

## ERYTHROSQUILLOIDEA, A NEW SUPERFAMILY, AND TETRASQUILLIDAE, A NEW FAMILY OF STOMATOPOD CRUSTACEANS

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*Abstract.*—The superfamily Erythroscilloidea is erected for the family Erythroscillidae, which contains one genus and species, *Erythroscilla megalops* Manning & Bruce, 1984. This new superfamily differs from the Bathyscilloidea, Gonodactyloidea, and Scilloidea by its member having broad and ventrally beaded propodi of the third and fourth maxillipeds; it differs from the Lysioscilloidea by having a distinct dorsal median carina on the telson. The superfamily may represent a relict lineage within the Stomatopoda. The family Tetrascillidae is erected in the superfamily Lysioscilloidea for three genera, the monotypic *Tetrascilla* Manning & Chace, 1990; *Tectascilla* Adkison & Hopkins, 1984; and *Heterosquillopsis* Moosa, 1991, which contains three species. This new family can be distinguished from the three families now remaining in the Lysioscilloidea by its members having ovate rather than styliform (as in the Lysiosquillidae) distal segments of the endopods of the first two walking legs, by lacking an enlarged basal lobe on the dactylus of the claw (Coronididae), and by lacking a strong proximal fold on the outer margin of the uropodal endopod (Nannoscillidae). The only known pantropical stomatopod, *Tetrascilla mccullochae* (Schmitt, 1940), is included in this family.

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Manning & Bruce (1984:332) tentatively placed their newly erected family Erythroscillidae in the superfamily Lysioscilloidea based on the presence of broad, ventrally beaded propodi of the third and fourth maxillipeds of the only member of the family, *Erythroscilla megalops* Manning & Bruce, 1984 (Fig. 1). They pointed out, however, that the Erythroscillidae differ from other lysiosquilloids by having a sharp, dorsal median carina on the telson, by lacking a ventrolateral projection on the sixth abdominal somite overhanging the articulation of the uropods, and by having a smaller ventral papilla of the antennal protopod. The first of those three characters is currently considered important in distinguishing superfamilies of the stomatopods, and we use it here to help differentiate the new superfamily defined below. Our removal of

the Erythroscillidae from the Lysioscilloidea leaves three families in that superfamily: Coronididae Manning, 1980, Lysiosquillidae Giesbrecht, 1910, and Nannoscillidae Manning, 1980.

Camp & Kuck (1990:852) pointed out that a new family might have to be erected for *Heterosquilloides mccullochae* (Schmitt, 1940), a species placed in the recently erected, monotypic genus *Tetrascilla* by Manning & Chace (1990) and assigned to the Lysiosquillidae. Camp & Kuck (1990) noted that characters of the species fit none of the lysiosquilloid families then known (Manning 1980), and that it also could not be accommodated in the Erythroscillidae Manning & Bruce. A new family is diagnosed here for *T. mccullochae* and for the related *Tectascilla lutzae* Adkison & Hopkins, 1984 (Fig. 2). Keysto the superfamily



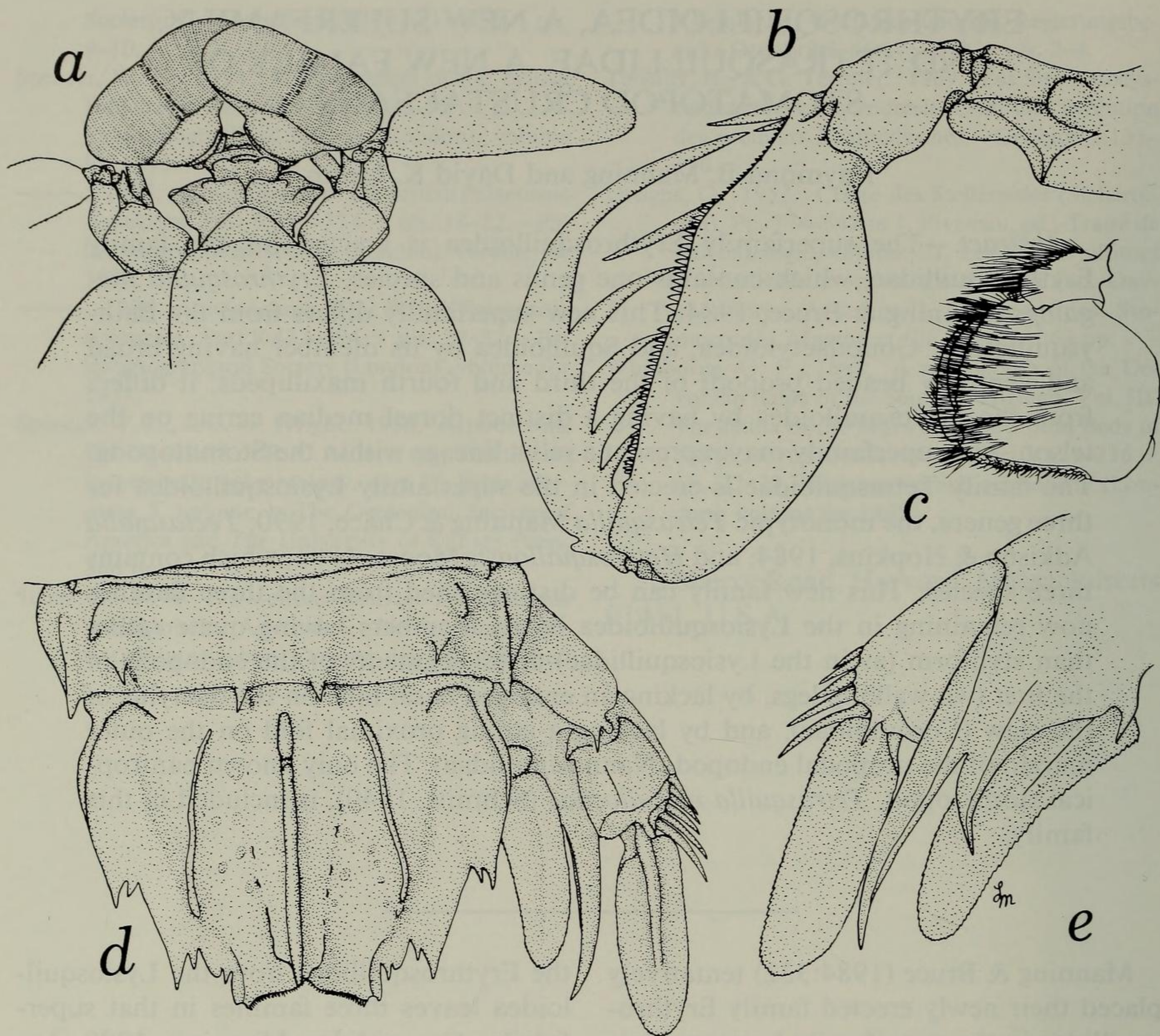


Fig. 1. *Erythroscquilla megalops* (Erythroscquillidae). *a*, Anterior appendages; *b*, Claw; *c*, Distal segments of third maxilliped; *d*, Sixth abdominal somite, telson, and uropod; *e*, Uropod, ventral view (from Manning & Bruce 1984:fig. 1).

lies of Recent Stomatopoda and to the families of Lysiosquilloidea are presented below.

Abbreviations used include mm (millimeters), tl (total length, measured on midline in mm), and USNM (National Museum of Natural History, Smithsonian Institution, Washington, D.C.). The specimens illustrated herein are as follows: *Erythroscquilla megalops*, male holotype, tl 105, Indian Ocean off Somalia, USNM 195339; *Coronida bradyi* (A. Milne Edwards, 1869), female, tl 33, Annobon Island, Gulf of Guinea, USNM 151531; *Lysiosquilla scabricauda*

(Lamarck, 1818), male, tl 227, Fort Pierce, Florida, USNM 152469 (walking legs) and female, tl 44, St. Lucie Inlet, Florida, USNM 256888 (uropod and claw); *Nannosquilla grayi* (Chace, 1958), female holotype, tl 40, Bass River, Massachusetts, USNM 100931 (claw) and female paratype, tl 41, same locality, USNM 100932 (walking legs and uropod); *Tetrasquilla mccullochae*, female, tl 32, Alligator Reef, Florida, USNM 111028; *Tectasquilla lutzae*, male holotype, tl 73, Gulf of Mexico, off northwestern Florida, USNM 204717.



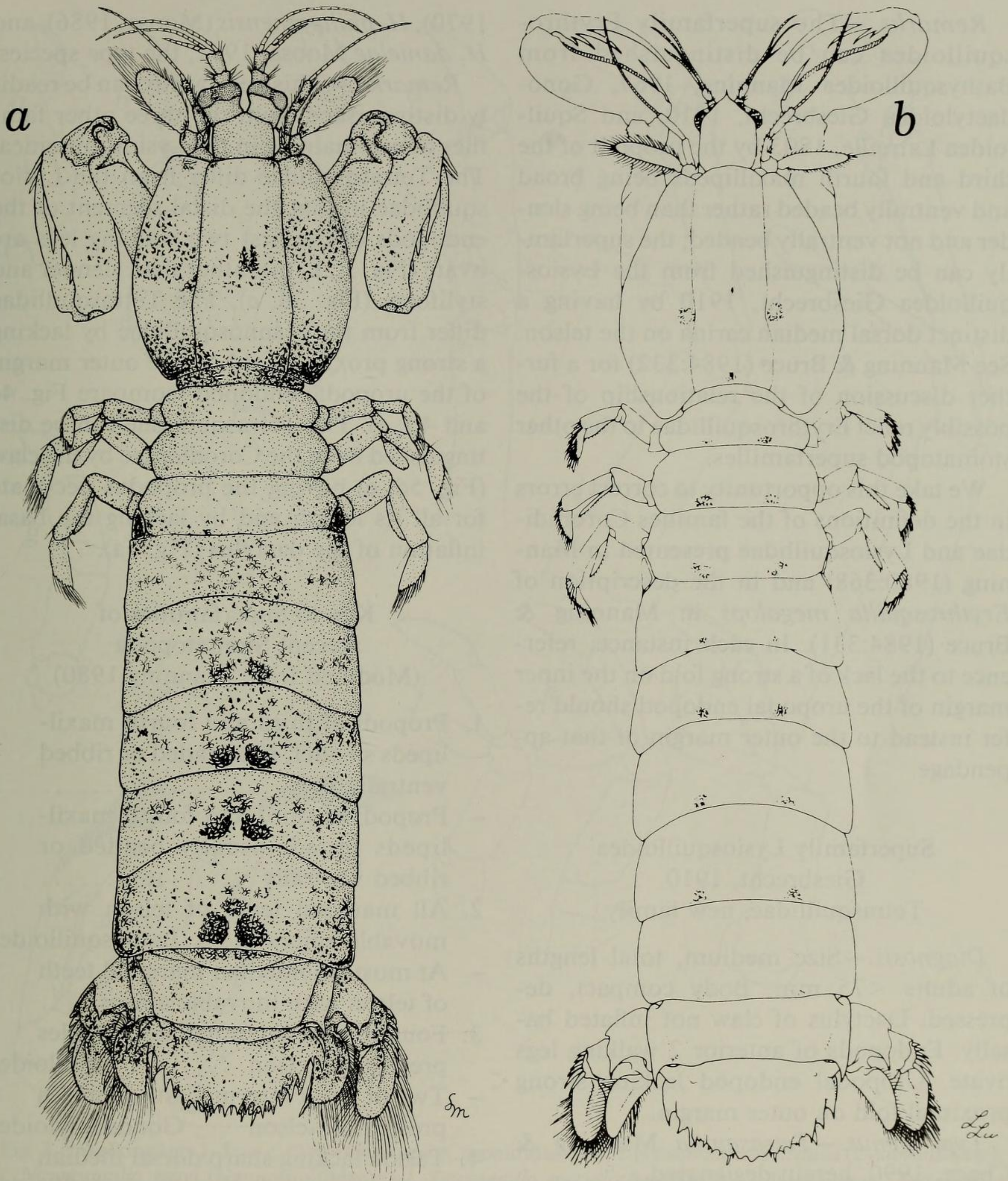


Fig. 2. a, *Tetrasquilla mccullochae* (from Manning & Chace 1990:fig. 46); b, *Tectasquilla lutzae* (from Adkison & Hopkins 1984:fig. 1a).

### Erythroquilloidea, new superfamily

*Diagnosis.* — Propodi of third and fourth maxillipeds broad, ventrally beaded. Telson with distinct dorsal median carina. At most, submedian marginal teeth of telson with

movable apices. No more than 2 intermediate denticles present on telson.

*Type genus.* — *Erythroquilla* Manning & Bruce, 1984, herein designated.

*Included families.* — Erythroquillidae Manning & Bruce, 1984.



*Remarks.*—The superfamily Erythroscuilloidea can be distinguished from Bathyscuilloidea Manning, 1967, Gonodactyloidea Giesbrecht, 1910, and Squilloidea Latreille, 1803 by the propodi of the third and fourth maxillipeds being broad and ventrally beaded rather than being slender and not ventrally beaded; the superfamily can be distinguished from the Lysioscuilloidea Giesbrecht, 1910 by having a distinct dorsal median carina on the telson. See Manning & Bruce (1984:332) for a further discussion of the relationship of the possibly relict Erythroscuillidae to the other stomatopod superfamilies.

We take this opportunity to correct errors in the definitions of the families Coronididae and Lysioscuillidae presented in Manning (1980:368) and in the description of *Erythroscuilla megalops* in Manning & Bruce (1984:331). In each instance, reference to the lack of a strong fold on the inner margin of the uropodal endopod should refer instead to the outer margin of that appendage.

#### Superfamily Lysioscuilloidea

Giesbrecht, 1910

#### Tetrascuillidae, new family

*Diagnosis.*—Size medium, total lengths of adults <75 mm. Body compact, depressed. Dactylus of claw not inflated basally. Endopods of anterior 2 walking legs ovate. Uropodal endopod lacking strong proximal fold on outer margin.

*Type genus.*—*Tetrascuilla* Manning & Chace, 1990, herein designated.

*Included genera.*—Three: *Tetrascuilla* Manning & Chace, 1990, containing only *T. mccullochae* (Schmitt, 1940), the only known pantropical stomatopod (see Manning & Chace 1990); *Tectascuilla* Adkison & Hopkins, 1984, containing only *Tectascuilla lutzae* Adkison & Hopkins, 1984, known only from off northwestern Florida and Georgia, U.S.A.; and *Heteroscuillopsis* Moosa, 1991, containing three species from the Indo-West Pacific, *H. insueta* (Manning,

1970), *H. philippinensis* (Moosa, 1986), and *H. danielae* Moosa, 1991, the type species.

*Remarks.*—This new family can be readily distinguished from the three other families now remaining in the Lysioscuilloidea. The Tetrascuillidae differ from the Lysioscuillidae in that the distal segment of the endopods of the first two walking legs are ovate (Fig. 3j, k, m) rather than slender and styliform (Fig. 3d, e). The Tetrascuillidae differ from the Nannoscuillidae by lacking a strong proximal fold on the outer margin of the uropodal endopod (compare Fig. 4c and 4d, e). The Tetrascuillidae can be distinguished from the Coronididae by the claw (Fig. 5d, e) having the propodus pectinate for all its length and by lacking the basal inflation of the dactylus (Fig. 5a).

#### Key to Superfamilies of Recent Stomatopoda

(Modified from Manning 1980)

1. Propodi of third and fourth maxillipeds slender, not beaded or ribbed ventrally ..... 2
- Propodi of third and fourth maxillipeds broad, usually beaded or ribbed ventrally ..... 4
2. All marginal teeth of telson with movable apices ..... Bathyscuilloidea
- At most, submedian marginal teeth of telson with movable apices ..... 3
3. Four or more intermediate denticles present on telson ..... Squilloidea
- Two or fewer intermediate denticles present on telson ... Gonodactyloidea
4. Telson lacking sharp dorsal median carina ..... Lysioscuilloidea
- Telson with sharp dorsal median carina ..... Erythroscuilloidea

#### Key to Families of Lysioscuilloidea

1. Dactylus of claw inflated basally. Propodus of claw pectinate proximally only ..... Coronididae
- Dactylus of claw not inflated basally. Propodus of claw completely lined with pectinations ..... 2



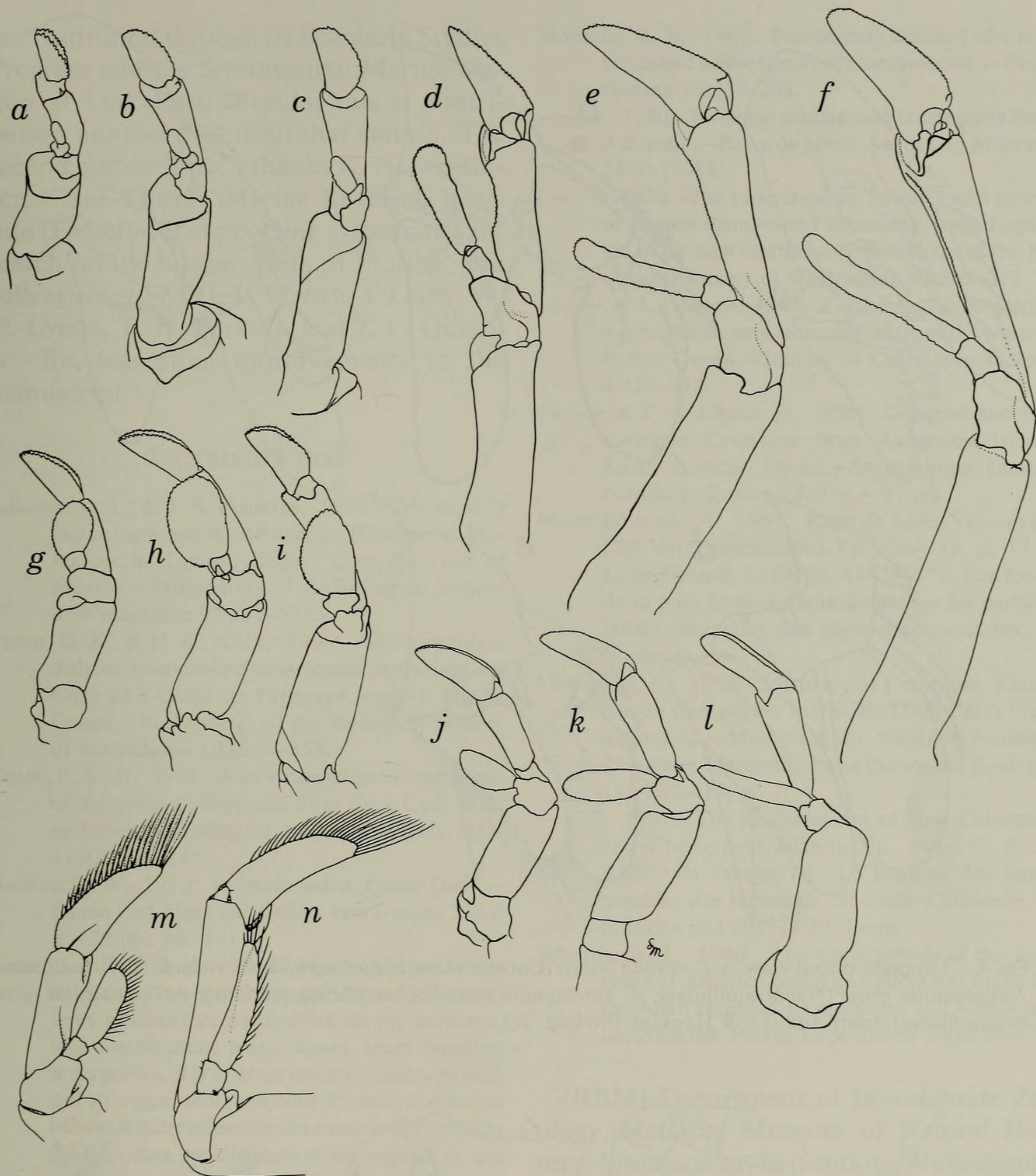


Fig. 3. Walking legs 1-3: a-c, *Coronida bradyi* (Coronididae); d-f, *Lysiosquilla scabricauda* (Lysiosquillidae); g-i, *Nannosquilla grayi* (Nannosquillidae); j-l, *Tetrasquilla mccullochae* (Tetrasquillidae); m-n, *Tectasquilla lutzae* (Tetrasquillidae) (legs 1 and 3; from Adkison & Hopkins 1984:fig. 2h, i).

- 2. Proximal portion of outer margin of uropodal endopod with strong fold ..... Nannosquillidae
- Proximal portion of outer margin of uropodal endopod lacking strong fold ..... 3
- 3. Distal segment of endopod of anterior two walking legs slender, styliform ..... Lysiosquillidae

- Distal segment of endopod of anterior two walking legs broadly ovate ..... Tetrasquillidae

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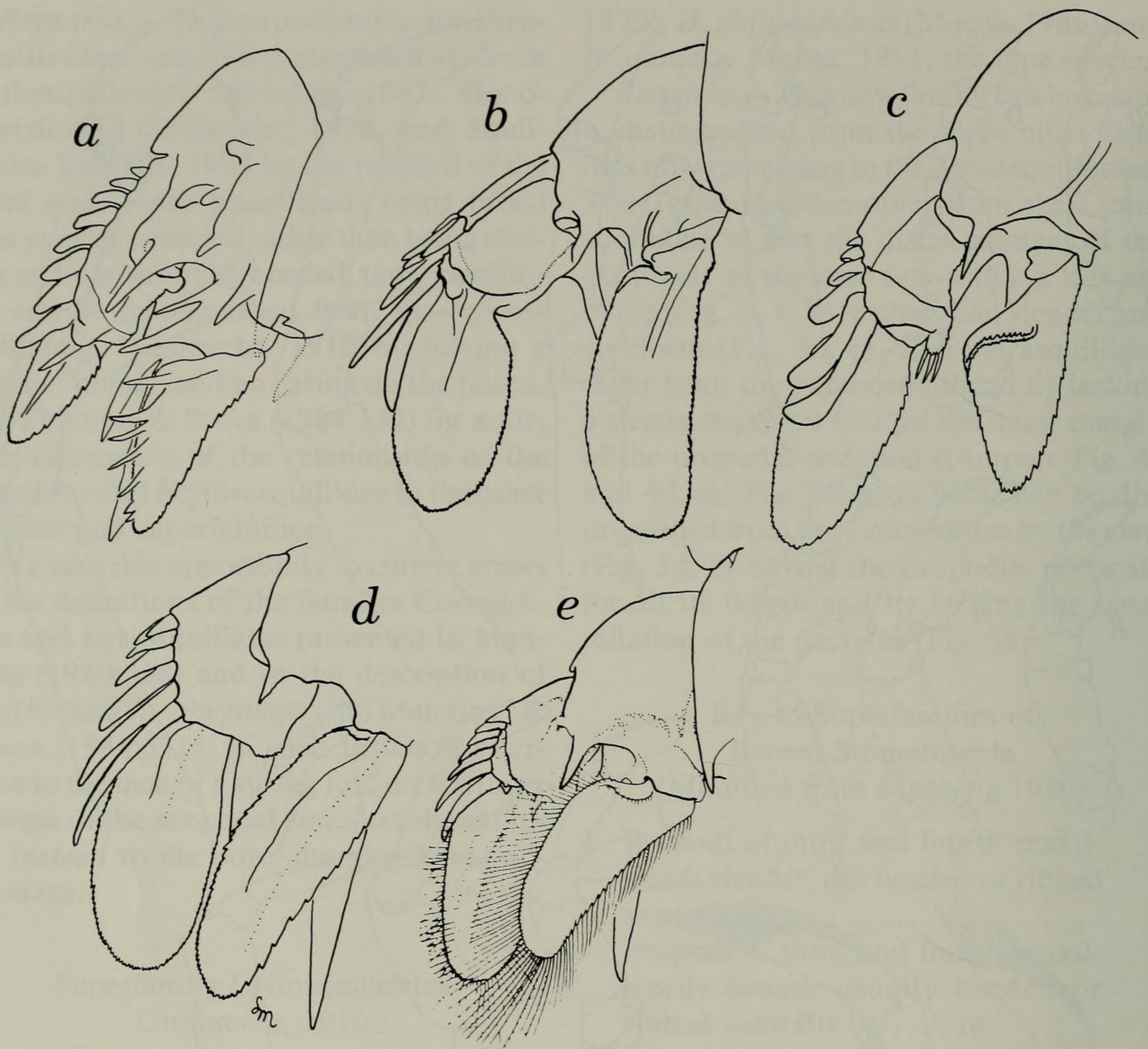


Fig. 4. Uropods, dorsal view: *a*, *Coronida bradyi* (Coronididae); *b*, *Lysiosquilla scabricauda* (Lysiosquillidae); *c*, *Nannosquilla grayi* (Nannosquillidae); *d*, *Tetrasquilla mccullochae* (Tetrasquillidae); *e*, *Tectasquilla lutzae* (Tetrasquillidae) (from Adkison & Hopkins 1984:fig. 2e).

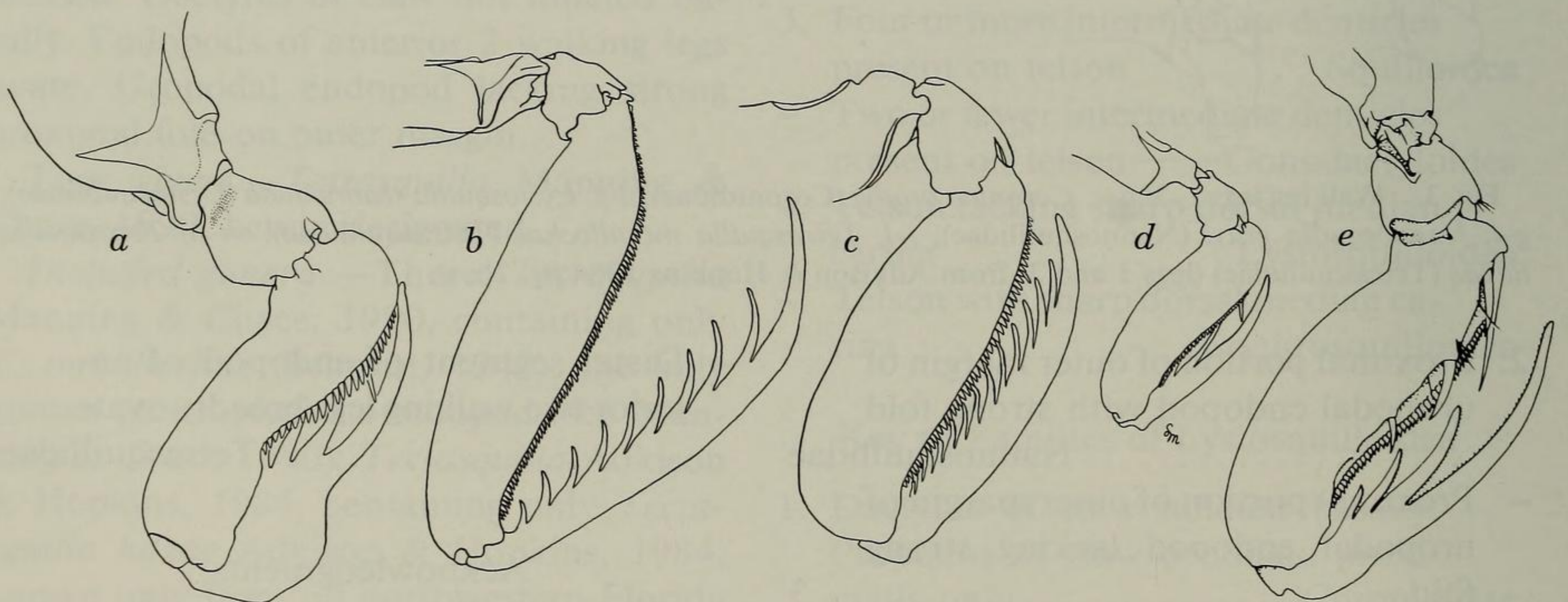


Fig. 5. Distal segments of raptorial claw: *a*, *Coronida bradyi* (Coronididae); *b*, *Lysiosquilla scabricauda* (Lysiosquillidae); *c*, *Nannosquilla grayi* (Nannosquillidae); *d*, *Tetrasquilla mccullochae* (Tetrasquillidae); *e*, *Tectasquilla lutzae* (Tetrasquillidae) (from Adkison & Hopkins 1984:fig. 1f).



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