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Systematic Descriptions: Superfamily
Eriphioidea

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PART R, REVISED, VOLUME 1, CHAPTER 8T10: SYSTEMATIC DESCRIPTIONS: SUPERFAMILY ERIPHIOIDEA

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Classification for Eriphioidea follows NG, GUINOT, & DAVIE (2008) and DAVIE, GUINOT, & NG (2015).

Superfamily ERIPHIOIDEA MacLeay, 1838

[*nom. transl.* ŠTEVČIĆ, 2005, p. 34 *ex* Eriphidae MACLEAY, 1838, p. 60]

Carapace hexagonal or ovate, wider than long, maximum carapace length 60–75 percent maximum carapace width, widest about half to two-thirds the distance posteriorly on carapace; dorsal carapace regions moderately or weakly defined; frontal margin bilobed or quadrilobed excluding inner-orbital spines, frontal margin about 20–30 percent maximum carapace width except in Eriphiidae (50 percent); fronto-orbital width about one-third to half maximum carapace width except in Eriphiidae (70 percent) anterolateral margins with four spines or lobes, or entire, or with a variable number of spines; anterolateral margin distinct from posterolateral margin; buccal frame anteriorly tapered, trapezoidal; sternum narrow; sternal sutures 4/5 and 5/6 interrupted but uninterrupted in female of Menippidae; sternal sutures 6/7 and 7/8 complete; all male pleonal somites free, movable; male pleon fills space between coxae of fifth pereopods; male gonopod 1 stout, straight or weakly curved or long and slender; gonopod 2 as long as or longer than gonopod 1, with a short, developed, long, or very long flagellum; chelipeds at least

weakly heterochelous, sometimes markedly so. [Emended from DAVIE, GUINOT & NG, 2015.] *Eocene–Holocene*.

Family DAIROIDIDAE ŠteVčić, 2005

[Dairoididae ŠTEVČIĆ, 2005, p. 37]

Carapace hexagonal, widest about three-quarters the distance posteriorly, narrowing markedly anteriorly; front more or less straight, with thin attenuated spines; axial regions well outlined laterally; carapace ornamented with dense nodes of varying sizes; margins ornamented with attenuated spines; orbits small; chelipeds large, other pereopods ornamented strongly with spines; pleonal somites 3–4 fused. [Emended from DAVIE, GUINOT, & NG, 2015.] *Holocene*.

Dairoides STEBBING, 1920, p. 233 [**D. margaritatus*, p. 234, pl. 98; M] [= *Asterolambrus* SAKAI, 1938, p. 341 (type, *A. kusei*, p. 341, pl. 41,5, OD)]. As for family. *Holocene*: Indo-Pacific Ocean.—FIG. 1, I. *D. kusei* (SAKAI), MNHN-IU-2008-10320, Holocene, Mozambique Channel, scale bar, 1 cm (copyright MNHN).

Family ERIPHIIDAE MacLeay, 1838

[*nom. correct.* STIMPSON, 1871, p. 141 *pro* Eriphidae MACLEAY, 1838, p. 60]

Carapace hexagonal, wider than long; regions distinct, with ridges and granules especially on anterior regions; front axially notched, bordered on either side of notch by straight segment, notch just proximal to each orbit, front about half maximum carapace width; orbits closed, strongly rimmed, directed anterolaterally, fronto-orbital margin

about 70 percent maximum carapace width; antennae placed at some distance from orbits and antennules; anterolateral margin with variable number of spines; sternum narrow; sternal sutures 4/5 and 5/6 incomplete, 6/7 and 7/8 complete; male pleon covers space between coxae of fifth pereopods; chelipeds heterochelous, fingers of chelipeds black; male gonopod 1 stout; male gonopod 2 long with long flagellum. [Emended from DAVIE, 2002; KARASAWA & SCHWEITZER, 2006.] *Miocene (Langhian)*–*Holocene*.

Eriphia LATREILLE, 1817, p. 404 [**Cancer spinifrons* HERBST, 1785 in 1782–1804, p. 185, pl. 11,65; SD H. MILNE EDWARDS, 1842 in 1836–1844, pl. 14,1, ICZN Opinion 712, 1964; =*Cancer verrucosus* FORSKÅL, 1775, p. 93]. Carapace hexagonal, wider than long; regions distinct, with ridges and granules especially on anterior regions; front axially notched, bordered on either side of notch by straight segment, notch just proximal to each orbit, front about half maximum carapace width; orbits closed, strongly rimmed, directed anterolaterally, fronto-orbital margin about 70 percent maximum carapace width; antennae placed at some distance from orbits and antennules; anterolateral margin with variable number of spines; sternum narrow; sternal sutures 4/5 and 5/6 incomplete, 6/7 and 7/8 complete; male sternite 8 not visible barely; male pleon covers space between coxae of fifth pereopods; chelipeds heterochelous, fingers of chelipeds black. Male gonopod 1 stout; male gonopod 2 long with long flagellum. *Miocene (Langhian)*: Spain. *Miocene*: Cuba, Japan. *Pliocene–Pleistocene*: Italy, Jamaica. *Pleistocene*: France, Taiwan. *Holocene*: Caribbean Sea, Atlantic and Indo-Pacific Oceans.—FIG. 1,2*a–b*. *Eriphia gonagra* (FABRICIUS, 1781), USNM 20712, *Holocene*, Bahamas, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

Family HYPOTHALASSIIDAE Karasawa & Schweitzer, 2006

[Hypothalassidae KARASAWA & SCHWEITZER, 2006, p. 52]

Carapace ovate to hexagonal, wider than long, maximum carapace length about 75–85 percent maximum carapace width; front bilobed, medially notched, projecting anteriorly, with numerous supplementary spines; orbit not closed; inner-orbital spine well developed; frontal width about one-quarter to 30 percent maximum carapace width; orbits spinose, with two fissures; fronto-orbital width about half maximum

carapace width; basal article of antenna not reaching to front; endostomial ridges present; anterolateral margins moderately convex, spinose; posterolateral margin nearly straight, tuberculate; posterior margin about half maximum carapace width; carapace regions well defined, ornamented with spines anteriorly and posterolaterally; chelipeds heterochelous, spinose, fingers black; pereopods 2–5 spinose, with corneous dactyl tips; thoracic sternum moderate in width; sternal sutures 4/5 and 5/6 not continuous; sternite 8 not visible in ventral view; male pleon reaching to posterior end of coxa of pereopod 1; all male pleonal somites free, movable, filling entire space between coxae of fifth pereopods; male gonopod 1 stout, gently curved; male gonopod 2 longer than 1, with long flagellum. [Emended from KARASAWA & SCHWEITZER, 2006.] *Eocene*–*Holocene*.

Hypothalassia GISTL, 1848, p. viii [**Cancer (Acanthodes) armatus* DE HAAN, 1835 in 1833–1850, p. 52, pl. 4; M, *non Acanthodes* AGASSIZ, 1835, p. 19 (fish)]. Carapace not much wider than long, length/width about 85 percent; anterolateral margins and pereopods strongly spinose, dorsal carapace regions spinose; front with four spines. *Eocene (Priabonian)*: Italy. *Holocene*: Australia, Indo-Pacific Ocean.—FIG. 1,3*a–b*. **H. armata* (DE HAAN), USNM 260964, *Holocene*, Vanuatu, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

Lathahypossia SCHWEITZER, ARTAL, VAN BAKEL, JAGT, & KARASAWA 2007, p. 292 [**Titanocarcinus aculeatus* BUSULINI, TESSIER, & VISENTIN, 1984, p. 110, pl. 1–3; OD]. Carapace transversely ovate, wider than long, length about 75 percent maximum width; front with 6 strong spines, about 30 percent carapace width; upper and lower orbital margin spinose; anterolateral margin with 6 or 7 spines; carapace regions well defined, ornamented with large tubercles; chelipeds strongly heterochelous. *Eocene*: Italy.—FIG. 1,4. **L. aculeata*, MSNVE 25083, *Eocene*, Italy, scale bar, 1 cm (image provided by A. Busulini, Museo di Storia naturale, Venezia, Italy).

Family MENIPPIDAE Ortmann, 1893

[Menippidae ORTMANN, 1893, p. 428] [=Myomenippinae ORTMANN, 1893, p. 429; =Ruppellioida ALCOCK, 1898, p. 176]

Carapace ovate to hexagonal, regions poorly defined; frontal margin about 20 percent carapace width, with 2–4 lobes; antennal flagellum free; anterolateral margin with spines or lobes; chelipeds often strongly

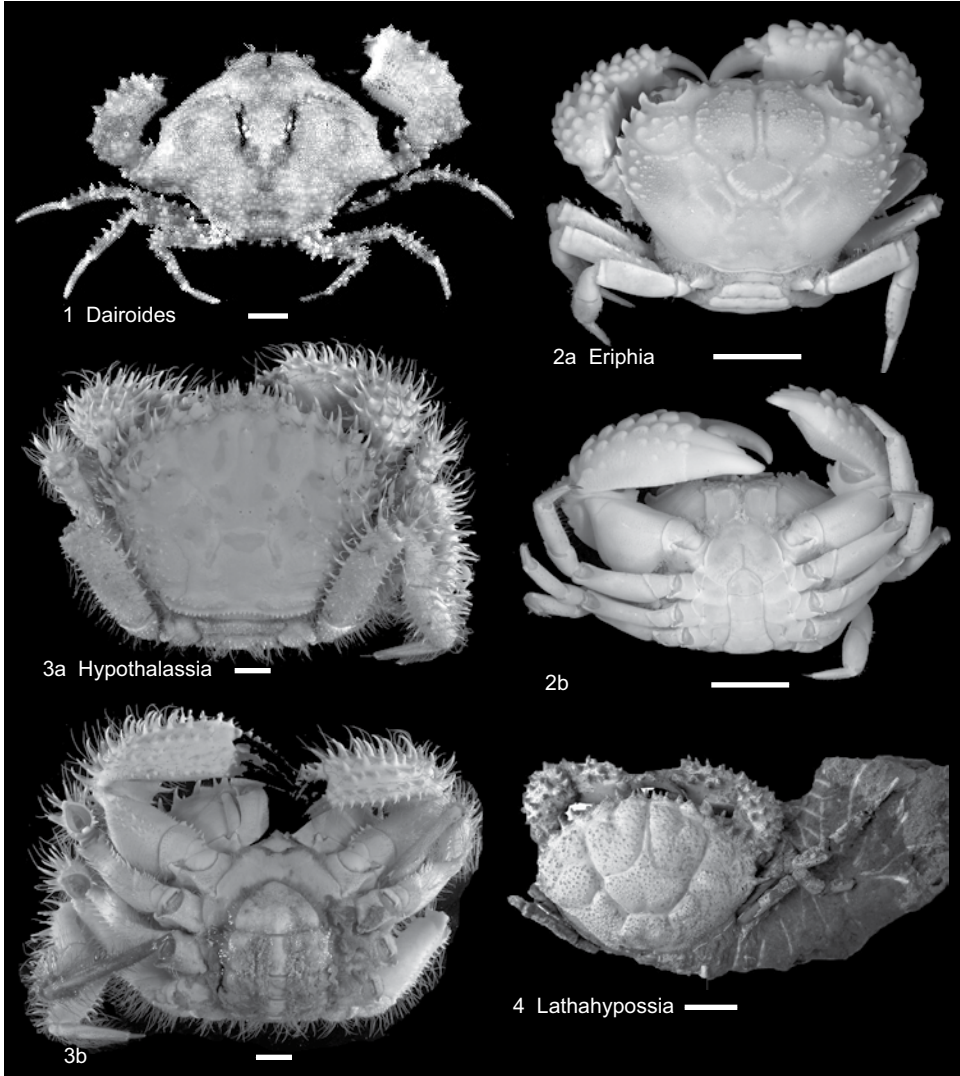


FIG. 1. Families Dairoididae, Eriphiidae, Hypothalassiidae (p. 1–2).

heterochelous, with molariform crushing teeth on occlusal surface of fingers; female sternal sutures 4/5 and 5/6 complete and nearly parallel; distal portion of gonopod 2 subequal to or longer than subdistal portion, narrowing distally into very slender element. [Emended from DAVIE, GUINOT, & NG, 2015.] *Eocene–Holocene*.

Menippe DE HAAN, 1833 in 1833–1850, p. 21 [**Cancer rumphii* FABRICIUS, 1798, p. 336; SD GLAESSNER, 1929, p. 253; =*Pseudocarcinus bellangerii* H. MILNE

EDWARDS, 1834 in 1843–1840, p. 409]. Carapace broadly hexagonal, wider than long, regions poorly defined; front with four lobes, about 20 percent carapace width; anterolateral margins with four spines or lobes excluding outer-orbital spines, last spine extending onto carapace in weak oblique ridge; posterolateral margin convex; chelipeds strongly heterochelous. *Eocene*: Ivory Coast, USA (Mississippi, North Carolina). *Miocene*: USA (Florida). *Pliocene*: Fiji. *Pleistocene*: USA (Florida, South Carolina, Texas). *Holocene*: Atlantic Ocean, Caribbean Sea, Red Sea, Indian Ocean.—FIG. 2, 1a–b. *M. mercenaria*, USNM 8964, Holocene,

North Atlantic Ocean, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

Pseudocarcinus H. MILNE EDWARDS, 1834 in 1834–1840, p. 407 [**Cancer gigas* LAMARCK, 1818, p. 272; SD MIERS, 1886, p. 141]. Carapace ovate, length about 70 percent width, narrowing strongly posteriorly; regions moderately well marked; front with four spines; anterolateral margins with four lobes which themselves are ornamented with short spines; posterior margin short, concave; crab of overall giant size, very strongly heterochelous. *Miocene*: Australia, New Zealand. *Holocene*: Australia.—FIG. 2, 2*a*–*b*. **P. gigas* (LAMARCK), USNM 55162, Holocene, Tasman Sea, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

Family OZIIDAE Dana, 1851

[*nom. transl.* ORTMANN, 1893, p. 429, *nom. correct.* KINGSLEY, 1880, p. 396, ex Ozinae DANA, 1851, p. 127]

Carapace hexagonal or ovate, wider than long, maximum length 60–75 percent maximum carapace width, widest about half to two-thirds the distance posteriorly on carapace; dorsal carapace regions moderately or weakly defined; frontal margin bilobed or quadrilobed excluding inner-orbital spines, frontal margin about 20–30 percent maximum carapace width; orbits opened medially or incompletely closed; fronto-orbital width about one-third to half maximum carapace; anterolateral margins with four or five spines or lobes, or entire, or with a variable number of spines; anterolateral margin distinct from posterolateral margin; antennae positioned close to antennules and orbits; buccal frame anteriorly tapered, trapezoidal; sternum narrow; female sternal sutures 4/5 and 5/6 interrupted medially; all male pleonal somites free, movable; male pleon fills space between coxae of fifth pereopods; male gonopod 1 stout, straight, or weakly curved; male gonopod 2 as long as or longer than 1, with long, filamentous flagellum. [Emended from DAVIE, 2002; KARASAWA & SCHWEITZER, 2006; DAVIE, GUINOT, & NG, 2015.] *Miocene* (*Langhian*)–*Holocene*.

Ozius H. MILNE EDWARDS, 1834 in 1834–1840, p. 404 [**O. tuberculatus*, p. 405; SD DESMAREST, 1858, p. 17]. Carapace hexagonal, strongly vaulted longitudinally, especially anteriorly; regions weakly defined, smooth; front downturned, about 40 percent maximum carapace width; anterolateral

margins with two broad lobes followed by two spines, last extending onto carapace in weak ridge; orbits open. *Miocene* (*Langhian*): Japan. *Holocene*: Caribbean Sea, Indo-Pacific Ocean.—FIG. 2, 3. *O. collinsi*, MFM 39001, Miocene, Japan, scale bar, 1 cm (new).

Epixanthus HELLER, 1861, p. 323 [**E. kotschii*, p. 325, pl. 1, 14; M; = *Ozius frontalis* H. MILNE EDWARDS, 1834 in 1834–1840, p. 406, ICZN Opinion 85, 1925, ICZN Direction 36, 1956, ICZN Direction 37, 1956]. Carapace ovate, wider than long, front wide, axially weakly notched, front about one-third maximum carapace width; orbits small, fronto-orbital width about half maximum carapace width; anterolateral margin with three long lobes and one blunt spine at anterolateral angle or several spines; posterolateral margins weakly concave; region weakly defined; chelipeds moderately heterochelous. *Pleistocene*: Taiwan. *Holocene*: Indo-Pacific Ocean, Red Sea, eastern Atlantic Ocean.—FIG. 2, 4*a*–*b*. **E. frontalis* (H. MILNE EDWARDS), USNM 184251, Holocene, Indian Ocean, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

Lydia GISTL, 1848, p. ix [**Cancer tenax* RÜPPELL, 1830, p. 11, pl. 2, 1; SD HOLTHUIS, 1993, p. 623] [= *Cancer* (*Eudora*) DE HAAN, 1833 in 1833–1850, p. 22 (type, *C. tenax*, SD HOLTHUIS, 1993, p. 623, non *Eudora* PÉRON & LESUEUR, 1810, p. 326 (cnidarian)); [= *Ruppellia* H. MILNE EDWARDS, 1834 in 1834–1840, p. 422 (type, *R. annulipes*, M); non *Rueppellia* KERTÉSZ, 1909 (dipteran); non *Ruppellia* WIEDEMANN, 1830, p. 625 (dipteran); = *Eurueppellia* MIERS, 1884, p. 533 (type, *R. annulipes*, M)]. Carapace wider than long, ovate; front with four lobes, about 38 percent maximum carapace width; orbits circular, rimmed, fronto-orbital width about 58 percent maximum carapace width; anterolateral margins with five spines, last very small; posterolateral margin convex; regions weakly defined, epibranchial region arcuate; chelipeds markedly heterochelous, short. *Pleistocene*: Taiwan. *Holocene*: Indian Ocean, Tropical Pacific Ocean, Red Sea.—FIG. 2, 5. *L. annulipes* (H. MILNE EDWARDS), USNM 1005164, Holocene, Mariana Islands, scale bar, 1 cm (new).

Family PLATYXANTHIDAE Guinot, 1977

[Platyxanthidae GUINOT, 1977, p. 1052]

Carapace hexagonal, wider than long, length about two-thirds maximum carapace width, ranging from 0.63 to 0.70; front with four spines excluding inner-orbital projection or nearly straight with central notch, frontal width about 0.2 maximum carapace width, ranging from 0.13 to 0.24; orbits with fissures, usually two, fronto-orbital width about 0.36 maximum carapace width,

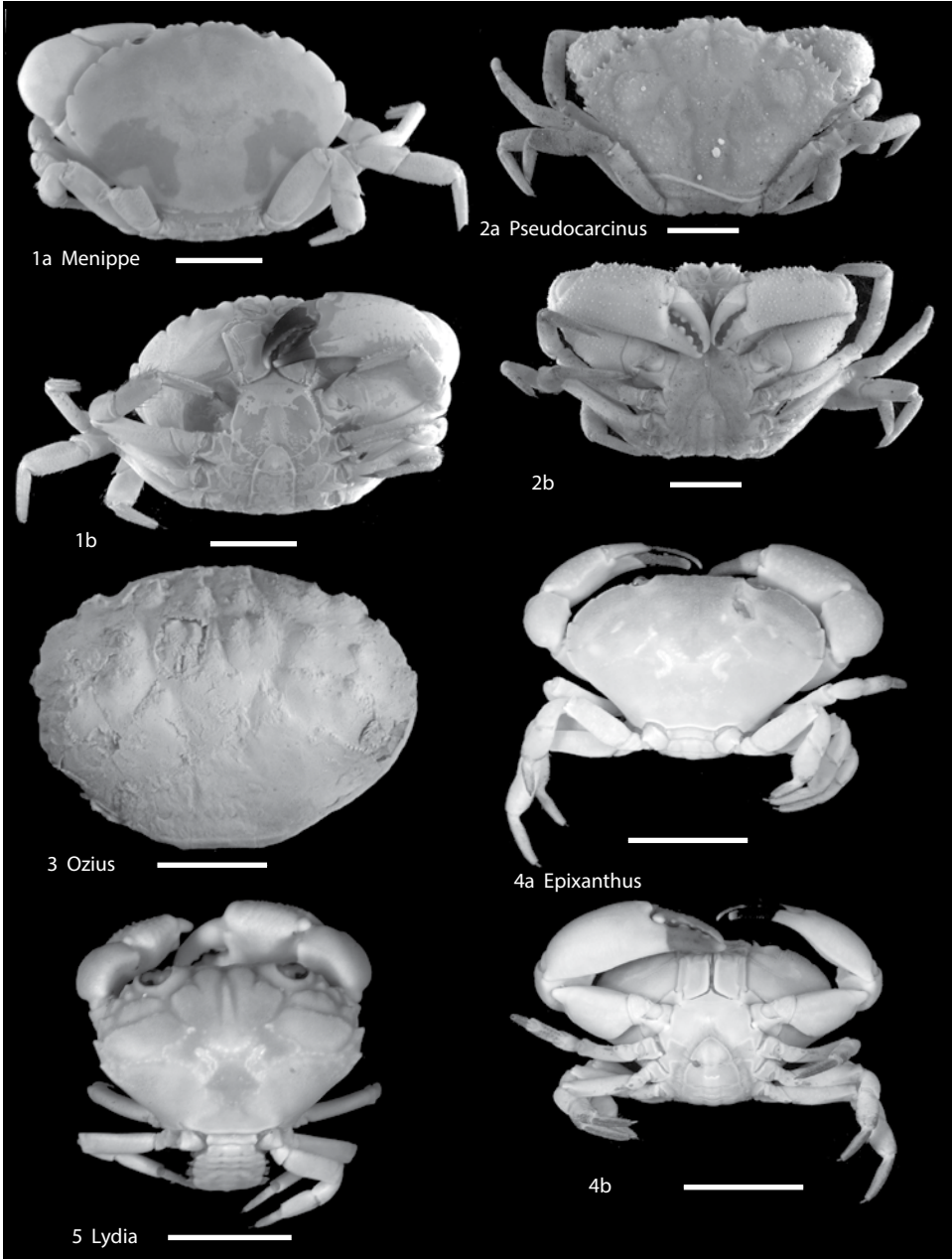


FIG. 2. Families Menippidae, Oziidae (p. 3–4).

ranging from 0.33 to 0.38; anterolateral margins moderately convex; many possible configurations, either with numerous blunt spines, or with broad, bluntly spinose lobes separated by fissures, or with broad, entire

lobes separated by fissures; last anterolateral spine extending posteriorly and axially onto dorsal carapace; angle of posterolateral to posterior margin about 38 degrees; posterior width about 0.38 maximum carapace width,

ranging from 0.36 to 0.41; carapace regions poorly defined, protogastric and hepatic regions weakly inflated; endostomial ridges absent; chelae stout, smooth, coxa of first pereopod articulating with merus, merus not fused to basis-ischium; sternum relatively straight and narrow or rather wide, sternal sutures 4/5 and 5/6 not continuous, 6/7 and 7/8 continuous; suture between sternites 2 and 3 complete; suture between sternites 3 and 4 deep, well developed laterally but becoming a shallow groove axially, merging with long groove extending anteriorly from sterno-pleonal cavity to form deep, Y-shaped groove pattern; sternite 8 not visible in ventral view; all male pleonal somites free, male pleon barely reaching or not reaching level of posterior margin of coxae of first pereopods, covering entire space between coxae of fifth pereopods; male gonopod 1 stout; male gonopod 2 long, with an elongated proximal article and a developed flagellum. [Emended from KARASAWA & SCHWEITZER, 2006.] *Eocene–Holocene*.

Platyxanthus A. MILNE-EDWARDS, 1863, p. 280 [*Xantho orbigny* H. MILNE-EDWARDS & LUCAS, 1843, p. 14, pl. 7, 1; M]. Carapace wider than long; regions weakly defined; front with four blunt spines; anterolateral margins with eight blunt spines of varying widths; chelae stout. *Miocene*: Dominica, Panama. *Holocene*: eastern Pacific Ocean.—FIG. 3, 1a–b. **P. orbigny* (H. MILNE-EDWARDS & LUCAS), USNM 13864, Holocene, eastern Pacific Ocean, dorsal (a) and ventral (b) views, scale bars, 1 cm (new).

Peloeus EYDOUX & SOULEYET, 1842, p. 224 [*P. armatus*, p. 226, pl. 1, 10–15; M; =*Platyxanthus cokeri* RATHBUN, 1930, p. 283, pl. 120–122] [= *Gordonoxanthus ŠTEVČIČ*, 2011, p. 135 (type, *Platyxanthus cokeri*, OD)]. Carapace hexagonal, wider than long; anterolateral margin initially extending nearly laterally, then curving tightly convexly, with three broad lobes which are themselves spinose followed by sharp spine; regions poorly defined, sparsely ornamented with swellings and weakly formed ridge parallel to anterior margins of carapace. *Eocene*: France. *Holocene*: east Pacific Ocean.—3, 2a–b. *P. cokeri* (RATHBUN), USNM 40409, Holocene, Peru, dorsal (a) and ventral (b) views, scale bars, 1 cm (new).

ABBREVIATIONS FOR MUSEUM REPOSITORIES

- MCZ: Museo Civico “G. Zannato” di Montecchio Maggiore, Vicenza, Italy
 MFM: Mizunami Fossil Museum, Mizunami, Gifu, Japan
 MNHN IU: Muséum National d’histoire naturelle, Paris, Marine Invertebrates, Decapod and non-decapoda Crustaceans, Paris, France
 USNM: United States National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA

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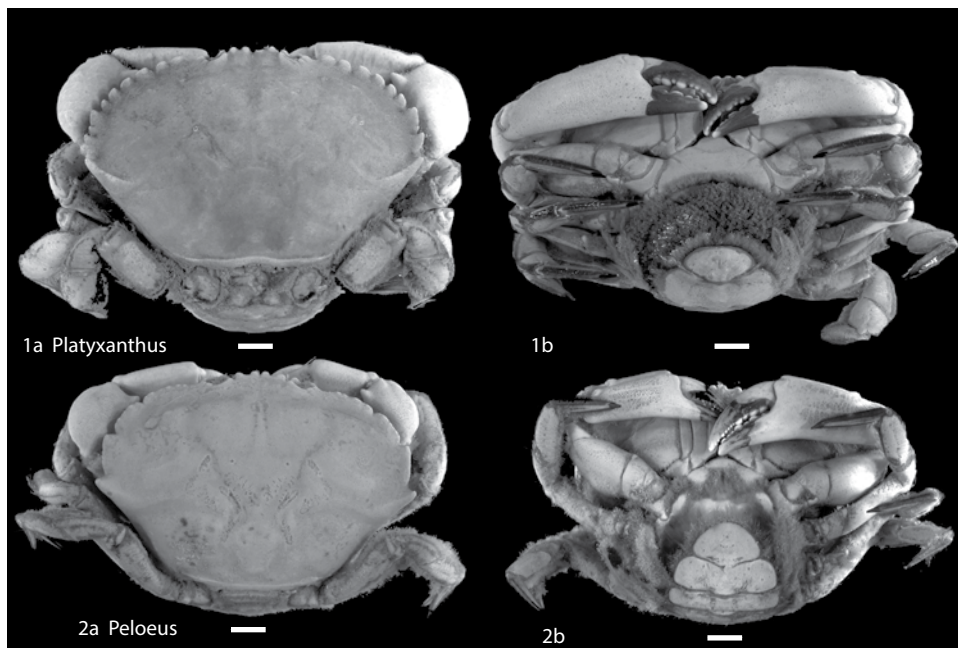


FIG. 3. Family Platyxanthidae (p. 6).

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