa exhausted and emaciated.

*Ecology:* Studying the species in Colombia, Mackay (1981) found that rice grains made up 68% of the food, by volume, in stomach samples of birds collected. Weed seeds made up another 5%, and animal matter comprised 27%: larvae and pupae of noctuid moths, adults and nymphs

of dragonflies, and beetles.

*Behavior:* On occasion individuals attempted to escape pursuers by submerging themselves 2–3 cm under the water. These individuals were easily captured by farmers (for consumption; Mackay, 1981). Krekorian (1978) studied this species in Costa Rica and found that helpers at the nest aided with feeding and defending the young and territory. In Colombia, nests contained as many as seven eggs; a sample of 53 eggs averaged 41.0 × 29.3 mm (Mackay, 1981).

*Status:* Mackay (1981) notes that this species is considered a pest in some neotropical areas, to the extent that Endrin has been used to control the birds in agricultural areas in Suriname and Colombia. When Endrin is applied to rice plots "infested" with gallinules, the birds desert their nests and move to untreated areas.

PURPLE SWAMPHEN *Porphyrio porphyrio* (p. 297)

*Description:* Craig et al. (1980) discussed different methods for sexing individuals. Given a large sample, the authors suggested bill measurements are best for reliably differentiating the sexes at the earliest stages of maturation, but they also noted that there is probably significant inter-regional variation in these measurements. Reliable statistics would have to be generated for each region.

*Distribution:* Miles (1977) reported the first record of this species from Ndendi Island, Santa Cruz group (east of Solomon Islands). Roberts (1981) documents a single report for an individual at Alice Springs, Northern Territories, Australia, from 17 December 1978 through 14 January 1979.

*Ecology:* The Niue population eats vegetable matter and perhaps some invertebrate life; one individual had 12 *Dioscorea* bulbs in its gut (Kinsky and Yaldwyn, 1981). Martin et al. (1979) studied the foraging habits of this species near Canberra and reported that it is primarily a grazer.

*Behavior:* Craig (1980) studied a population of the subspecies *melanotus* and found pair- and group-aggregations for breeding; all birds (of

both sexes) within a group interact sexually (!); the author suggested that this remarkable group behavior helps to synchronize the sexual cycles of the individuals in each group. Females in a group laid in the same nest, and juvenals acted as helpers. Brown and Brown (1977) found that the male constructs a nursery nest after the offspring hatch. Two or three of these nests may be built within the territory. The authors suggested that these dispersed roosting nests may reduce the risk of predation.

Woodland et al. (1980) studied alarm behavior in this species and concluded that the conspicuous tail-flicking is intended to warn a predator that the deliverer of the signal is alert and aware of the predator's presence. The authors argue, then, that this is a "pursuit deterrent" and not a warning to conspecifics, as all earlier workers had supposed. Craig (1982) criticized this view and argued that the tail-flicking is complicated by social interactions, and that the interpretation of Woodland et al. might be based on an incomplete understanding of the birds' life history. We are intrigued by Woodland's idea and found it plausible. More research is recommended.

*Status:* On Niue Island this species was common, and villagers considered it a pest because it consumed planted yams (*Dioscorea*; Kinsky and Yaldwin, 1981). Pratt et al. (1980) note that it appears to be quite rare in the Palau group.

#### TAKAHE *Porphyrio mantelli* (p. 305)

*Corrigendum:* Williams (1979) wrote that the legs of this species are shown as too massive and too pale-colored in the frontispiece of the Rails text. Williams also noted that occasionally more than two eggs are laid in a clutch.

#### REDGARTERED COOT *Fulica armillata* (p. 311)

*Description:* Soft part colors vary, presumably with age and sex. A presumably young bird in captivity at the National Zoological Park, Washington, D.C., had a crimson iris with a narrow dark brown inner ring. Tarsus and feet were dull yellow-green. Bill and shield were mostly whitish horn color, with patches of yellow-orange on the

proximal parts of the maxilla and mandible and red-brown on the distal portion of the maxilla.

#### GIANT COOT *Fulica gigantea* (p. 315)

*Ecology:* Fjelds  (1981) found that this species occurred at Lake Lagunillas with *Fulica americana ardesiaca*. The latter often fed by diving, the former by taking surface matter. *Fulica gigantea* included in its diet *Myriophyllum*, *Potamogeton*, *Zanichellia*, and possibly some filamentous green algae.

*Behavior:* Nests are apparently enlarged over several years. The rim of the nest occasionally is built as high as 0.5 m above the water level (Fjelds , 1981). The author speculated that this high nest rim can serve two functions: half-grown young can remain hidden behind it, and the nest-rim itself, constructed of fresh aquatic vegetation with its attendant invertebrate fauna, may serve as a reserve food supply for the birds.

*Status:* Reported to be an occasional visitor to Lake Junin, Peru. Common on deep open lakes at higher altitudes (Harris, 1981). Abundant at Lake Lagunillas, Peru (Fjelds , 1981).

#### CARIBBEAN COOT *Fulica caribaea* (p. 318)

*Taxonomy:* Bond (1978) considered this to be a morph of *F. americana*. Payne and Master (1983) comment on variability of coloration in the frontal shield and agree with Bond that the populations *caribaea*, *ardesiaca*, and *americana* are conspecific.

*Distribution:* Bond (1978) provided eight records of this form from southern Florida. On 2 April 1928, Bond observed both *americana* and *caribaea* on a freshwater pond near Port-de-Paix, Haiti. He collected a specimen of *americana*, and egg collectors who were with him at the time took several sets of eggs.

#### AMERICAN COOT *Fulica americana* (p. 318)

*Taxonomy:* Comparing the populations of *colombiana* and *ardesiaca*, Fjelds  (1983b) studied variation in color of bill, frontal shield, and undertail coverts. He concluded that *ardesiaca* should be considered a full species. He further

delineated valid regional variation in Andean populations of *ardesiaca* and provided the name *atrura* for the more northerly population of this taxon—occurring from Nariño, northern Colombia, through Ecuador and coastal Peru south to Lima. On the other hand, Fjeldså (in press) reviews the status of the race *columbiana* and confirms that it should be considered a race of *americana*.

**Description:** Crawford (1978) studied leg coloration in coots of different ages. Yearling coots at breeding season show green tarsi. Second-year birds show yellow-green tarsi. Third-year birds show yellow tarsi. Birds older than three years show orange-yellow to orange-red tarsi. Non-breeding birds display tarsi that are duller than those described above. Rosser et al. (1982) provided a detailed analysis of leg musculature in this species and related several anatomical peculiarities to ecological specializations of the bird.

**Distribution:** Trapp et al. (1981) documented the first breeding record for Alaska. The race *ardesiaca* is abundant at Lake Junin, Peru (Harris, 1981). Pratt (1978) suggested an effort should be made to determine whether mainland coots occur on the Hawaiian Islands. He pointed out that some individuals of the local race *alai* have both the black subterminal ring on the beak and reduced and reddened knob on the crown. These aberrant birds may confuse field observers. Some early reports of mainland birds may have been sightings of these aberrant individuals. Payne and Master (1983) report pairing and nesting between a white-shielded bird and a red-shielded bird in Michigan.

Goronzel et al. (1981) document the annual distribution of this coot in Colorado. They report it is a widespread breeder throughout most of the state, and that it winters locally during years of mild weather. Spring migration begins in late February and peaks in early April; fall migration peaks from late August to mid-September.

**Ecology:** In the pothole country of Saskatchewan, nest-densities for 1973–1975 were 13.6, 17.8, and 32.6 nests per km<sup>2</sup>. Nest-spacing was mediated by aggressive territoriality (Nudds,

1981). Goronzel et al. (1981) studied the species in a Colorado marsh where the water level was artificially altered. The birds appeared well adapted to changing ecological conditions. Birds rapidly deserted areas where habitats deteriorated and promptly recolonized when conditions improved. They were not tied to a strict seasonal schedule of nesting; as a result they can colonize ephemeral breeding sites. If conditions change, the birds can quickly relocate and produce a replacement brood.

F. Bellrose (1982, in litt. to G. Donnelley) reported that this species feeds on several varieties of aquatic vegetation not mentioned in the Rails text; namely, wigeongrass, coontail, sago, and duckweeds.

**Behavior:** Based on 26 years of census data from Saskatchewan, Nudds (1981) refuted the hypothesis that high coot densities adversely affect breeding by ducks sharing the habitat. The two are sufficiently different in behavior and ecology to avoid competition. Frederickson (1970) documented that both sexes share in nest construction, and that this species always constructs its own nest. Woolfenden (1979) recorded winter breeding in Tampa, Florida. He observed two adults feeding three downy young on 7 February 1978. Ryan (1981) reported American Wigeons and Gadwalls stealing food from foraging coots. These ducks “attended” the coot flocks and took vegetation directly from the coots’ bills. Coots were not aggressive in response, but instead were evasive, diving and dropping the vegetation, allowing the ducks to feed on the discarded food.

Crawford (1980) documented age-related changes in reproduction in an Iowan population: 58% of yearlings nested; 96% of birds two years or older nested. Fledgling success increased with parental age. Younger birds laid eggs fewer in number and smaller in size. Fjeldså (in press) provided details of the habits of the Andean race *columbiana*.

**Culinary:** A recipe for “Braised Coot” has been provided by Mr. Gaylord Donnelley:

Cut off breast, which is rather small, and cut off legs.

The skin can be left on or removed as you may wish. Season with salt and pepper. Coat with flour; brown in half oil, half butter. When meat is browned remove from pan and pour off fat. Chop enough onions to cover bottom of pan and add 1/2 cup of chopped celery, 1/2 cup sherry, and 1/2 cup water. Put coot back in pan, cover and simmer until tender. More water may need to be added. Remove cover the last few minutes of cooking.

*Corrigendum:* On p. 319, Rails text, left column, 10 lines from the bottom, the line should read "in search of water weeds," not water "reeds."

#### BLACK COOT *Fulica atra* (p. 321)

*Distribution:* Brooker et al. (1979) recorded that this coot is a vagrant to the Nullarbor Plain, Australia. They observed hundreds at Lake Boonderoo, 4 February 1978.

*Ecology:* Fjeldså (1973) found that younger individuals were unable to acquire breeding territories until late in the season, and that this effectively lowered their production of offspring. Obtaining a territory early in the season was a prerequisite for high fecundity. Martin et al. (1979) studied the coot in a habitat where it lived together with *Porphyrio porphyrio* and *Gallinula tenebrosa*. The author found that the coot preferred deeper water, while *Porphyrio* grazed for its food, and *Gallinula* foraged in shallow water.

*Behavior:* Brown and Brown (1980) documented that annual nesting success varied from 23% to 53% between 1975–1978 in Western Australia. The birds are territorial, establishing territories through physical conflicts. Of the 74 nests surveyed, clutches averaged 5.7 eggs, slightly fewer than the average for Europe. The chief predator was *Circus aeruginosus*, which took both eggs and young.

#### REDKNOBBED COOT *Fulica cristata* (p. 331)

*Identification:* Alström and Olsson (1982) noted that this species is most readily separated from *atra* by bill color: *cristata* has a bluish bill, and that of *atra* is primarily white. This cue was

effective in comparative observation in Spain (in May) and Morocco (in January).

*Ecology:* Wood (1975) studied this species at Lagune de Mehdiya, Morocco, where the birds shared the body of water with a population of *F. atra*. *Fulica cristata* spent its time grazing on the grassy bank and feeding in the water, rarely far from the shore. *Fulica atra* kept to the open water. There was no aggression observed between the two species.

*Behavior:* Dean (1980) found that the male and female will "split" their brood of young after they have left the nest. The two groups, each with its attendant parent, forage separately. This behavior may facilitate successfully raising a larger brood. Dean and Skead (1979) describe a flightless molt that lasted 54 days. In South Africa, individuals molt at different times of the year, although most do so between April and October. During this period, the birds remain out in open water. The mean weight of 4016 adult coots was 737 g; 741 juvenile coots weighed 579 g, on average (Dean and Skead, 1979). In Morocco, Wood (1975) observed that birds reacted to the presence of *Circus aeruginosus* by rushing into the water and herding into a tight pack, while making alarm calls.

#### CORRIGENDA TO THE INTRODUCTORY MATTER

Page xix, 17 lines from bottom: Should read "Ernst Mayr."

Page 4, line 12: Not all rallid species have pervious nostrils (fide S.L. Olson).

Page 17, 12 lines from bottom: There is at present a considerable predatory fauna on the Galapagos Islands: owls, cats, rats, dogs, and man.

Page 27, footnote, line 5: *Pardirallus* does not inhabit forest or jungle.

Page 28, line 6: All four species of "*Rallicula*" are sexually dimorphic.

Page 28, line 16: The white wing patch also occurs on *Coturnicops notata*.

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