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Discussion: These ten examples fall into three groups:—

(a) Partial albinism, as in example (4).

(b) Leucism, involving a total loss of feather pigment, as in examples (5) and (6). Both are very old records, and unfortunately no further details are available.

(c) Non-eumelanic schizochroism, as in the remaining examples. Examples (2) and (3) show some increase in eumelanism. Examples (9) and (10) seem exceptional in that the latter showed partial albinism of the speculum, while in the latter albinism of the speculum was complete. These two may have been siblings.

Acknowledgements: We are grateful to Murray Johnstone, who reared examples (2) and (3), and to Frank Clayton, who sent us example (4). For particulars of examples (5) to (10) we are indebted to Bryan Sage. Once again our thanks are due to Dr. Pamela Harrison for the photographs.

References:

Rensch, B. 1925. Die farbaberrationen der vögel. *Journ. Ornith.* 73: 514–539.

Sage, B. L. 1963. The incidence of albinism and melanism in British birds. *Brit. Birds* 56: 409–416.

(The cost of reproduction of the plates in the above paper will be borne by the authors—*Ed.*)

Observations on *Egretta vinaceigula*

by C. J. Vernon

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Benson, Brooke & Irwin (1971) conclude that *Egretta vinaceigula* is a good species and not merely a form of *E. ardesiaca*. During July 1971, in the Chobe Game Reserve, Botswana, I frequently observed *E. vinaceigula* and consequently can give support to their contention. I am grateful to them for a sight of their manuscript, for discussions, and for urging that my note be also published.

Egretta vinaceigula was frequently observed alongside other similar sized herons, *E. garzetta*, *E. ardesiaca*, *Ardeola ibis*, *A. ralloides* and *Butorides rufiventris*, on the flood-plains of the Chobe River. The river level was low and dropping, and consequently many lagoons and pans were drying out. This had resulted in the deposition of aquatic vegetation on the ground, and food sources had been exposed which had previously been protected by the water. In such areas there were large congregations of feeding birds, including such species as *Phalacrocorax africanus*, *Pelecanus* spp., *Egretta alba*, *Anastomus lamelligerus*, *Ibis ibis*, *Threskiornis aethiopicus*, *Platalea alba*, *Sarkidiornis melanotos* and *Anas erythrorhynchos* as well as the above mentioned herons.

Superficially, *Egretta vinaceigula* resembled both *E. ardesiaca* and *E. garzetta*. At a distance its coloration caused confusion with *E. ardesiaca*, but at no other time were the two species confused, and colour differences as noted by myself are recorded by Benson *et al.* (1971). *E. ardesiaca* has a similar shape to that of *Ardeola ibis*, *ralloides* and *Butorides rufiventris* in that it has relatively short legs and a short neck. In contrast, *E. vinaceigula* has a similar shape to that of *E. garzetta* both having relatively long legs and a long slender neck. If the two species did not differ in size, one might believe that *E. vinaceigula* was merely a grey phase of *E. garzetta*.

At no time was *Egretta vinaceigula* seen to spread its wings to form a canopy over the water while feeding as does *E. ardesiaca*. Instead its feeding behaviour was comparable with that of *E. garzetta*. Both species feed by either standing motionless or by stalking and then stabbing at prey. But *E. vinaceigula* was not seen chasing prey nor stirring the water with its feet to disturb prey as is described for *E. garzetta* by Benson & Penny (1971).

Egretta ardesiaca, *E. garzetta*, *E. vinaceigula* and *Ardeola ralloides* were found together, and separate from *A. ibis*, which occurred on dry ground, and *B. rufiventris*, which frequented small lagoons and pans where there were trees. It is difficult to define any habitat difference between *E. garzetta* and *vinaceigula* except to suggest that *garzetta* was less frequently seen out of the water, and waded in deeper water. There was little difference in the social nature of the four species. They all tended to be solitary, though were sometimes fairly close together, and frequently occurred adjacent to the feeding assemblies mentioned earlier. No interaction was noted between any of these herons.

My observations at Chobe suggest that this river complex is capable of providing extremely rich food supplies for large wading birds, and it is significant to note that *E. vinaceigula* has only been recorded from such areas of swamps and seasonally inundated flood-plains (see Benson *et al.* 1971). Further, as T. N. Liversidge (pers. comm.) notes that this bird is absent from the Chobe Game Reserve during the rains, it is quite possible that *E. vinaceigula* has seasonal movements in order to live in the same type of habitat all the year round. By examining the measurements of the small, similar sized, diurnal herons occurring in the Chobe Game Reserve it might be possible to make a more precise, but preliminary, definition of the niche that *E. vinaceigula* occupies.

The measurements (see Table) used to make comparisons between

TABLE

Comparative tarsus and culmen measurements of six herons.

Species	*Mean measurements in mm.*			*Ratios*	
	Wing	*Tarsus*	*Culmen (from base)*	$\frac{100 \times tarsus}{wing}$	$\frac{100 \times culmen}{wing}$
Ardeola ibis	242	75	51	30.8	21.2
Ardeola ralloides	217	59	65	27.2	30.0
Butorides rufiventris	216	57	61	26.4	28.4
Egretta ardesiaca	255	85	69	33.2	27.3
Egretta garzetta	272	104	88	38.4	32.4
Egretta vinaceigula	235	85	66	36.4	28.1

Notes—The tarsus mean (113.6) for *E. garzetta* in McLachlan & Liversidge (1970) is clearly a misprint for 103.6.

Benson *et al.* (1971) give culmen lengths from the posterior of the nostril slit. Benson (pers. comm.) gives lengths from base for the same three specimens of *E. vinaceigula* as 64, 67, 67 mm.

The tarsus/wing ratio for *E. ardesiaca* from the figures in Benson *et al.* (1971) works out at 32.0 for the 18 African males, or 33.0 for the specimens as a whole. These figures agree well with that above, derived from McLachlan & Liversidge (1970).

Ardeola ibis, *A. ralloides*, *Butorides rufiventris*, *Egretta ardesiaca* and *E. garzetta* are taken from McLachlan & Liversidge (1970), while those of *E. vinaceigula* were received from C. W. Benson. In all cases averages of

series or means of extremes are used. As the weights of all these species are not known, wing measurements are used as an indication of relative size. Culmen and tarsus measurements are used as indications of adaptations to feeding niches. It is appreciated that this may be a gross simplification and any conclusions drawn only speculative. Nevertheless they may provide a basis for further investigation.

In comparing tarsus lengths, it is apparent that the differences can be correlated with modes of feeding. *Ardeola ralloides* and *Butorides rufiventris*, which remain stationary when feeding, have the shortest tarsi, while competition between these two is avoided by different habitat preferences. The terrestrial *A. ibis* has a tarsus of medium length, while that of *E. ardesiaca* is a little longer. The remaining two, *E. garzetta* and *vinaceigula*, have relatively the longest tarsi, and this can be linked with their wading habits. The absolute figure for *E. vinaceigula* is the same as that for *ardesiaca*. But relative to size it approaches that for *garzetta*, which has the longest tarsus both absolutely and relatively. It has been mentioned above that *vinaceigula* wades more frequently in shallower waters than *garzetta*. But perhaps *E. ardesiaca* tends to wade in still shallower ones.

Similarly, in comparing culmen lengths, a superficial correlation can be made between the length of the culmen and the mobility of prey and the mode in which it is taken. Thus, at the one extreme, the long bill of *E. garzetta* is used to strike at rapidly moving prey, and at the other, the short bill of *A. ibis* is used to snatch slow moving or motionless prey. *E. vinaceigula* has a bill of medium length, and therefore possibly takes both still and fast-moving prey.

Summary: *E. vinaceigula* is a good species. It appears to occupy a niche which is only created in marshes and flood-plains, and this helps explain its limited distribution. Both in habits and behaviour it most closely resembles *E. garzetta*, rather than *E. ardesiaca*, with which it has often been confused in the past, from an examination of museum specimens.

Acknowledgement: I am grateful to C. W. Benson for assistance in the preparation of this paper.

References:

Benson, C. W., Brooke, R. K. & Irwin, M. P. Stuart. 1971. The Slatey Egret *Egretta vinaceigula* is a good species. *Bull. Brit. Orn. Cl.* 91: 131-133

Benson, C. W. & Penny, M. J. 1971. The land birds of Aldabra. *Phil. Trans. Roy. Soc. Lond.* B 260: 417–527.

McLachlan, G. R. & Liversidge, R. 1970. *Roberts birds of South Africa.* Cape Town: John Voelcker Bird Book Fund.

A specimen of *Coua delalandei* (Temminck) (Cuculidae)

by C. W. Benson & E. Schüz

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Greenway (1967) does not mention the existence of any specimen of *Coua delalandei* in Stuttgart. However, in the Staatliches Museum für Naturkunde (Schloss Rosenstein) there is a well mounted specimen of this little known species, which would appear to be extinct (Peters 1940; Greenway 1967; Luther 1970). It is inscribed "male, no. 944, Madagaskar, coll. v. Ludwig 1837".

The history of this specimen is somewhat problematical. Carl von Ludwig, of Sulz am Neckar, near Stuttgart (1784–1846), arrived in 1806 in Cape Town, and prospered financially. He acquired specimens, which he presented