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## NOTES ON THE MATHEWS' COLLECTION OF AUSTRALIAN BIRDS

### THE ORDER CICONIIFORMES

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The following taxonomic notes are based on examination of the extensive material in the American Museum of Natural History, in particular the Rothschild Collection, of which the Mathews' collection forms a part. A number of the more interesting species of Australian ciconiiforms have been discussed in previous reports. These are: *Notophoxyx novaehollandiae* (Amadon, 1942, pp. 2-3; see also comments in this paper); *Butorides striatus* (Mayr, 1940, pp. 4-7; 1943, pp. 7-12); *Demigretta sacra* (Mayr and Amadon, 1941); *Nycticorax caledonicus* (Amadon, 1942, pp. 4-8); *Dupestor flavicollis* (Mayr, 1945, pp. 4-5). Study of the remaining species, as might be expected, did not lead to any very startling discoveries. Since, however, the Mathews' types and collection are so far removed from ornithologists in Australia, it is hoped that the following notes will be of some value to those engaged in the preparation of a new check list of Australian birds. Dr. Ernst Mayr and Major H. M. Whittell have kindly given us much valuable assistance.

#### IBISES AND SPOONBILLS: FAMILY THRESKIORNITHIDAE

##### ***Plegadis falcinellus falcinellus* (Linnaeus)**

*Tantalus Falcinellus* LINNAEUS, 1766, Systema naturae, ed. 12, p. 241; Austria, Italy.

*Ibis peregrina* BONAPARTE, 1855, Conspectus generum avium, vol. 2, p. 159; Java and Celebes.

*Plegadis falcinellus rogersi* MATHEWS, 1916, Austral Avian Rec., vol. 3, p. 56; Parry's Creek, northwestern Australia. Type: A.M.N.H. No. 531289; adult

female; February 16, 1909; J. P. Rogers. Wing, 254; culmen, 112. Colored plate of type: Mathews (1913-1914, opposite p. 394).

It has been customary to use the name *peregrinus* for the glossy ibises of Australia, the East Indies, and the Philippines. This race is based on supposedly smaller size but, as Hartert and others remarked, is of doubtful validity. Furthermore, it has been uncertain whether or not the species breeds in Java and Celebes, the type locality of *peregrinus*. It is now considered to do so in Celebes at least.<sup>1</sup>

After measuring a considerable series of this bird, we conclude that it is not wise to recognize any races of this remarkably stable and widespread species in the Old World. The measurements on which this conclusion is based are given in table 1. We have included measurements of four specimens recorded in that excellent work "The birds of Celebes" by Meyer and Wigglesworth (1898, vol. 2, p. 805). A trinomial is used because it seems likely that the white-faced glossy ibis of western America is a race of this species.

There was, of course, no justification for Mathews' name *rogersi*, which barely escapes being a *nomen nudum*. The original citation gives no information beyond referring to "The birds of Australia" where the race is said to be "figured and described." No attempt was made to separate the Australian birds at that time, and we have only Mathews' later word that the type of *rogersi* is the bird there depicted. So far as description is concerned, we found only the statement that the female (the type is a female) is like the male but smaller.

TABLE 1  
WING LENGTHS (IN MILLIMETERS) OF ADULTS OF *Plegadis falcinellus*

	Males	Females
Australia	280, 285, 286, 287, 292	254, 256, 262, 263, 264
Moluccas	286, 294	
Luzon		255+
Celebes		248, 254
Madagascar	264, 287, 291	251, 262, 262, 266, 273
Russia, Middle East	270, 270, 270, 281	
Mediterranean region	11: 266-304 (290)	260, 262, 262, 263, 268, 271
Ethiopian region	296	264, 267
North America	285	

<sup>1</sup> Hoogerwerf (1951, *Limosa*, vol. 24, p. 155) reports that *Plegadis falcinellus* and *Platalea regia* have recently begun to nest in Java.

### *Threskiornis molucca strictipennis* (Gould)

*Ibis strictipennis* GOULD, 1838, A synopsis of the birds of Australia, pt. 4, app., p. 7; Australia [New South Wales used by Mathews].

*Ibis molucca alligator* MATHIEWS, 1912, Novitates Zool., vol. 18, p. 227; South Alligator River, Northern Territory. Type: A.M.N.H. No. 531105; adult male; November 10, 1902 [the field label is unsigned and Mathews' manuscript catalogue says merely that he obtained the specimens from the Perth Museum. Comparison of the label with labels on certain other specimens leaves no doubt that this specimen was taken by J. T. Tunney]. Wing, 374; culmen from gape, 180. Colored plate of type: Mathews (1913-1914, opposite p. 380).

Mathews based his race *alligator* solely upon alleged shorter length of the bill, but he himself admitted later that there was no basis for such separation. There seems to be a slight north-to-south increase in size in this species, but the larger race extends farther north than in many Australian species. Mayr (1931, p. 6) stated that birds from south New Guinea are intermediate between *strictipennis* and nominate *molucca* (type locality, Moluccas), but actually they seem nearer the former. We have no material from north New Guinea. Specimens from Salwatty, Waigeu, the Southwest Islands, and Great Kei Island seem to agree as regards small size with an adult male of *m. molucca* taken on Ceram by Stresemann. The latter has the wing, 362; culmen from gape, 162. It may be shown eventually that all New Guinea birds of this species, except those from the westernmost part, are best placed with the Australian race. The form *pygmaea* Mayr of Rennell Island in the Solomons is much smaller than either of the others.

Mayr seems to be correct in attributing variation in the color of the wing plumes to non-geographical factors. He described *pygmaea* as a race of *aethiopica*, thereby combining the Australian forms of this genus (and by implication the Indian one, *melanocephala*) with the sacred ibis, *T. aethiopica*, of Africa. In later publications Mayr again listed *molucca* as a species. It is perhaps best to treat the three principal members of *Threskiornis* as species, comprising a superspecies. The geographically intermediate form, *melanocephala*, is the most "primitive" as regards slight development of the wing plumes and absence of black tips on the primaries. More likely than not, these characters have been lost in *melanocephala*, otherwise we would have to assume that they evolved more or less independently in Africa and Australia.

### **Carphibis spinicollis (Jameson)**

*Ibis spinicollis* JAMESON, 1835, Edinburgh New Phil. Jour., vol. 19, p. 213; Murray River, New South Wales.

*Carphibis spinicollis fitzroi* MATHEWS, 1912, Novitates Zool., vol. 18, p. 228; "Fitzroy River, 14 miles w[est] of Mount Anderson, West Kimberley, NWA [northwestern Australia]" (from label of type specimen). Type: A.M.N.H., No. 531116; adult sex ? [= female]; July 17, 1911; J. P. Rogers. Wing, 360? (molt); culmen, 126.

Mathews' race *fitzroi* was based solely upon supposed smaller size. The type is a rather small bird as is another from Point Cloates. On the other hand, birds from the northern part of Northern Territory and from northern Queensland seem fully as large as our few from Victoria, New South Wales, and South Australia. There is no doubt that the principal size variation in adults of this species is sexual. Males are considerably larger than females; the difference in culmen length is especially pronounced. Although it is not unusual for the bill to require considerable time for full development in birds of this sort, many immatures in which the straw-like feathers on the neck had not yet developed have large bills.

It may be doubted then that there is geographical variation in this species, although more specimens need to be measured from northwestern Australia. The straw-necked ibis is a bird of nomadic habits and probably ranges over a vast area according to the seasonal vagaries of rainfall. This would make the development of races unlikely. Mathews himself later synonymized his race, and later authors have not recognized it.

Peters (1931, p. 132) gave the range of this species as "Australia and Tasmania," but Mathews lists only one record from Tasmania, and Littler (1910, p. 191) says it is accidental there.

Culmen: Victoria, New South Wales, South Australia, five males, 169-191; two females, 142, 143. Queensland, Northern Territory, eight males, 162-192; five females 130-142. Northwestern Australia, two females 126, 126.

#### GENUS **PLATALEA** LINNAEUS

##### SUBGENUS **PLATALEA**

DIAGNOSIS: Nuchal crest present; patches of ochraceous feathers at base of neck; feathers of lower neck not elongated; outer vanes of secondaries not modified into lacy filaments.

### *Platalea regia* Gould

*Platalea regia* GOULD, 1838, A synopsis of the birds of Australia, pt. 4, app., p. 7; east coast of New South Wales.

*Platalea regia stalkerii* MATHEWS, 1912, Novitates Zool., vol. 18, p. 229; Alexandra, Northern Territory. Type: A.M.N.H. No. 531356; immature female; June 20, 1906; W. Stalker. Wing, 340.

Mayr (1931, p. 5) listed a specimen of this spoonbill from Rennell Island, Solomons, as *Platalea leucorodia regia*, citing Stresemann as authority for the specific assignment. The subgenus *Platalea* contains four principal forms: (1) *leucorodia* of Europe, with a race *archeri* in the Red Sea district and another race, *major*, in Asia; (2) *minor* of eastern Asia (Korea, China coast, etc.); (3) *alba* of Africa (except the Red Sea district); (4) *regia* of Australia and the islands to the north. These four are geographical representatives. They differ rather sharply from one another in the extent of bare skin on the head, in the color of the legs and other soft parts, and in size. Furthermore, the ranges of *leucorodia* and *alba* approach in Africa as do those of *leucorodia* and *minor* in Asia, but in neither case is intergradation known. We think it is best to treat all four as species, comprising a superspecies. It is pointless to consider *regia* but not *alba* nor *minor* as a race of *leucorodia*. Stresemann in his later work on the birds of Celebes treated *regia* binomially.

There seems to be no geographical variation in *regia*. As noted above, the type of Mathews' *stalkerii* is an immature female; as might be expected it has a rather small bill. This was given as the only character of this race, which Mathews himself later suppressed. This species wanders so widely (New Guinea, Rennell Island, Timor, and even Borneo) that it is difficult to believe that it does not nest outside Australia, but according to Mayr it has not been demonstrated to do so.<sup>1</sup> Specimens we examined from such localities were immatures or adults lacking the nuchal crest. Curiously enough, Mathews selected a specimen in off-season dress to figure in "The birds of Australia." The specimen figured is not the type of *stalkerii*, though from the type locality.

#### SUBGENUS **PLATIBIS** BONAPARTE

**DIAGNOSIS:** No nuchal crest. Feathers of breast lengthened and lanceolate. Outer vanes of secondaries modified into lacy

<sup>1</sup> See footnote, page 2.

filaments. No patches of ochraceous plumage at the sides of the breast.

We believe that all the spoonbills of the world are best assigned to the genus *Platalea*. The differences between them are relatively minor and relate to the nature and position of the ornamental plumes and of the bare areas on the head; these need be regarded as no more than specific in birds of such pronounced specialization and (presumably) ancient origin. The three presently recognized genera may be retained as subgenera. Two of them are characterized above; the third, *Ajaia* Reichenbach, contains the New World roseate spoonbill. The latter agrees with *Platibis* in lacking a nuchal crest and in having elongated feathers on the breast, but the secondaries are unmodified. *Ajaia*, as does *Platalea*, has ochraceous patches of color on the sides of the breast. It differs from both other subgenera in coloration and in some details of structure.

### **Platalea flavipes** Gould

*Platalea flavipes* GOULD, 1838, A synopsis of the birds of Australia, p. 4, app., p. 7; New South Wales.

*Platalea flavipes whitei* MATHEWS, 1912, Novitates Zool., vol. 18, p. 229; Alexandra, Northern Territory. Type: A.M.N.H. No. 531355; adult female; July, 1905 [W. Stalker]. Wing, 385. Colored plate of type: Mathews (1913-1914, opposite p. 404).

The measurements of specimens of *flavipes* from northern Australia agree with those from New South Wales and South Australia. As will be evident by now, Mathews described a new race of almost all the ciconiiform birds of Australia. These supposed new races were usually from the northern part of the country and were supposedly of small size. The types prove to be immature or female specimens, which in these species are often markedly smaller than adult males.

### STORKS: FAMILY CICONIIDAE

#### **Xenorhynchus asiaticus australis** (Shaw)

*Mycteria Australis* SHAW, 1800, Trans. Linnean Soc. London, vol. 5, p. 33; New South Wales.

*Xenorhynchus asiaticus rogersi* MATHEWS, 1912, Novitates Zool., vol. 18, p. 229; Fitzroy River, northwestern Australia. Type: A.M.N.H. No. 531015; adult male; 1898; "J. T. T." [Tunney]. Wing, 580; bill from gape, 320. Colored plate of type: Mathews (1913-1914, opposite p. 408).

There was no reason to suppose that examples of this stork from northwestern Australia are different from others. Mathews later admitted that his *rogersi*, based on alleged smaller size, is subject to some reservations, as the species is of regular occurrence in Australia, at least as a breeder, only in the northern portions.

The separation of *australis* from nominate *asiaticus* (type locality, India) is in itself difficult. In *asiaticus* the neck is metallic bluish, in *australis* somewhat more greenish. Of the nominate race we have only two specimens (Assam). One or two of our Australian skins appear inseparable from them.

Delacour (*in* Delacour and Mayr, 1945, p. 105) has suggested that the genera *Dissoura*, *Abdimai* [= *Sphenorhynchus*], and *Euxenura* (the latter South American) be united with *Ciconia*. We were prompted by this to consider the generic relationships of *Xenorhynchus*. It is related to *Ephippiorhynchus senegalensis* of Africa, though the latter is somewhat more specialized as regards the bill and surrounding horny areas. At the same time, it is possible that *Xenorhynchus* is as close to *Ciconia nigra* as are some of the other species Delacour would place in *Ciconia*. The distribution of specialized characters in the Ciconiidae, for example, the presence of a forked tail correlated with elongated under tail coverts, seems to be of a somewhat random nature. It might be well to retain a conservative treatment as in Peters' "Check-list" until the family as a whole is studied from the generic standpoint.

#### HERONS: FAMILY ARDEIDAE

The herons are similar to the storks in that it is difficult to find an intermediate course as regards generic treatment. We have followed recent authors who regard "*Mesophoyx*" *intermedia* and "*Cosmerodius*" *alba* as belonging to *Egretta*, but have not investigated the status of *Notophoyx*, since we feel that the entire family must be studied before one can be reasonably sure that changes in generic limits will represent improvements. The basic difficulty is to decide whether differences in the ornamental plumes are more, or less, important than those in plumage pattern and body size.

#### *Ardea sumatrana* Raffles

*Ardea Sumatrana* RAFFLES, 1822, Trans. Linnean Soc. London, vol. 13, pt. 2, p. 325; Sumatra.

*Ardea sumatrana mathewsae* MATHEWS, 1912, *Novitates Zool.*, vol. 18, p. 230; "Cooktown," = Bellenden Ker, Queensland. Type: A.M.N.H. No. 528921; adult female; December 8, 1899; E. Olive. Wing, 432; culmen, 167. Colored plate of type: Mathews (1913-1914, opposite p. 419). Although the locality was published as Cooktown, the Mathews' number on the Bellenden Ker specimen agrees with that published. Furthermore, the type label, as well as the label indicating that the specimen is the one figured in "The birds of Australia," is affixed to this bird.

*Ardea sumatrana gilberti* MATHEWS, 1812, *Novitates Zool.*, vol. 18, p. 230; "Derby" = Point Torment, King Sound, Kimberley, northwestern Australia. Type: A.M.N.H. No. 528914; immature, sex ?; March 23, 1911; J. P. Rogers. Wing, 455; culmen, 169. Here again the published locality does not agree precisely with the information on the field label.

In recent lists two races of this heron are recognized: *sumatrana* of Burma, Malaya, the East Indies, Philippines, and New Guinea; and *mathewsae* of northern Australia. Stresemann, in his monograph of the birds of Celebes, lists the species binomially. We believe that he is correct. It does not seem plausible that a heron that does not vary in the great area from Burma and the Philippines to New Guinea would have a different race on the north coast of Australia.

From Australia we have, including the two types listed above, three immature and three adult specimens. All the latter leave something to be desired as far as condition of the plumage is concerned. Careful comparison, however, suggests that they differ in no way from adults from other parts of the range. The immatures agree perfectly with one from Jobi Island, New Guinea, and one from Halmahera, Moluccas. One from Bali and another from Burma seem to have less conspicuous rufous edgings on the feathers, but this is probably only a result of wear and perhaps greater maturity.

As regards size, the first impression was that the Australian birds are smaller. Here again we feel that more material will show this to be only a result of accidental variation in small samples. This was partly confirmed by measuring and comparing the immatures as well as the adults. In the former no perceptible difference was found.

While we do not doubt that males of this heron average larger than females, attempts to separate our birds according to sex left so many queries in our mind as to the correctness of the sexing that we thought it best to list the combined wing measurements in table 2 without designation of sex.



TABLE 2  
WING MEASUREMENTS (IN MILLIMETERS) OF *Ardea sumatrana*

	Adults	Immatures
Australia	432, 435, 453	420?, 432, 450, 455, 460?
New Guinea region	440, 454, 455, 457, 470, 476	438
Celebes, Moluccas, and near- by islands	455, 462, 463, 465, 465, 468, 468, 475, 485	433, 460
Greater Sundas and Palawan	445, 460, 477	457
Burma		467

The range of *Ardea imperialis* Baker of northern Burma and eastern India is more or less complimentary to that of *sumatrana*. We have not seen *imperialis*, which is a rare bird in American collections, but from descriptions it would seem to be not only distinctly larger but also rather different in coloration from *sumatrana*. Apparently they are not subspecies. A third species, *Ardea goliath* of Africa (but occurring occasionally in India and Mesopotamia), agrees with the other two in having a relatively heavy bill. All three may be related to one another and to the *cinerea-herodias-cocoi* group.

### *Ardea pacifica* Latham

*Ardea pacifica* LATHAM, 1801, Index ornithologicus, suppl., p. 45; New South Wales.

*Notophoxyx pacifica alexandrae* MATHEWS, 1912, Novitates Zool., vol. 18, p. 231; Alexandra, Northern Territory. Type: A.M.N.H. No. 529020; adult "male" [= probably female]; October 27, 1905; W. Stalker. Wing, 410; culmen, 80.

The type of *alexandrae* is a rather small bird. A bird from the Alligator River, Northern Territory, has wing 415, and a male from the Strelley River, Western Australia, 425. These compare favorably with specimens from the southern states of Australia. *Alexandrae* was described as "darker on the back," but Mathews himself later synonymized this name.

### *Notophoxyx novaehollandiae novaehollandiae* (Latham)

*Ardea novae Hollandiae* LATHAM, 1790, Index ornithologicus, vol. 2, p. 701; New South Wales.

*Notophoxyx novaehollandiae parryi* MATHEWS, Novitates Zool., vol. 18, p. 231; Parry's Creek, northwestern Australia. Type: A.M.N.H. No. 529137; adult male; February 1, 1909; J. P. Rogers. Wing, 330.

Some years ago the senior author (1942, pp. 2-3) in a revision of this species published measurements indicating that the form *parryi* is not valid. In a paper published the preceding year and not seen by Amadon at that time, Meise (1941, p. 354) proposed to restrict the nominate race to southern Australia and to use Mathews' name *parryi*, with type locality in northwestern Australia, for the birds of northern Australia, New Guinea, and the Lesser Sunda Islands. Meise had only two southern birds; their wing lengths were 334+ and 337. His largest northern bird had wing 329. Material measured by Amadon, however, showed a much greater overlap; indeed there was little evidence of size increase in southern Australia. The type of *parryi* itself has a wing length of 330, and almost half of the males measured from the northern part of the range had a wing length of 330 or more (up to 338). We conclude that the race *parryi* does not deserve recognition.

Through the courtesy of Dr. Dwain Warner the senior author in 1947 measured a few additional specimens from New Caledonia. They confirm the belief that that island is inhabited by a small race, *Notophoxyx novaehollandiae nana* Amadon (1942).

### **Notophoxyx picata** (Gould)

*Ardea (Herodias) picata* GOULD, 1845, Proc. Zool. Soc. London, p. 62; Port Essington, Northern Territory.

*Tonophoxyx aruensis normani* MATHEWS, 1915, Austral Avian Rec., vol. 2, p. 126; Normanton, Queensland. Type: A.M.N.H. No. 529174; adult male; February 19, 1914; Robin Kemp. Wing, 230; culmen, 65.

The form *normani* was said to differ from "*flavirostris*" (= *picata*, with same type locality) "in being smaller and darker." Mathews picked one of the smaller males of a series from Normanton as the type, but even so it is no smaller than some of our males from other parts of the range, including Northern Territory. We do not have specimens from Aru Island, whence another name *aruensis*, is available. There is no reason to believe that Aru examples of *picata* differ from those of Australia or New Guinea, especially since Celebes, the northwesternmost part of the range, has typical *picata*. There seems to be no geographical variation in color.

### **Egretta alba modesta** (J. E. Gray)

*Ardea modesta* J. E. GRAY, 1831, The zoological miscellany, p. 19; India.

*Egretta alba neglecta* MATHEWS, 1912, Novitates Zool., vol. 18, p. 230; Parry's

Creek, northwestern Australia. Type: A.M.N.H. No. 529775; male (non-breeding plumage); February 4, 1909; J. P. Rogers. Wing, 365.

The American and African races of the greater egret are said to be set apart by differences in the color of the soft parts. Variation in the color of the bill has also been reported in Eurasia, but its importance for racial separation requires confirmation.

As regards size variation, there is a large race in the Palearctic region and a much smaller one common to the Oriental and Australian regions. New Zealand has a race of intermediate size. We have examined a large series from India, the type locality of *modesta*, and find that the wing length normally falls between 350 and 370. Australian birds average slightly larger, with 386 as the maximum of a large series. Two from New Zealand measure 395 and 423, while *E. a. alba* of the Palearctic averages about 450, and ranges up to 500 or more. Meager material suggests that the populations of Japan and other localities in the Far East may be intermediate in size or even, individually at least, as small as *modesta*. Specimens from such localities may be inseparable from *maoriana* of New Zealand. A careful investigation of geographical variation in this cosmopolitan species is needed.

### ***Egretta intermedia plumifera* (Gould)**

*Herodias plumiferus* GOULD, 1847 (1848), Proc. Zool. Soc. London, p. 221; New South Wales.

*Mesophoyx intermedia territorii* MATHEWS, 1915, Austral Avian Rec., vol. 2, p. 126; Northern Territory. Type: After describing this supposed race, Mathews added "Type, Northern Territory." His collection contains seven specimens of this egret from Northern Territory, all taken by J. T. Tunney. Mathews did not designate any particular one of these birds as the type of *territorii* either on the specimen labels or, so far as we can find, anywhere else.

Geographical variation in this egret is slight and involves only the color of the bill and legs. In the African race *brachyrhyncha* the exposed part of the tibiotarsus is said to be yellow and the bare sides of the face also yellow. However, in some adults in breeding condition there is only a small inconspicuous area of yellow high on the exposed tibiotarsus, the rest of which is black. Thus, Chapin noted that an adult male in breeding dress taken by him in the Congo had "feet black with a trace of yellowish mottling on tibiae, well up near feathers." On the other hand, we have examined a specimen from Angola in which the tibiae, as well as the tarso-metatarsi, are entirely yellow.

In nominate *intermedia* of Asia, with type locality Java, the legs and tibiae are black. Deignan (1947) states that according to various published descriptions Indochinese birds apparently have the bill yellow at all seasons, while in other parts of tropical Asia this seems not to be the case. Although he evidently had no specimens from Java he proposes to call the Indochinese population by a different name, which he supplies.

The Australian race, *plumifera*, has the legs and tibiae yellow. It differs from those specimens of African *brachyrhyncha*, of which this is also true, by having the lores blackish.

We have but one specimen, an immature, from New South Wales, the type locality of *plumifera*, for comparison with a series from Northern Territory, from whence Mathews named *territori*. Mathews said that *territori* differs from *plumifera* "in its shorter tarsus and bill." Our single specimen from New South Wales, an immature, falls well within the range of measurements of birds from northern Australia and from New Guinea; comparison of adults from southern Australia is to be desired.

The New South Wales immature is unusual in that it has pale gray areas at the tips of the primaries and on the under wing coverts. The white plumage so common in herons is perhaps a secondary condition, and traces of wild type of plumage in immatures (as just described from the specimen of *plumifera* from New South Wales) are one evidence of this. The senior author (1951) has mentioned a similar departure in an immature of the normally white *Egretta eulophotes*. In this case the gray areas were on the face and resembled in pattern the gray facial markings of dark phase *Egretta sacra*.

### ***Egretta garzetta nigripes* (Temminck)**

*Ardea nigripes* TEMMINCK, 1840, Manuel d'ornithologie, ed. 2, vol. 4, p. 376; "L'Archipel des Indes."

*Herodias immaculata* GOULD, 1846, The birds of Australia, pt. 25, pl. 58; "Northern portion of Australia."

*Egretta garzetta kempi* MATHEWS, 1916, Austral Avian Rec., vol. 3, p. 56; northern Queensland. Type: Mathews doubtless had in mind a series of birds in his collection obtained by Robin Kemp on Cape York, Queensland, but he never selected one of these as the type.

Some recent authors, including Peters, have given *nigripes* a range extending from the Philippines and Greater Sundas to New Guinea and have recognized another race, *immaculata*,

from Australia. As stated in the discussion of *Ardea sumatrana*, it is not likely that any bird, particularly a water bird, would extend from the Sundas across Wallace's Line to New Guinea without variation and then be represented by a different race in northern Australia, which is separated from New Guinea only by the narrow, shallow, recent, and island-studded Torres Strait. Mathews claimed that Australian little egrets are smaller than *nigripes* and do not have black legs. There seems to be nothing to the last assertion, and birds from Australia are, if anything, bigger than those from the Greater Sundas (the type locality of *nigripes*), judging from our only specimens from that area, two males from Bali collected by Stresemann. Specimens from New Guinea, the Moluccas, and Celebes are nearly or quite as large as those from Australia (see below), and probably the same would be true of those of the Greater Sundas, were more skins available. Furthermore, mis-sexing, if present to any extent, would largely mask the slight observed differences. We very much doubt if there is enough geographical and size variation in the area from the Sundas to Australia to warrant subspecific separation and, in the absence of any other differences, assign all these birds to *nigripes*.

Cursory examination of half a dozen specimens of this egret from the Philippines shows that they have the toes lighter than the legs and belong, presumably, to *garzetta garzetta*, not to *nigripes*. They have been assigned to the latter race by Peters, and more recently by Delacour and Mayr in their "Birds of the Philippines." There has been some confusion, even at the species level, in Philippine material between *garzetta* and *E. eulophotes* (Amadon, 1951).

Wing lengths of adults of *nigripes*: Australia, 18, 246-275 (262); New Guinea, 14, 248-278 (262); Moluccas, Kei Islands, Southwest Islands, eight, 240-272 (256); Celebes, five, 246-275 (264); Bali, two, 252, 252.

### ***Ixobrychus minutus dubius* Mathews**

*Ixobrychus minutus dubius* MATHEWS, 1912, Novitates Zool., vol. 18, p. 234; southwestern Australia [in later publications Mathews gave the location as Hertsman's Lake]. Type: Mathews said the type of *dubius* is number 675 in his collection, and there is such an entry for a little bittern with date "2-3-00" from Hertsman's Lake in Mathews' manuscript catalogue. The specimen itself, however, was not in Mathews' collection at the time it came to New York, unless, as a matter of fact, a specimen from Mongers Lake, W. A., A.M.N.H.

No. 530482, without date or collector, is the missing type. This specimen does not bear a Mathews number. Our only other specimen from Western Australia, an immature also from Mongers Lake, was taken March 17, 1906, by D. C. F. L. Wrensted, who was also, apparently, the collector of the less fully labeled adult specimen from Mongers Lake mentioned above.

*Ixobrychus minutus alisteri* MATHEWS, 1913, Austral Avian Rec., vol. 1, p. 188. New name for *Ardea pusilla* Vieillot; New South Wales. Neotype (selected by Mathews): A.M.N.H. No. 530484; adult; July 15, 1908; Robert Grant; Long Bay, Sydney, New South Wales. Wing, 132. Colored plate of this specimen: Mathews (1913-1914, opposite p. 473).

*Ixobrychus minutus queenslandicus* MATHEWS, 1914, Austral Avian Rec., vol. 2, p. 89; Kedron Brook, Queensland. Type: A.M.N.H. No. 530481; adult male; from "Queensland Museum" (no further data). Wing, 138.

*Ixobrychus minutus victoria* MATHEWS, 1915, Austral Avian Rec., vol. 3, p. 24; Geelong, Victoria. Type: A.M.N.H. No. 530485; adult (no original label, no further data). Wing, 141.

Aside from the three types mentioned above, the Mathews collection contains but two other little bitterns, both in immature plumage. With this meager material no adequate analysis can be made, but no differences are apparent and a conservative treatment is indicated. Peters (1931, p. 121) recognized *alisteri* as well as *dubius*, probably on geographical grounds, but Rand (1938, p. 3) assigned the only specimen known from New Guinea to *dubius*, thereby by implication considering *alisteri*, *queenslandicus*, and *victoria* to be synonyms of *dubius*, the type locality of which is farther from New Guinea than that of either of the others. In the absence of any evidence that variation occurs in the Australian and Papuan parts of the range of this species, we prefer to follow Rand.

### **Botaurus poiciloptilus** (Wagler)

*Ardea poiciloptila* WAGLER, 1827, Systema avium, Ardea, sp. 28, note; New South Wales.

*Botaurus poiciloptilus westralensis* MATHEWS, 1912, Novitates Zool., vol. 18, p. 235; Shark's Bay, Western Australia. Type: A.M.N.H. No. 530808; adult male; December, 1880; ? collector. Wing, 315; culmen, 66. Colored plate of type: Mathews (1913-1914, opposite p. 489).

*Botaurus poiciloptilus maorianus* IREDALE AND MATHEWS, 1926, Bull. Brit. Ornith. Club, vol. 46, p. 76; new name for *Botaurus melanotus* Gray; New Zealand.

? *Botaurus poiciloptilus mathewsi* HACHISUKA, 1931, Bull. Brit. Ornith. Club, vol. 52, p. 41; New Caledonia.

We examined eight specimens from New Zealand, five from Tasmania, and 13 from Australia and find nothing suggesting

geographic variation. Two birds from Western Australia seem rather small, but one of them (the type of *westralensis*) has the wing quills badly worn, and the other is immature. Two of the New Zealand skins have a few albinistic feathers on the nape; this is of interest because so many New Zealand birds show albinistic or melanistic tendencies.

We have no specimens from New Caledonia but in view of the lack of variation in New Zealand, Tasmania, and Australia, one may assume that Hachisuka's race *mathewsi* requires confirmation. He described the back as "nearly as dark" as in the Australian bittern but "decidedly darker" than that of the New Zealand one, but these two seem to us the same. Nor is the statement "the legs are not so thick and the tarsus is decidedly shorter" very convincing. Since Hachisuka reports that he examined three New Caledonia specimens, presumably the bird is of regular occurrence there and not a straggler. Dr. Dwain Warner tells us, however, that so far as he knows, the species has not been recorded in New Caledonia since the time of the Layards, whose material, now in London, formed the basis for Hachisuka's race.

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