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Striated or Green Herons in the South Caribbean Islands?

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Summary

Of 123 adult and semi-adult Little Herons *Butorides striatus* examined from the South Caribbean Islands of Aruba, Curaçao, and Bonaire, either as study-skins, observed in the field or shown on colour-slides, 115 (93%) were of the red-necked North American and Caribbean *virescens* subspecies type, whereas 7 (6%) showed characters intermediate between *virescens* and the continental South American *striatus* subspecies type. Once (1%) an apparently phenotypically "pure" *B. s. striatus* was observed (3 Oct. 1979, Bonaire). The South Caribbean Island's breeding birds should be named *Butorides striatus maculatus* rather than *Ardeola striata striata* as listed by PAYNE (1979). Three specimens (19%) of 16 measured proved to be long-winged migrants from North America, *B. s. virescens* (17 Nov. 1951, 27 Nov. 1951, 21 Oct. 1954).

Though the close relationship of the North and Middle American Green Heron *Butorides virescens* and the South American and Old World Striated Heron *Butorides striatus* has been recognised for a long time, it was mainly after suggestions by PARKES (1955) and PAYNE (1974) that the conspecificity of these small herons was more or less generally accepted (HANCOK & ELLIOTT 1978, PAYNE 1979, AOU Check-list 1983, VOOUS 1983).

The occurrence of intermediate birds, perhaps even an intermediate population in central Panama, described as *Butorides striatus patens* GRISCOM 1929, but supposedly caused by secondary intergradation, and the discovery of other intermediate specimens from the Caribbean coasts and rivers of Colombia and Venezuela (PAYNE 1974) are considered proof of the suggestion that Green and Striated Herons, when meeting, are behaving as conspecifics. The idea itself is much older and had already been put forward by HARTERT (1920: 1249–1251), who in his review of the birds of the palearctic fauna usually handled a wide, zoogeographical species concept. Still, WETMORE (1965), BOND (1969 and later), MAYR & SHORT (1970), BLAKE (1977), and apparently also DE SCHAUENSEE & PHELPS (1978) preferred to remain skeptical and continued to treat these herons as two species, particularly as long as definite instances of mixed pairs have not been recorded.

As to the vernacular name of the combined species, there is at present a wide

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choice, ranging from Green to Green-backed Heron, Striated Heron, Mangrove and Little Heron. For the purpose of this paper the name Little Heron will be used.

The hybridization theory led PAYNE in the revised edition of volume 1 of PETER's "Check-list of Birds of the World" (1979 : 220) to list the Little Herons breeding in the South Caribbean Islands of Aruba, Curaçao, and Bonaire as *Ardeola striata striata* (LINNAEUS 1758 – Suriname; for the use of the genus name *Ardeola* rather than *Butorides*, see later on). The use of the subspecific name seems to be based on the existence of two or three more or less intermediate specimens from Aruba (PAYNE 1974, PAYNE & RISLEY 1976: 88). However, as the Little Herons in Aruba, Curaçao, and Bonaire are decidedly of the brown-necked *virescens*-type and not of the *striatus*-type, PAYNE's arrangement does not conform with reality (VOOUS 1957, 1983). It appears that I have seen many more specimens from these islands, in addition to numerous birds in the field, than did PAYNE, who kindly sent me a copy of the list of the specimens examined by him. The following notes on specimens from Aruba, Curaçao, and Bonaire may therefore be useful.

Adult Birds – *Butorides striatus maculatus*

Adult Little Herons do not leave any doubt of whether they belong to the *virescens*-type or the *striatus*-type or represent an intermediate. PAYNE (1974) did not examine any adult from the South Caribbean Islands. I recorded 12 adult specimens from Aruba, Curaçao, and Bonaire (VOOUS 1957) and have since examined 4 others. Together with at least 95 birds seen in the field (1951–52, 1961, 1977, 1979, 1985) and colour slides of 8 birds, this makes a total of 23 specimens from Aruba, 33 from Curaçao, and 67 from Bonaire. With but few exceptions (6), all 123 birds were brightly coloured, rufous-necked Green Herons. They are relatively small; wing ♂ 163–174, average (8) 170.1 mm, ♀ 160–171, average (4) 166.0 mm. They have been separated as subspecies *curacensis* OBERHOLSER 1912 – Curaçao (VOOUS 1957), but could as well be incorporated in a general Caribbean form *maculatus* (BODDAERT 1783 – Martinique). In the 6th edition of the AOU Check-list (1983) the race *maculatus* has been synonymized a little bit too progressively with *virescens* from North America. Nests of Little Herons with eggs and young have been found in Aruba, Curaçao, and Bonaire on numerous occasions. Indeed, the Little Heron is the most abundant of the heron species in these islands. In the field they look like Green Herons.

Butorides striatus virescens

Apart from indigenous birds, northern migrants of a similarly rufous-necked appearance (*B. s. virescens*) Have been recorded from the South Caribbean Islands, as well as from the opposite Colombian and Venezuelan coasts as far east as Suriname (see map in PALMER 1962: 418). Those collected in the South Caribbean Islands were recognised on account of larger size and a more vinaceous

or purplish-brown rather than rufous-brown colour of the neck. The following specimens are known:

- ♀ imm., 17 November 1951, Bonaire, wing 184.5 mm
- ♂ imm., 27 November 1951, Bonaire, wing 181 mm
- ♀ subad., 21 October 1954, Curaçao, wing 181 mm

Some birds observed in the islands in the northern winter may have been migrants from North America as well, but, for example, the rufous-necked adults seen 20 March 1985 in the rhizophore mangroves of Lac, Bonaire, in company with recently fledged young certainly were local breeding birds.

Butorides striatus striatus

Once, on 3 October 1979, an adult Little Heron has been observed in south Bonaire showing all characters of the continental race (VOOUS 1983: 48). It had the grey neck with a faint buff tinge to the sides of the breast characteristic of most of the Venezuelan Striated Herons.

Intermediate adult (and semi-adult) Birds

Apart from three intermediate female specimens from Aruba (27 June 1892, 29 April 1908, no date) listed by PAYNE and not seen by me, I have examined two intermediates:

♀, 22 June 1930, Aruba (coll. RUTTEN, PIJPER & VERMUNT, Natural History Museum, Leiden). Neck sides reddish brown, interspersed with few grey feathers; breast pale grey, like the remaining underparts. Wing 168 mm.

ad. 17 October 1979, Salina Martines, Bonaire, crashed against a car (Zoological Museum, Amsterdam). Sides of the neck light vinaceous brown; breast and underparts light grey. Wing 160 mm.

The following observations of birds with intermediate characters were made by me in the field:

19 May 1977, Goto, Bonaire – one of four otherwise brown-necked adults carefully scrutinized, showing some grey on the otherwise brown neck sides.

15 October 1979, Bubali, Aruba – one of four otherwise brown-necked adults observed, having the front of the neck light brown and the sides and underparts grey.

24 October 1979, Goto, Bonaire – two “intermediates” among several other brown-necked ones, one being closer to the *virescens*-type, the other closer to the *striatus*-type.

27 October 1979, salt works, south Bonaire – one “intermediate” among two brown-necked others.

Immature Birds

It is not always easy to distinguish between immature *virescens*- and *striatus*-types. In both groups the plumages show heavy dark striations all along the neck and only a rufous-brown suffusion may in some specimens indicate a *virescens* rather than a *striatus* origin. I have not tried to distinguish between them. After the first moult some brown or grey feathers respectively may appear on the neck sides and later on the front.

Summary of Data

The above notes describe the virtually rufous-necked nature of the Little Heron in the South Caribbean Islands and the low incidence (6% or less) of intermediate or *striatus*-type birds. Similar rufous-necked birds are known from the Venezuelan islands of Las Aves, Los Roques, La Orchila, La Tortuga, and La Blanquilla and occasionally littoral Venezuela as well (the latter may be mainly migrants from North America) (PHELPS 1948, PHELPS & PHELPS 1951 and 1958, BOND 1956). In contrast, the islands of Margarita and Trinidad, both on the continental shelf and close to the mainland, are inhabited by grey-necked *B. s. striatus*. An unknown and apparently variable, but presumably large proportion of these birds, as well as those from mainland Venezuela have a cloudy suffusion or distinct longitudinal line of rufous on the sides of the neck, a character upon which a Margarita race *robinsoni* RICHMOND 1896 was described and originally, but erroneously, considered some way intermediate between the "green" and the "striated" herons.

Unlike those from Trinidad, the Little Herons breeding on Tobago are considered to belong to the *virescens*-group, but a specimen (♀) collected 11 February 1954 on Tobago (JUNGE & MEES 1958: 10), on account of its large wing (180 mm), seems to be a North American migrant, as was suggested already by FRENCH (1973: 63). Birds of the race *maculatus* have wing lengths not surpassing 172 mm (WETMORE 1965) or 174 mm (VOOUS 1957).

Butorides striatus striatus must in the first place be considered a straggler from the continent, like *Botaurus pinnatus* (Aruba), *Cochlearius cochlearius* (Bonaire), *Mycteria americana* (Aruba), *Plegadis chihi* (Aruba) and at least 10 other aquatic bird species recorded in the South Caribbean Islands and mentioned in a paper particularly devoted to birds straggling to islands (VOOUS 1982). It cannot be excluded that such stragglers introduce *striatus*-genes into an otherwise essentially *virescens*-type of population. The intermediate specimens described by PAYNE (1974) from Aruba and others recorded here from Aruba and Bonaire may be considered to indicate the possibility of an almost negligible amount of hybridization. Further developments to this effect are worth to be studied and recorded.

Caribbean forms on the South Caribbean Islands

The occurrence of a Caribbean or northern form in the avifauna of the South Caribbean Islands, rather than a South American form, is not restricted to the Little Heron. Other instances of this type of distribution are: *Charadrius alexandrinus*, *Columba squamosa*, *Elaenia martinica*, *Margarops fuscatus*, *Vireo altiloquus*. Of a northern relationship at the subspecific level are: *Tyto alba (bargei)*, *Coereba flaveola (uropygialis and bonairensis)*, *Ammodramus savannarum (caribaeus)* (VOOUS 1957: 34). Even the absence of the Cocoli Heron *Ardea cocoi* and the abundant occurrence of the Great Blue Heron *Ardea herodias* instead, though caused by migratory movements, lends support to a slight Caribbean or North American touch of the avifauna of Aruba, Curaçao, and Bonaire.

Ardeola versus *Butorides*

PAYNE & RISLEY (1976: 87) presented evidence in favour of the inclusion of the virtually monotypic genus *Butorides* into *Ardeola*. The AOU Check-list Committee (6th ed., 1983) and HANCOCK & KUSHLAN (1984) have not followed these authors and I agree. For apart from the differences in colour pattern, structure of dorsal plumes and crest, the highly ridged tarsus and the absence of a distinct non-breeding plumage, the members of *Butorides* are much more arboreal than the more *Egretta*-like *Ardeola*-pond-herons and therefore have more strongly curved claws (see als HANCOCK & KUSHLAN 1984: 92). In addition none of the pond herons seem to show the bittern-like stance so regularly adopted by the Little Herons even when only slightly provoked.

One thing *Butorides* and *Ardeola* have in common: they are products of Old World developments. AMADON (1953) seems to be right in theorizing that the North American Little Herons of the *virescens*-type colonized the New World from northeastern Asia, whereas *striatus* in South America may have resulted from trans-oceanic flights from Africa, comparable to the recent trans-oceanic colonization of the Cattle Egret *Bubulcus ibis* and its subsequent invasion of the whole of America.

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