

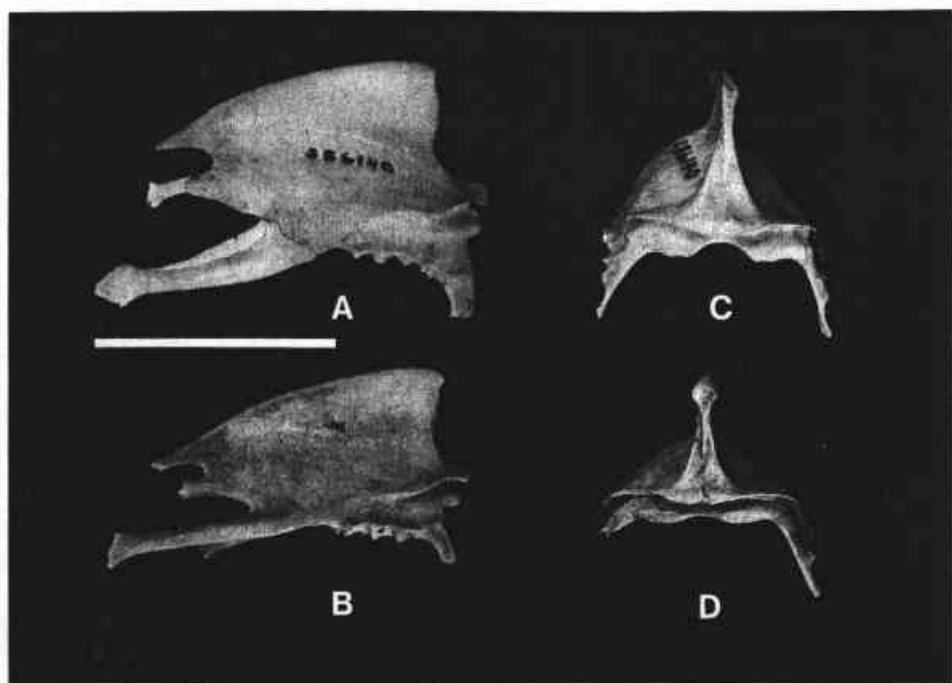


FIG. 25. Sterna of *Grallistrix geleches*, new genus and species, holotype USNM 386140 (A, C) and *G. auceps*, new species, holotype BBM-X 150202 (B, D). Left lateral view (A, B); anterior view (C, D). Scale = 3 cm.

**Diagnosis:** Larger than *Grallistrix orion* or *G. erdmani* (Table 4); nearly identical in size to *G. geleches* but differing qualitatively as follows: humerus in ventral view (Fig. 24B) with ventral tubercle displaced proximo-dorsally so as to expose most of the pneumatic foramen, this foramen being partially obscured in *G. geleches*; brachial depression of humerus more extensive, extending farther proximally; carina of sternum lower (Fig. 25D), with anterior margin not markedly set back from manubrium, dorsal intercoracoidal notch shallow and indistinct; rostrum apparently deeper.

**Remarks:** There may be some proportional differences as well between *G. auceps* and *G. geleches*, with the limited material in *G. auceps* seeming to indicate a somewhat smaller and more gracile hindlimb combined with a wing as large or larger than in *G. geleches*. Given the degree of isolation of Kauai and the fact that the smaller species *G. orion* of Oahu intervenes geographically between *G. auceps* and *G. geleches*, it is unlikely that the similarity in size between the last two species is indicative of their being more closely related to one another than to other members of the genus.

***Grallistrix orion*, new species**

(Figs. 24C, 26C, 27C, 28E–H, 29B, D, F)

“long-legged Oahu owl” Olson and James, 1982b:38, 44; 1984:771; James, 1987:225.

**Holotype:** Right tarsometatarsus, USNM 386170 (Figs. 28E, 29F). Collected July 1981 by Storrs L. Olson, Helen F. James and others.



FIG. 26. Humeri of *Grallistrix*, new genus, in palmar view: (A) *G. auceps*, new species, holotype BBM-X 150202; (B) *G. geleches*, new species, holotype USNM 386140; (C) *G. orion*, new species, USNM 386182; (D) *G. erdmani*, new species, USNM 384403. Scale = 3 cm.

*Type locality:* Site 50-Oa-B6-22, Barbers Point, Oahu, Hawaiian Islands.

*Distribution:* Oahu: Barbers Point and Ulupau Head.

*Etymology:* Latin, *Orion*, the fabled hunter of mythology who was turned into a constellation, from the inferred hunting prowess of the owl. The name is a masculine noun in apposition.

*Measurements (mm) of holotype:* Length, 66.1; proximal width, 10.2; width and depth of shaft at midpoint,  $4.2 \times 3.3$ ; distal width, 10.6.

*Paratypes:* Measurements (mm) follow in parentheses when available and are lengths unless otherwise stated. Rostrum, BBM-X 155515 (length of premaxillary symphysis from anterior margin of nasal fossa, 12.3); anterior portion of sternum, USNM 386192; left coracoids, BBM-X 155087 (33.8), BBM-X 155564 (33.4), BBM-X 155565 (33.4); right humeri, USNM 386181 (73.5), USNM 386209 (69.9), USNM 435153 (68.1); left humerus, USNM 386182 (74.6) (Figs. 24C, 26C); right radius, USNM 386187 (72.4); right ulnae, USNM 386207 (76.0), BBM-X 150234 (81.7); left ulna, USNM 368219 (78.7); right carpometacarpi, BBM-X 155095 (37.8), BBM-X 155571 (36.3); left carpometacarpi, USNM 386220 (37.4), BBM-X 155570 (39.7); right femora, BBM-X 155098 (56.5), BBM-X 156313 (57.0), USNM 435154 (57.8); left femora, BBM-X 155517 (56.3) (Fig.

TABLE 4

COMPARISON OF LENGTH MEASUREMENTS (MM) OF SELECTED ELEMENTS OF *Grallistrix*, BASED ON HOLOTYPE AND PARATYPE SPECIMENS ONLY. FOR EACH MEASUREMENT THE FIGURES GIVEN ARE THE MEAN, RANGE, AND NUMBER OF SPECIMENS WHEN GREATER THAN 1

|                 | <i>G. auceps</i><br>(Kauai)   | <i>G. orion</i><br>(Oahu)    | <i>G. geleches</i><br>(Molokai) | <i>G. erdmani</i><br>(Maui) |
|-----------------|-------------------------------|------------------------------|---------------------------------|-----------------------------|
| Coracoid        | —                             | 33.5<br>33.4–33.8<br>n = 3   | 39.8                            | 33.3<br>31.6–34.6<br>n = 4  |
| Humerus         | 80.7                          | 71.5<br>68.1–74.6<br>n = 4   | 80.2                            | 71.3<br>70.2–73.0<br>n = 3  |
| Ulna            | 83.3*                         | 78.8<br>76.0–81.7<br>n = 3   | 85.5<br>84.4–87.0<br>n = 3      | 76.3<br>76.1–76.6<br>n = 2  |
| Carpometacarpus | 43.1                          | 37.8<br>36.3–39.7<br>n = 4   | 41.0<br>40.8–41.3<br>n = 2      | 36.8<br>35.6–37.4<br>n = 3  |
| Femur           | 66.7                          | 57.0<br>56.3–57.8<br>n = 6   | 64.1<br>62.5–65.0<br>n = 4      | 54.7<br>54.5–55.0<br>n = 2  |
| Tibiotarsus     | 109.8<br>109.1–110.6<br>n = 2 | 100.5<br>97.0–104.4<br>n = 8 | 116                             | 98.0<br>96.7–99.1<br>n = 3  |
| Tarsometatarsus | —                             | 65.7<br>64.4–66.9<br>n = 4   | 80.5<br>76.4–85.0<br>n = 4      | 69.3<br>68.6–70.1<br>n = 2  |

\* Measurement is of a radius; no ulna was available.

29B), USNM 435155 (56.7), USNM 143156 (57.8); right tibiotarsi, USNM 435157 (102.2), USNM 435158 (98.9), USNM 435159 (98.2), USNM 435161 (102.6); left tibiotarsi, USNM 386123 (ca. 97), USNM 386175 (104.4) (Figs. 27C, 29D), USNM 435160 (98.0), USNM 435162 (102.4); right tarsometatarsi, BBM-X 155106 (66.0) (Fig. 28F), USNM 435163 (66.9); left tarsometatarsi, USNM 386225 (64.4) (Fig. 28G), BBM-X 155105 (65.5) (Fig. 28H).

*Measurements of paratypes:* See above.

*Diagnosis:* Decidedly smaller than *Grallistrix auceps* or *G. geleches* (Table 4). Similar in size to *G. erdmani* but limb elements more robust; tarsometatarsus shorter whereas the femur is longer than in *G. erdmani*. In the characters that distinguish *G. auceps* from *G. geleches*, *G. orion* is more similar to the latter. The carina in the one available sternum of *G. orion* is more reduced than in either of those two species.

*Remarks:* See *G. erdmani*.

***Grallistrix geleches*, new species**

(Figs. 20A–C, 21A–D, 22A–C, 23A, 24A, 25A, C, 26B, 27B, 28A–D)

“long-legged Molokai owl” Olson and James, 1982b:37, 44; 1984:772.

*Holotype:* Associated partial skeleton, USNM 386140. Collected 9 and 12 July 1976 by Storrs L. Olson and Joan Aidem. The specimen consists of a nearly complete skull (Fig. 20A–C), partial sclerotic rings, right pterygoid, right and left