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TRIBE TACHYERINI (STEAMER DUCKS)

Following the arrangement of von Boetticher (1952) and the suggestion of Moynihan (1958), I shall here consider the three species of steamer ducks of the genus *Tachyeres* to constitute a separate tribe. These authorities agree that although steamer ducks are perhaps most closely related to the true shelducks, the steamers are sufficiently different to warrant removing them from the shelduck tribe. Their downy young lack the strongly contrasting coloration typical of shelducks, and the adult plumage pattern is distinct both from that of the shelducks and from that of the other anatine groups. There is a slight sexual dimorphism in bill color, head color, and possibly in the degree of tail-feather curling. Pair bonds appear to be strong, and Murphy (1936) was of the opinion that steamer ducks pair for life. At least two years are required for the birds to reach maturity. There are apparently three similar-appearing species, of which two are virtually flightless. The voices of the sexes are very different, and the males have tracheae with rounded, osseous bullae which are similar to those of *Anas* (see illustration in Johnsgard, 1961c). There is no metallic coloration in either sex; the wings have white secondaries and secondary coverts. All species dive extremely well, and the birds feed to a great extent on marine animal life off coastal South America and the Falkland Islands. I have observed two species, the Falkland flightless steamer duck (*T. brachypterus*) and the Magellanic flightless

steamer duck (*T. pteneres*). The following summary of behavior is based on these observations as well as on Moynihan's (1958) observations of the flying steamer duck (*T. patachonicus*). Woolfenden (1961) has recently proposed that the steamer ducks be included in the Anatini as aberrant dabbling ducks, but there is still not enough behavioral evidence to warrant the adoption of this proposal. Woolfenden also includes the perching ducks in the tribe Anatini; therefore I feel that leaving *Tachyeres* in its place between the Tadornini and Cairinini is, for the present, justified.

General behavior. All species of steamer ducks tend to be aggressive, and most of their displays appear to be motivated by hostility. Juveniles and yearlings flock together in large numbers, but adults are not very gregarious. I have noticed that captive flightless steamer ducks use their wings when diving. No preflight movements have been observed.

Agonistic and sexual behavior: female. Moynihan's observations (1958) on the flying steamer duck indicate the following behavior patterns, which are apparently purely hostile in motivation. Females perform "False Drinking" and a "Stretch," which differs from False Drinking in that it is faster, has an associated call, and is not preceeded by bill-dipping movements. The Stretch appears to be more highly ritualized than False Drinking, but both displays may serve appeasement functions. The female's call has been described by Moynihan as a "grunt," and it is deeper in pitch than the male's call and may consist of a single note or of numerous notes. In the Magellanic and Falkland flightless steamer ducks the bill is opened wide before the note is uttered and held open for some time afterward. The Grunting call and the call uttered during the Stretch are low groans, reminiscent of a creaking floor or of tree branches rubbing together. Females also utter a barking note with the bill almost closed. Moynihan states that he did not hear any vocalizations during the Stretch of the flying steamer duck. The short, barking notes uttered by female steamer ducks possibly represent Inciting calls, as they are common during disputes, but pointing movements of the bill similar to those of shelducks have not been observed to my knowledge.

Agonistic and sexual behavior: male. Males of the flying steamer duck perform False Drinking in the same manner as females, but in my experience with the Magellanic flightless steamer ducks, I observed that the preliminary bill-dipping was often omitted, and thus a chin-lifting form of display resulted. This was often performed in

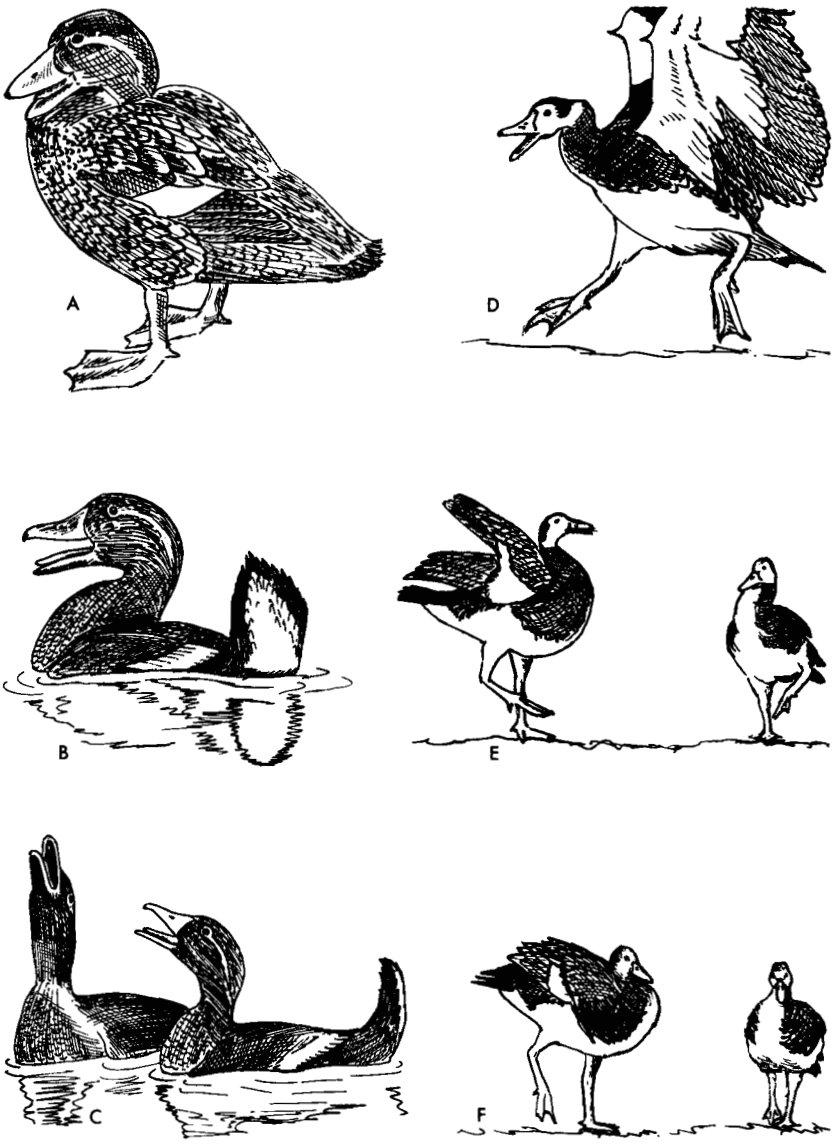

Figure 27. Flightless Steamer Ducks, Spur-winged Goose

A. Female Falkland steamer duck uttering Grunting call.

B. Male Magellanic flightless steamer duck in Short-high-and-broad posture.

C. Pair of Magellanic flightless steamer ducks, female (*left*) calling in Stretch posture as male chin-lifts toward her.

D. Spur-winged goose attacking.

E, F. Male spur-winged goose returning to mate after attack and calling while flicking his wings alternately.

response to the Stretching display of the female, apparently as an appeasement gesture. Moynihan separated the vocal displays of the flying steamer duck into three types, "Rasping Grunts," "Ticking Grunts," and "Sibilant Grunts." The Rasping Grunt is intermediate between the female's Grunt and a pure whistle, the Ticking Grunt is a rapid series of mechanical ticking noises, and the Sibilant Grunt is almost a pure whistle. The Magellanic flightless species utters a liquid, gurgling *ge-ee-ow,* which probably corresponds to the Sibilant Grunt. These calls usually occur on water, but they may also be uttered on land or in the air. Moynihan suggests that the Rasping Grunt is highly aggressive, that the Ticking Grunt is less so, and that the Sibilant Grunt is the least aggressive of the three. Head-flagging (Turning-the-back-of-the-head) is associated with the Sibilant Grunt. The most conspicuous visual display of the flying steamer ducks is the "Short-high-and-broad" (Fig. 27*B*) posture, which varies in intensity but in its extreme form is always associated with Rasping Grunts. In the Magellanic flightless species I noted that this posture was always assumed by males after threats or attacks, as they swam back to their mates, calling repeatedly. As he reached the female, she usually performed the Stretching display and the male usually chin-lifted in a kind of Triumph Ceremony (Fig. 27*C*). During the Short-high-and-broad display the under-tail coverts are exposed by a cocking of the tail, and the wing specula are exhibited by spreading and dragging the wings on the water. The posture is very similar to the High-and-erect posture of shelduck males. A second visual display is the "Submerged Sneak," which is a form of attack. This posture, which is also assumed by females (at least in the two flightless species), consists of swimming with only the head, bill, and top of the back out of the water. Sometimes the bird disappears under the water, but neither Moynihan nor I have observed a completed underwater attack.

Copulatory behavior. Moynihan observed two complete copulations in the flying steamer duck. Precopulatory display consisted in one case of mutual Bill-dipping, which graded into Head-dipping alternated with an erect "Alert" posture. Ritualized Drinking was also observed in both cases, but it may not have been associated with the precopulatory situation. The female flattened out more and more, until the male suddenly swam toward her and she went prone and was mounted. In the other copulation only the male performed Head-

dipping movements. After both copulations the birds assumed the Alert posture and swam apart while Grunting and Head-flagging.