TELECREX RESTUDIED: A SMALL EOCENE GUINEAFOWL

STORRS L. OLSON

In reviewing a number of the fossil species presently placed in the Rallidae, I have had occasion to examine the unique type—an incomplete femur—of *Telecrex grangeri* Wetmore (1934), described from the Upper Eocene (Irdin Manha Formation) at Chimney Butte, Shara Murun region, Inner Mongolia. Although Wetmore assigned this fossil to the Rallidae, he felt that the species was distinct enough to be placed in a separate subfamily (Telecrecinae); this he considered to be ancestral to the modern Rallinae. After apparently examining the type, Cracraft (1973b:17) assessed it as "decidedly raillike in the shape of the bone but distinct in the antero-posterior flattening of the head and shaft." However, he suggested that Wetmore's conclusions about its relationships to the Rallinae would have to be re-evaluated. Actually, *Telecrex* bears very little resemblance to rails, and the distinctive proximal flattening of the shaft (but not of the head, contra Cracraft) is a feature peculiar to certain of the Galliformes. Further, my comparisons show *Telecrex* to be closest to the guineafowls (Numididae), a family hitherto known only from Africa and Europe.

DISCUSSION

The type specimen of *Telecrex grangeri* (AMNH 2942) is a right femur, lacking the distal end and part of the trochanter (Fig. 1). Its measurements are: proximal width 11.6 mm, depth of head 4.2, width of shaft at midpoint 4.6, depth of shaft at midpoint 4.1, overall length (as preserved) 46.1.

Telecrex differs from all rails and agrees with the more advanced Galliformes in the flattening of the proximo-posterior portion of the shaft (so that what usually forms the lateral surface of the shaft becomes oriented almost posteriorly), in its overall proportions (a rail femur of the same thickness would be much longer), in the much greater curvature of the shaft, in the near obliteration of the pit in the head for the ligamentum teres (well-developed in the Rallidae), and in the size, shapes, and positions of the muscle scars on the proximo-lateral surface of the shaft (these scars in *Telecrex* agreeing exactly with those found in Galliformes, Fig. 2). These differences are diagnostic and serve to remove *Telecrex* from the Rallidae and place it in the Galliformes.

Within the Galliformes, the femora of the Cracidae and Megapodiidae are relatively long and slender, with the shafts less curved and not flattened, and

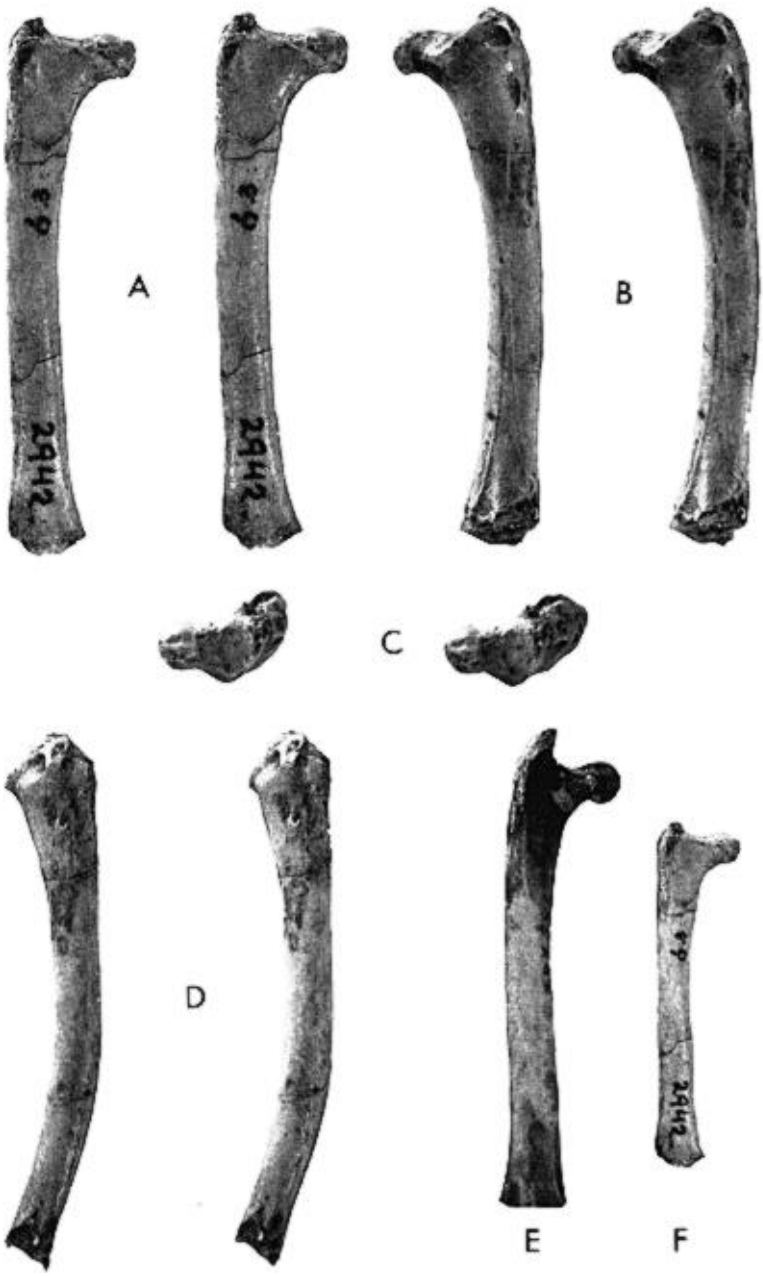

FIG. 1. *Telecrex grangeri* (Numididae), holotype femur (AMNH 2942). A-D, Stereo pairs at 1.5X; (A, anterior view; B, posterior view; C, proximal view; D, lateral view); E, femur of *Phasidus niger* (Numididae), anterior view, natural size; F, femur of *Telecrex grangeri*, anterior view at natural size for comparison.

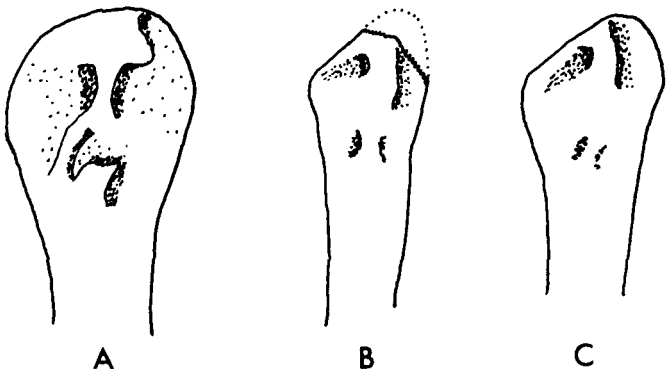

FIG. 2. Lateral views of proximal ends of femora, showing patterns of muscle scars: A, *Gallinula mortierii* (Rallidae); B, *Telecrex grangeri* (Numididae); C, *Phasidus niger* (Numididae). Not to scale.

have a deeper neck than in *Telecrex*. The Tetraonidae (and some of the Phasianidae) differ from *Telecrex* in having pneumatic foramina in the anterior face of the femur just below the trochanter, a shaft not so flattened, the neck deeper, and in lacking a ridge from the trochanter to the head. *Telecrex* differs from the Meleagrididae in its more curved shaft, less developed trochanter, and in having a wider space between the trochanter and the head.

Among the Galliformes, the femora of the Numididae and the Phasianidae are closest to that of *Telecrex*. The femur of *Telecrex* differs from that of pheasants and agrees with that of guineafowls (and particularly that of *Phasidus*) in the following particulars: in proximal view the neck is more latero-medially elongate and oriented at more of an angle to the antero-posterior plane of the bone, whereas in the Phasianidae the neck is deeper and more nearly aligned with the antero-posterior plane (Fig. 3); in proximal and anterior views the space between the trochanter and the head is wider, and there is a distinct ridge along the anterior edge of the neck that connects these two features. The shaft is wider in anterior view and thinner and more curved in lateral view. In one respect, *Telecrex* more closely resembles the Phasianidae than the Numididae—in all views the head is less distinctly set off from the neck.

In short, when compared with modern Galliformes, *Telecrex* is most similar to the Numididae, and where it differs from that group it resembles the Phasianidae. In view of the great age of *Telecrex*, it is not surprising that it does not conform precisely to the limits of modern groups. However, its greater similarity to the guineafowls is sufficient enough to permit its being placed in that group. For those that would make the Numididae only a sub-

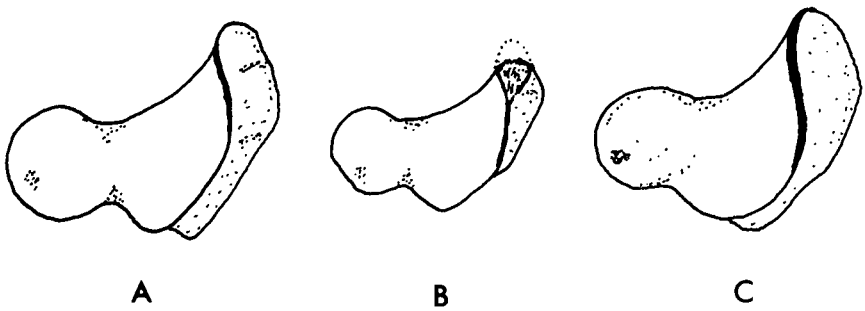

FIG. 3. Proximal views of femora: A, *Phasidus niger* (Numididae); B, *Telecrex grangeri* (Numididae); C, *Chrysolophus pictus* (Phasianidae). Not to scale.

family of the Phasianidae (e.g. Mayr and Amadon, 1951), the familial placement of *Telecrex* would present no obstacles; but I am not convinced of the wisdom of merging these two groups into a single family.

The resemblance between the femora of *Telecrex* and *Phasidus niger* is rather striking. *Phasidus* differs from *Telecrex* in having a large bulge below the posteriormost corner of the neck, making the shaft appear less flattened. This protruberance is reduced in *Numida* and *Acryllium*. The resemblance of *Telecrex* to *Phasidus* is the more interesting because the latter is the most aberrant and probably most primitive of the guineafowls and is confined to the forests of Lower Guinea. I have already called attention to the relict nature of elements of the avifauna of this region (Olson, 1973).

Telecrex was considerably smaller than the smallest of modern guineafowls (*Phasidus*), possibly indicating a greater diversity in the Numididae in the past—as was apparently true also in the Meleagrididae (Olson and Farrand, 1974).

At present the Numididae are confined to Africa, the only extralimital occurrences being Pleistocene and prehistoric remains of *Numida meleagris* from Germany, Czechoslovakia, and Hungary (Brodkorb, 1964). The presence in the Eocene of central Asia of the numidid-like *Telecrex*, which appears to be the earliest Old World galliform yet recognized, may indicate that the guineafowls are not African in origin. There is as yet, however, no reason to believe that they originated in North America, as Cracraft (1973a: 154) has strangely suggested. *Telecrex* provides an indication that forms referable to the more advanced groups of the Galliformes had already evolved by the late Eocene.

SUMMARY

Telecrex grangeri, from the Upper Eocene of Mongolia, is removed from the Rallidae and placed in the Numididae (guineafowls) of the order Galliformes. It was smaller

than any of the modern guineafowls and appears to be the earliest Old World galliform yet known. *Telecrex* suggests that the more advanced groups of Galliformes evolved early in the Tertiary and that the Numididae may not have originated in Africa.

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