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Systematic Descriptions: Superfamily Dorippoidea

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# PART R, REVISED, VOLUME 1, CHAPTER 8T17: SYSTEMATIC DESCRIPTIONS: SUPERFAMILY DORIPPOIDEA

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## Superfamily DORIPPOIDEA MacLeay, 1838

[*nom. transl.* GLAESSNER, 1969, p. 492, *ex* Dorippidae MACLEAY, 1838, p. 55]

Carapace approximately as long as wide, widest in posterior half, flattened; front with spines; orbital margins with spines, upper orbital margin may have fissures; anterolateral margin longer than posterolateral margin; female genital openings sternal, males coxal; sternum broad, press button typically present; male pleon with somites 3–5 fused or all somites free, fissures may be between somites even if fused; female somites all free; pereopods 4 and 5 reduced, subdorsal. [SCHWEITZER & FELDMANN, 2011, p. 4.] *Lower Cretaceous (Albian)–Holocene.*

### Family DORIPPIDAE MacLeay, 1838

[*nom. correct.* Dorippina MacLeay, 1838, p. 55; ICZN Opinion 688, 1964]

Carapace rectangular to rounded, widest posteriorly; front with two triangular spines; inner orbital, outer orbital and inner suborbital spines present; upper orbital margin with fissure; dorsal surface typically flat, with well-defined regions; thoracic sternum wide, sutures 4/5 through 7/8 interrupted; pleonal somites 1–3 visible dorsally; male pleon with seven free somites, triangular; chelipeds unequal; pereopods 2 and 3 long, stout; pereopods 4 and 5 short, distinctly subchelate, positioned dorsally or subdorsally; male genital openings coxal; females without spermatheca. *Lower Cretaceous (Albian)–Holocene.*

**Dorippe** WEBER, 1795, p. 93 [\**Cancer quadridens* FABRICIUS, 1793, p. 464; SD LATREILLE, 1810, p. 422, ICZN Opinion 688, 1964; =*Dorippe rissoana* DESMAREST, 1817, p. 509; =*Dorippe nodosa* DESMAREST, 1817, p. 510; =*Dorippe atropos* LAMARCK, 1818, p. 245] [=*Notogastropus* VOSMAER, 1763, p. 635 non-Linnean binomen, ICZN Opinion 688, 1964]. Carapace longer than wide; inner orbital spine large, triangular; outer orbital spine triangular, slender, reaching slightly beyond frontal spines; inner suborbital spine extending farther anteriorly than outer orbital spine; lateral margin with epibranchial tubercle or spine; dorsal regions with distinct tubercles; pleon with distinct spines on somites 2–4 in male, and somites 3 and 4 in female; dactyli of pereopods 2 and 3 lacking fringes; meri without dorsal spines. *Miocene–Holocene. Miocene (Langhian–Serravallian, Messinian):* Hungary. *Miocene:* Switzerland. *Holocene:* Indo-West Pacific Ocean.—FIG. 1, 1a–b. \**D. quadridens* (FABRICIUS), USNM 205713, Holocene, North Pacific Ocean, dorsal (a) and ventral (b) views, scale bars, 1 cm (new).

**Archaeocytopoda** SECRETAN, 1975, p. 363 [\**A. veronensis*, p. 363, pl. 23,2, pl. 24–25; M]. Carapace equant, with well-defined axial regions; protogastric and branchial regions inflated; male pleon long, slender, lateral margins concave. *Eocene (Ypresian):* Italy.—FIG. 1,2. \**A. veronensis*, KSU D 27, cast of paratype MCSNV 103, scale bar, 1 cm (new).

**Bartethusa** QUAYLE & COLLINS, 1981, p. 738 [\**B. hepatica*, p. 738, pl. 104,4; OD]. Carapace approximately as wide as long, quadrate, widest in posterior quarter in branchial regions, transversely and longitudinally flattened; rostrum and orbital rims strongly upturned; rostrum broad, axially sulcate, with four triangular spines, medial two of which are longest, rostrum ~35% maximum carapace width; orbits directed anterolaterally, with inner orbital spine, deep notch medially, small outer orbital spine, orbital spines not reaching to tip of rostrum; fronto-orbital width ~80% maximum carapace width; anterolateral margins straight, diverging posteriorly; posterolateral margin initially straight, diverging posteriorly, then becoming increasingly convex to form bulbous posterior corner; posterior

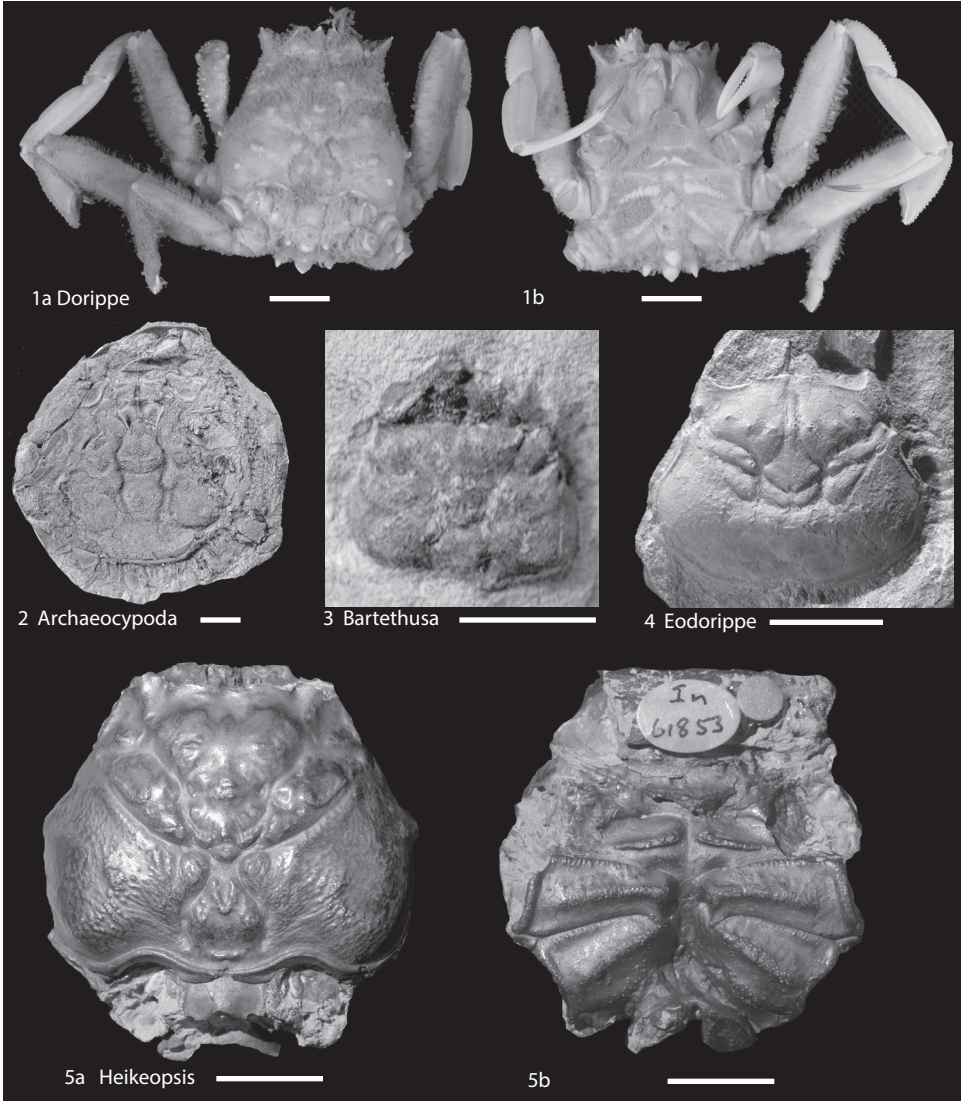


FIG 1. Dorippoidae, Telamonocarcinidae (p. 1–2, 5–6).

margin very short, concave, 28% maximum carapace width; regions developed as inflated regions, regions anterior to cervical groove undifferentiated, with tubercles; cervical groove moderately defined; cardiac region hexagonal, extending nearly to posterior margin; epibranchial region inflated, with tubercles; mesobranchial region concave forward, separated from smooth metabranchial region by arcuate ridge. *Eocene* (*Lutetian*): UK (England).—FIG. 1,3. \**B. hepatica*, holotype NHMUK In. 61704, scale bar, 5 mm (new).

*Heikeopsis* NG, GUINOT, & DAVIE, 2008, p. 59 [\**Dorippe japonica* VON SIEBOLD, 1824, p. 14;

OD] [=*Heikea* HOLTHUIS & MANNING, 1990, p. 71, non *Heikea* ISBERG, 1934, p. 273 (mollusks)]. Carapace approximately as wide as long; cervical and branchiocardiac grooves deep; front broad, with two widely separated spines; orbital margin with a fissure; outer orbital spine shorter than front; branchial region with keel; branchial region with rounded region adjacent to anterior end of cardiac region. *Miocene–Holocene*. *Miocene*: Sarawak. *Pliocene*: Brunei. *Holocene*: Indo-Pacific Ocean.—FIG. 1,5a–b. *H. tuberculata* (MORRIS & COLLINS, 1991), holotype NHMUK In. 61853, Pliocene, Brunei, dorsal (a) and ventral (b) views, scale bars, 1 cm (new).

**Medorippe** MANNING & HOLTHUIS, 1981, p. 31 [*\*Cancer lanatus* LINNAEUS, 1767, p. 1044; OD]. Carapace slightly wider than long; inner orbital spine small, triangular; outer orbital spine triangular, pointed, extending beyond front; lower suborbital spine slender, reaching to level of outer orbital spine; lateral margin with epibranchial tubercle or spine; dorsal regions with weakly developed regions; dactyli of pereopods 2 and 3 lacking fringes; meri or pereopods 2 and 3 with dorsal spines. *Miocene–Holocene*. *Miocene (Langhian–Serravallian)*: Japan. *Miocene (Messinian)–Pliocene (Zanclean)*: Italy. *Pleistocene*: Italy. *Holocene*: Mediterranean Sea, East Africa, South Africa, Madagascar.—FIG. 2, 1*a–b*. *\*M. lanata* (LINNAEUS), USNM 121418, Holocene, West Africa, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

**Neodorippe** SERÈNE & ROMIMOHTARTO, 1969, p. 11 [*\*Dorippe callida* FABRICIUS, 1798, p. 362; SD ICZN Opinion 1437, 1987]. Carapace usually distinctly longer than wide; inner orbital spine low, distinct; outer orbital spine reaching to level of inner orbital spine; inner suborbital spine bluntly triangular, shorter than outer orbital spine; lateral margin without epibranchial tubercles or spines; dorsal regions smooth, flattened, without tubercles; dactyli of pereopods 2 and 3 with distinct fringes of hairs on upper and lower margins. *Miocene–Holocene*. *Miocene (Langhian–Serravallian)*: Poland. *Holocene*: Indo–West Pacific Ocean.—FIG. 2, 2*a–b*. *\*N. callida* (FABRICIUS), USNM 172478, Holocene, North Pacific Ocean, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

**Nobilium** SERÈNE & ROMIMOHTARTO, 1969, p. 14 [*\*Dorippe histrio* NOBILI, 1903, p. 24; OD]. Carapace approximately as long as wide; inner orbital spine short, rounded; outer orbital spine shorter than front with upward-directed spine near orbital fissure; inner suborbital spine shorter than front; dorsal regions convex, flattened, gastric region with 5 separated prominences; dactyli of pereopods 2 and 3 with distinct fringes of hairs on upper and lower margins. *Pleistocene*: Taiwan. *Holocene*: West Pacific Ocean.—FIG. 2, 3*a–b*. *\*N. histrio* (NOBILI), USNM 32998, Holocene, west Pacific Ocean, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

**Paradorippe** SERÈNE & ROMIMOHTARTO, 1969, p. 15 [*\*Dorippe granulata* DE HAAN, 1841 in 1833–1851, p. 122; OD]. Carapace slightly wider than long; inner orbital spine low, broadly triangular; outer orbital spine reaching to front; inner suborbital spine much smaller than outer orbital spine; lateral margin without epibranchial tubercles or spines; dorsal region granular without tubercles; dactyli of pereopods 2 and 3 lacking fringes. *Pliocene–Holocene*. *Pliocene–Pleistocene*: Japan. *Holocene*: Indo–West Pacific Ocean.—FIG. 2, 4*a–b*. *\*P. granulata* (DE HAAN), USNM 17869, Holocene, Indo-Pacific Ocean, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

**Titandorippe** BLOW & MANNING, 1996, p. 10 [*\*T. eocenica*, p. 10, pl. 2,2; OD]. Based upon a single

manus; inner and outer surfaces convex, granular. *Eocene (Lutetian–Bartonian)*: South Carolina, USA.—FIG. 2, 7*a–b*. *\*T. eocenica*, holotype USNM 488557, outer surface (*a*) and inner surface (*b*), scale bars, 1 cm (new).

### Family ETHUSIDAE Guinot, 1977

[*nom. transl.* NG, GUINOT, & DAVIE, 2008, p. 60, ex Ethusinae GUINOT, 1977, p. 1052]

Carapace longer than wide, widening posteriorly; sternal suture 5/6 straight; male pleon narrow, with parallel sides, somites 3–5 fused; female pleon broad, gonopores on sternite 5; pereopods 2 and 3 long, slender; pereopods 4 and 5 short, with hooklike dactylus. *Eocene (Priabonian)–Holocene*.

**Ethusa** ROUX, 1830 in 1828–1830, p. 77 [*\*Cancer mascarone* HERBST, 1785 in 1782–1804, p. 191; SD FOWLER, 1912, p. 590] [= *Pridope* NARDO, 1869, p. 307 (type, *P. typica*, OD)]. Carapace longer than wide; front with four spines; upper orbital margin with or without fissures; outer orbital spine well developed; dorsal surface smooth or granular, with well-defined regions; eye visible dorsally with long, slender, movable eye stalk. *Eocene–Holocene*. *Eocene (Priabonian)*: Hungary. *Oligocene (Rupelian)*: Italy. *Miocene (Messinian)*: Italy. *Miocene*: Hungary. *Pliocene (Zanclean)*: Italy. *Pliocene*: Japan. *Holocene*: Cosmopolitan.—FIG. 3, 3*a–b*. *\*E. mascarone* (HERBST), USNM 258276, Holocene, Portugal, dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

### Family GONIOCHELIDAE

#### Schweitzer & Feldmann, 2011

[Goniochelidae SCHWEITZER & FELDMANN, 2011, p. 5]

Carapace angular, hexagonal, flattened; orbits forward-directed; anterolateral margins spinose, longer than posterolateral margins; posterior margin rimmed, concave; axial regions moderately defined; epibranchial region arcuate; chelipeds isochelous; pereopods 4 and 5 reduced in size, pereopod 5 subdorsal, possibly pereopod 4 also subdorsal; female sternites 1–2 fused, long, sternite 3 large, sternite 4 large, long, with central swellings along anterior margin; female gonopores on sternite 6, very large, circular, press buttons small, located at distal edge of gonopores, sternites 7 and 8 reduced; male sternite 4 large, with swellings centrally, sternite 5 with transverse ridge, press buttons anterior to sternal sutures 5/6,



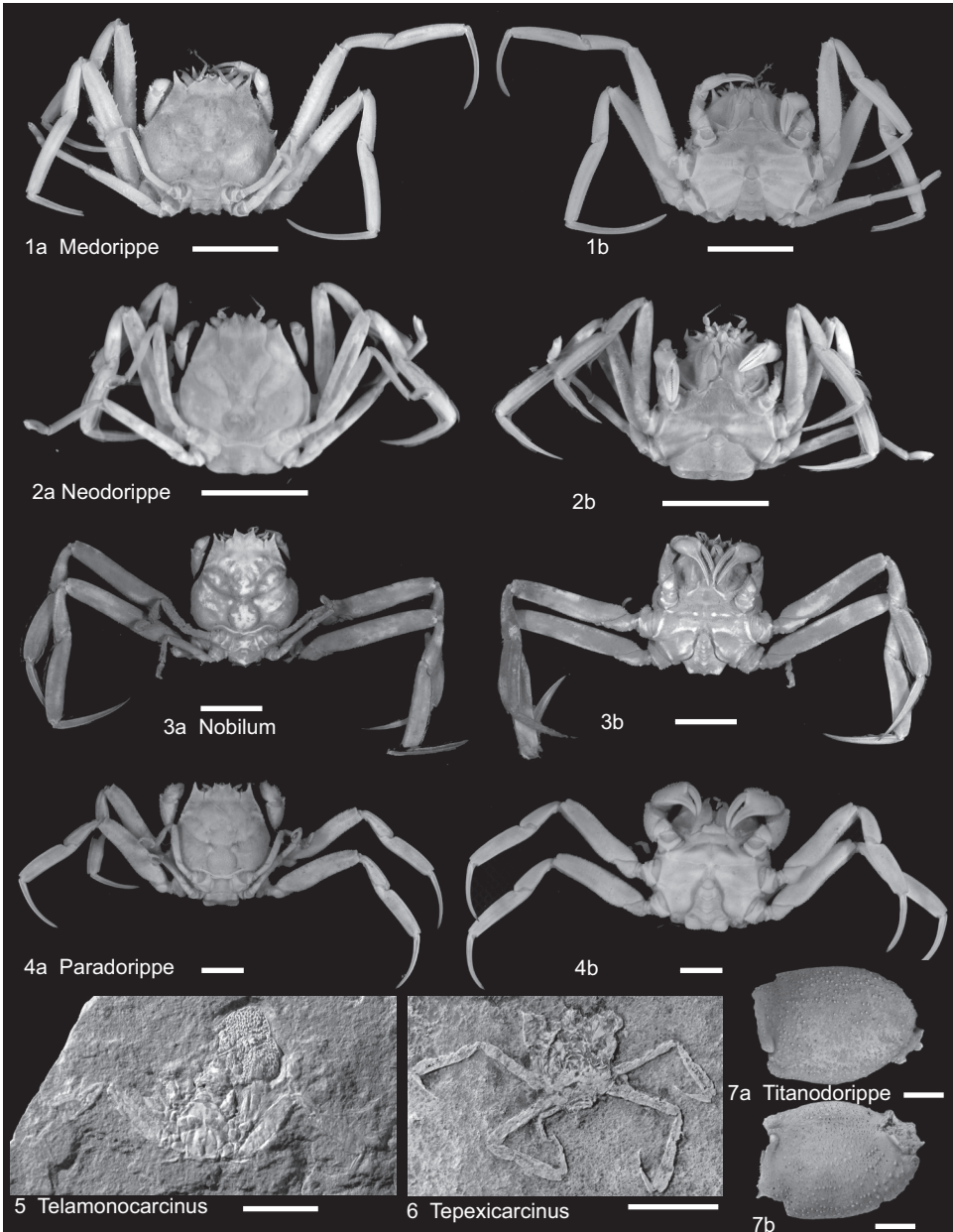


FIG 2. Dorippoidae, Telamonocarinidae (p. 3–6).

close to sterno-pleonal cavity, sternites 5 and 6 long, wide, sternites 7 and 8 very reduced, at nearly 90 degree angle to other sternites; sternal sutures 4/5 and 5/6 incomplete, 6/7 possibly incomplete, 7/8 complete; male pleonal somites 3–5 fused but with notches

in margin between somites, female pleonal somites all free. [Emended from SCHWEITZER & FELDMANN, 2011, p. 5.] *Eocene (Ypresian)–Oligocene*.

*Goniochele* BELL, 1858, p. 25 [\**G. angulata*, p. 26, pl. 4, 3–9; M]. Carapace angular, hexagonal, flattened;



FIG 3. Ethusidae (p. 3).

orbits forward directed; anterolateral margins spinose, longer than posterolateral margins; posterior margin rimmed, concave; axial regions moderately defined; epibranchial region arcuate; sternites 1–3 very long; sternite 4 with central swellings; female gonopores on sternite 6, very large, circular; sternites 7 and 8 reduced, at 90 degree angle to remainder of sternites; sternal sutures 4/5 and 5/6 incomplete, 7/8 complete; male pleonal somites 3–5 fused, female pleonal somites all free; pereiopods 4 and 5 reduced in size, subdorsal. [Emended from SCHWEITZER & FELDMANN, 2011, p. 7.] *Eocene–Oligocene. Eocene (Ypresian–Lutetian)*: Denmark, Germany, UK (England). *Oligocene*: Panama.—Fig. 4. \**G. angulata*, MB.A. 1044, Eocene, England (UK), scale bar, 1 cm (new).

#### Family TELAMONOCARCINIDAE Larghi, 2004

[*nom. transl.* GUINOT, TAVARES, & CASTRO, 2013, p. 306, *ex* Telamonocarcininae LARGHI, 2004, p. 534]

Carapace approximately as wide as or wider than long, widest close to posterior margin; posterolateral margin strongly convex, rounded; posterior margin bilobate, concave axially; fronto-orbital width more than half maximum carapace width; rostrum narrow, produced beyond orbits, outer-orbital spine usually long; carapace regions well defined; cervical and postcervical grooves deep, well developed, reaching anterolateral margin, subparallel, closely spaced, delimiting narrow epibranchial that is itself subdivided into lobes; chelipeds isochelous; pereiopods 4 and 5 reduced; sternum wide; male pleon with all somites free. [Emended from LUQUE, 2014, p. 253.] *Lower Cretaceous (Albian)–Upper Cretaceous (Maastrichtian)*.

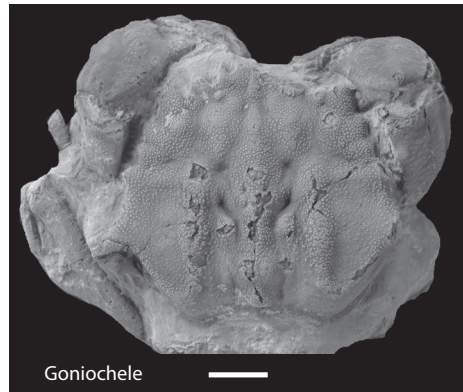


FIG 4. Goniocelidae (p. 4–5).

**Telamonocarcinus** LARGHI, 2004, p. 535 [\**T. gambalatus*, p. 539, fig. 6, 7, 2–7, 8; OD]. Carapace quadrate, wider than long; front projecting beyond orbits; orbits broad, occupying entire frontal margin of carapace, with anterolaterally directed outer-orbital spine; lateral margins concave anteriorly, convex posteriorly, rounding into biconvex posterior margin; axial regions well defined; protogastric and hepatic regions short, branchial regions long; entire carapace surface covered with densely spaced, scabrous ornamentation; sternites 1–3 fused; sternite 4 long; sternite 5 wider than long, directed laterally; female pleon reaching to base of sternite 5; female pleon broad, parallel sided, telson wide, rounded; male pleon triangular; pereiopods 2 and 3 very long; pereiopods 4 and 5 reduced. *Lower Cretaceous (Albian)*: Colombia. *Upper Cretaceous (Cenomanian)*: Lebanon. *Cenomanian–Turonian*: Morocco.—FIG. 2, 5. \**T. gambalatus*, holotype MSNM i26033, molted specimen with carapace at upper right, Cenomanian, Lebanon, scale bar, 1 cm (new).

**Eodorippe** GLAESSNER, 1980, p. 183 [\**E. spedeni*, p. 183, fig. 13; OD]. Carapace wider than long, widest just anterior to posterior margin; orbits

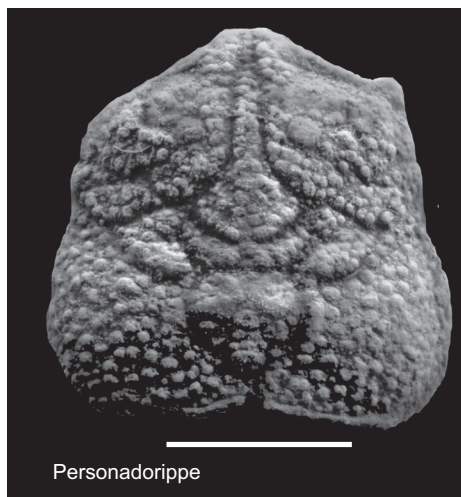


FIG 5. *Telamonocarcinidae* (p. 6).

broad; outer-orbital spine stout, triangular, directed forward; lateral margins diverging posteriorly, rounding into convex posterior margin; protogastric and hepatic regions confluent, with large tubercles; epibranchial region comprised of two transverse, slender subregions, remainder of branchial region broadly inflated. *Lower Cretaceous (Albian)*—*Upper Cretaceous (Maastrichtian)*. *Lower Cretaceous (Albian)*: USA (Oregon). *Upper Cretaceous (Campanian–Maastrichtian)*: New Zealand.—FIG. 1, 4. \**E. spedeni*, holotype AR 675, Upper Cretaceous, New Zealand, scale bar, 1 cm (new; specimen held at the National Paleontological Collection, GNS Science, Lower Hutt, New Zealand).

**Personadorippe** VAN BAKEL, MYCHKO, SPIRIDINOV, JAGT, & FRAAIJE, 2021, p. 14 [\**P. kalashnikovi*, p. 15, fig. 3A–D; OD]. Carapace approximately as wide as long, widest in posterior one-third; orbits set at edges of anterior margin, bounded by outer-orbital spine; carapace regions well defined, densely and coarsely granular, protogastric and hepatic regions confluent; posterior margin concave, rimmed. *Upper Cretaceous (Cenomanian)*: Russia—FIG. 5. \**P. kalashnikovi*, holotype MWO 1 9298, scale bar, 5 mm (new; photo by E. Mychko, Russian Academy of Sciences and Museum of the World Ocean, Kaliningrad, Russia).

**Texepicarcinus** FELDMANN, VEGA, APPLIGATE, & BISHOP, 1998, p. 86 [\**T. tlayuaensis*, p. 87, fig. 7; OD]. Carapace rectangular, longer than wide; rostrum long, bifid; anterior margin with three spines; lateral margins straight, parallel; posterior margin straight; sternites 1–3 apparently fused; sternite 4 long; sternites 5 and 6 directed posterolaterally; female pleon wide; male pleon triangular; pereopods 2 and 3 long; pereopod 4? short, reduced. *Lower Cretaceous (Albian)*: Mexico (Puebla).—FIG. 2, 6. \**T. tlayuaensis*, holotype IGM 6504, Albian, Mexico, scale bar, 1 cm (Feldmann & others, 1998, fig. 7).

## ABBREVIATIONS FOR MUSEUM REPOSITORIES

- AR (NZ): National Paleontological Collection, Lower Hutt, New Zealand  
 IGM: Museo de Paleontología, Instituto de Geología, Universidad Nacional Autónoma de México, Ciudad Universitaria, Ciudad de México  
 KSU D: Decapod Comparative Collection, Department of Geology, Kent State University, Kent, Ohio, USA  
 MB.A: Humboldt-Universität zu Berlin Museum, Berlin, Germany  
 MCSNV: Museo Civico di Storia Naturale, Verona, Italy  
 MSNM: Museo Civico di Storia Naturale di Milano, Italy  
 MWO: Museum of the World Ocean, Kaliningrad, Russia  
 NHMUK: Palaeontology Collections, The Natural History Museum, London, UK  
 USNM: United States National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA

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