



TREATISE ONLINE

Number 121

Part R, Revised, Volume 1, Chapter 8T4:
Systematic Descriptions:
Superfamily Calappoidea

Carrie E. Schweitzer and Rodney M. Feldmann

2019

KU PALEONTOLOGICAL
INSTITUTE

The University of Kansas

Lawrence, Kansas, USA
ISSN 2153-4012
paleo.ku.edu/treatiseonline

PART R, REVISED, VOLUME 1, CHAPTER 8T4: SYSTEMATIC DESCRIPTIONS: SUPERFAMILY CALAPPOIDEA

CARRIE E. SCHWEITZER¹ and RODNEY M. FELDMANN²

¹Department of Geology, Kent State University at Stark, cschweit@kent.edu; ²Department of Geology, Kent State University, rfeldman@kent.edu

Superfamily CALAPPOIDEA de Haan, 1833

[*nom. transl.* GLAESNER, 1969, p. 494, *ex* Calappoidea BEURLEN, 1930, p. 363, *ex* Calappidea DE HAAN, 1833 in 1833–1850, p. 67]

As for family.

Family CALAPPIDAE de Haan, 1833

[*nom. correct.* DANA, 1852, p. 390, *pro* Calappidea DE HAAN, 1833 in 1833–1850, p. 67; ICZN 1964, Opinion 712, p. 341]

Carapace about as wide as long, granular or ornamented with tubercles arranged in rows; axial regions narrow, poorly differentiated; orbits small, circular; carapace usually with long lateral spine or with posterolateral flange ornamented with small spines; anterolateral margin usually crenulate or with small spines; posterior margin usually narrow; dorsal carapace widest posterior to midlength; chelae with strong spines on upper margin and ridges of tubercles on lateral margins, fixed finger short, movable finger strongly arched; pereopods 2–5 slender; sternum narrow, rectangular; sterno-abdominal cavity extending onto sternite 3; episternites without sutures; abdominal somites 3–5 fused in males. [BELLWOOD, 1996; SCHWEITZER & FELDMANN, 2000, p. 232]. *Upper Cretaceous (Maastrichtian)–Holocene.*

Calappa WEBER, 1795, p. 92 [**Cancer granulatus* LINNAEUS, 1758, p. 627; SD LATREILLE, 1810, p. 422] [= *Aparnocondylus* ROSS, LEWIS, & SCOLARO, 1964, p. 193 (type, *A. ocalanus*, p. 193, fig. 2e–f; M); = *Lophos* DE HAAN, 1837 in 1833–1850, p. 69 (type, *Cancer lophos* HERBST, 1782 in 1782–1804, p. 201, pl. 13,77, T); = *Camara* DE HAAN, 1837 in 1833–1850, p. 69 (type, *Calappa fornicata* FABRICIUS, 1798, p. 345, M); = *Gallus* DE HAAN, 1837 in 1833–1850, p. 70 (type, *Cancer gallus* HERBST, 1803 in 1782–1804, p. 18, M); = *Pistor* GISTEL, 1848, p.

9, replacement name for *Gallus* DE HAAN, 1837 in 1833–1850 (type, *Cancer gallus*)]. Carapace ovate, wider than long, widest near posterior margin of carapace; front narrow, triangular; orbits directed forward; anterolateral margin arcuate and crenulate, dentate or granular; posterolateral margin with spined posterolateral flange; carapace regions poorly defined; axial regions best defined of all regions; carapace ornamented with large tubercles often arranged into rows; chelae stout, narrowing proximally. *Eocene–Holocene*: Florida, USA, *Priabonian*; West Antarctica, *Eocene*; USA (Mississippi), *Rupelian*; Caribbean (Leeward Islands, Anguilla), *Chattian*; France, Italy, Mexico (Baja California Sur), Caribbean (Trinidad and Tobago), USA (Oregon), *Oligocene*; Austria, Malta, *Burdigalian*; Hungary, Italy, Poland, *Langhian*; Austria, Hungary, Poland, Spain, *Tortonian*; Algeria, Caribbean (Dominican Republic), Caribbean (Windward Islands, Grenadines), Hungary, India, Malta, Mexico (Veracruz), Venezuela, Myanmar, Netherlands Antilles, Panama, Puerto Rico, Taiwan, USA (Florida), *Miocene*; Algeria, Brunei, Costa Rica, Indonesia, India, Italy, Japan, *Pliocene*; Enwetok, Guam, Japan, Caribbean (Jamaica), Panama, Philippines, Taiwan, *Pleistocene*; Cosmopolitan tropical-subtropical, *Holocene*.—FIG. 1, I. *Calappa lanensis* RATHBUN, 1926, holotype, USNM 353350, Oligocene, Oregon, scale bar, 1 cm (new).

Acanthocarpus STIMPSON, 1871, p. 152–153 [**A. alexandri*; M]. Carapace obovate, slightly longer than wide; orbits shallow, closely spaced; anterolateral margins short; posterolateral margins long, with one posterolaterally directed spine; posterior margin narrow, with medial spine; carapace surface with tubercles arranged more or less into 5 longitudinal rows. *Oligocene–Holocene*: USA (Mississippi), *Rupelian*; Brazil, *Miocene*; Atlantic Ocean, Caribbean region, Indian Ocean, *Holocene*.—FIG. 1, 2a–b. **A. alexandri*, USNM 82137, Holocene, Florida; dorsal (a) and ventral (b) views, scale bars, 1 cm (new).

Bittnerilia DE ANGELI & GARASSINO, 2003, p. 15 [**Lambrus eocenicus* BITTNER, 1883, p. 309, pl. 1,7; OD]. Carapace about as wide as long, square; front triangular, projected beyond orbits; orbits rimmed, with two fissures; anterolateral margins with dense tubercles; posterolateral margins extending into

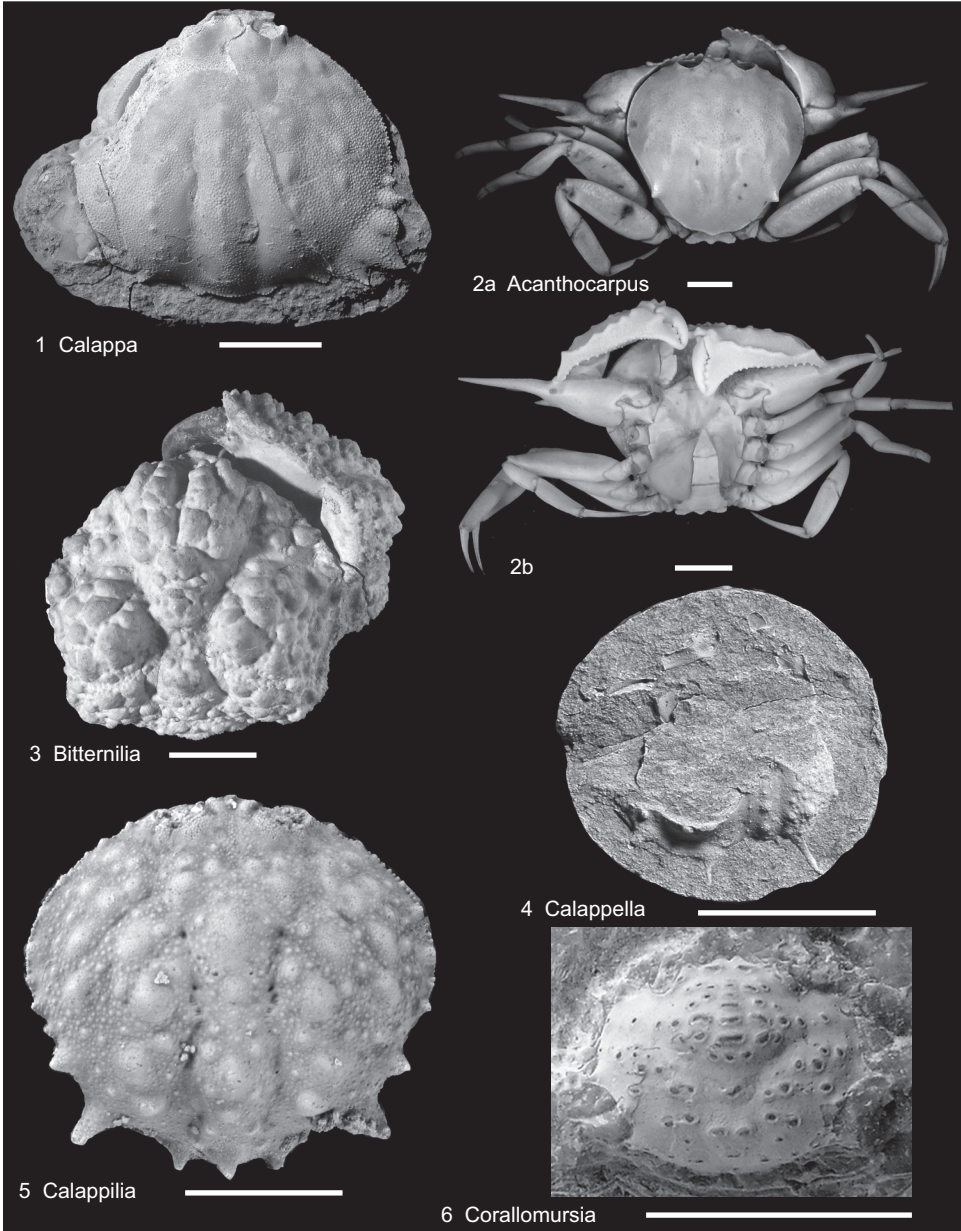


FIG. 1. Family Calappidae (p. 1–3).

wide flange; posterior margin wide, sinuous; carapace ornamented with large, densely spaced, scabrous swellings; axial regions well marked by deep grooves. *Eocene* (*Lutetian*): Italy.—FIG. 1,3. **B. eocenica* (BITTNER), MCZ 2387, holotype, Lutetian, Italy, scale bar, 1 cm (new; photo by A. De Angeli, Associazione Amici del Museo Zannato, Montecchio Maggiore, Vicenza, Italy).

Calappella RATHBUN, 1919, p. 157, pl. 58, 1–2 [**C. quadrispina*; OD]. Carapace about as long as wide, widest at anterolateral corner; orbits small; dorsal carapace with oblique longitudinal rows of tubercles apparently on elevated crests; one long posterolateral spine; long spines at posterior corners. *Miocene*: Panama.—FIG. 1,4. **C. quadrispina*, holotype, USNM 324238, scale bar, 1 cm (new).

- Calappilia** A. MILNE-EDWARDS in DE BOUILLE, 1873, p. 434, pl. 4,3 [**C. verrucosa*; SD GLAESSNER, 1929, p. 73]. Carapace sub-circular to ovate, not much wider than long; front narrow; orbits directed forward; anterolateral margins granular; posterolateral margins with numerous blunt or sharp spines, lacking posterolateral flange; carapace regions poorly defined except axial regions that are clearly marked, ornamented with numerous tubercles that may be loosely arranged linearly or randomly placed. *Eocene* (*Ypresian*)–*Miocene* (*Tortonian*): Italy, UK (England), ?Borneo, Italy, Mexico (Chiapas), Senegal, UK (England), *Lutetian*; Italy, *Bartonian*; Caribbean (Leeward Antilles, Bonaire), Hungary, Italy, Java, Mexico (Baja California Sur), USA (Alabama, Florida, North Carolina), UK (England), *Priabonian*; Hungary; USA (Texas), *Eocene*; France, Germany, Italy, USA (Alabama, Mississippi, Florida), *Rupelian*; Italy, *Chattian*; Hungary, *Oligocene*; New Zealand, *Aquitanian*; Hungary, *Langhian*; Austria, *Tortonian*; Brazil, Chile, New Zealand, *Miocene*.—FIG. 1, 5. *C. gableorum* FELDMANN, SCHWEITZER, & PHILLIPS, 2019, holotype, MMNS IP-8375, Rupelian, Mississippi, scale bar, 1 cm (new).
- Corallomursia** DE ANGELI & CECCON, 2014, p. 81–82, fig. 3 [**C. eoacaena*; OD]. Carapace ovate, wider than long, very strongly vaulted longitudinally, posteriorly directed ventrally at about a 55 degree angle to highest point of carapace; front quadri-lobed, not extending far beyond orbits; orbits circular, directed forward; anterolateral margins tightly convex, sinuous, with some tiny spines, terminating in long, posterolaterally directed spine; posterolateral margin with two spines, concave, narrowing posteriorly; posterior margin narrow, straight; carapace ornamented anteriorly by large circular or ovate tubercles and posteriorly ornamented by weakly developed transverse ridge, one crossing cardiac region and one posterior to it. *Eocene* (*Ypresian*): Italy.—FIG. 1, 6. **C. eoacaena*, holotype, MCV13/03, scale bar, 1 cm (new; photo by A. De Angeli, Associazione Amici del Museo Zannato, Montecchio Maggiore, Vicenza, Italy).
- Cryptosoma** BRULLÉ, 1837 in 1837–1839, unique plate, fig. 2; [**C. cristata*; M; =*C. dentatum* BRULLÉ in 1837–1839, 1839, p. 17; =*Cycloes deweti* CHACE, 1968, p. 605, fig. 1–2]. Carapace obovate, anterolateral margins tightly convex, entire; posterolateral margins concave; posterior margin straight; carapace surface with several arcuate, longitudinal rows of tubercles. *Miocene*–*Holocene*: Caribbean (Dominican Republic), *Miocene*; Panama, *Pliocene*; Costa Rica, *Pleistocene*; Caribbean region, western coastal Mexico and Central America, eastern Atlantic Ocean, Indian Ocean, *Holocene*.—FIG. 2, 1. *Cryptosoma bairdii* (STIMPSON, 1862), USNM 123339, Holocene, Brazil, scale bar, 1 cm (new).
- Cycloes** DE HAAN, 1837 in 1833–1850, p. 68–69 [**C. granulosa*; M]. Carapace not much wider than long, widest about two-thirds the distance posteriorly on carapace; front narrow, bifid; orbits with one orbital fissure; anterolateral margin smooth or with very small granules; posterolateral margin entire; posterior margin very narrow; carapace ornamented with small granules arranged in longitudinal rows roughly paralleling anterolateral margins. *Pliocene*–*Holocene*: Fiji, *Pliocene*; Central America, Caribbean region, eastern and central Atlantic Ocean; Indo-Pacific Oceans, *Holocene*.—FIG. 2, 2a–b. **C. granulosa*, USNM 29926, Holocene, Hawaii; dorsal (a) and ventral (b) views, scale bars, 1 cm (new).
- Mursia** DESMAREST, 1823, p. 231 [**M. cristiata* H. MILNE EDWARDS, 1837 in 1834–1840, p. 109, pl. 20, 7–8; SM; =*M. cristimanus* DE HAAN, 1837 in 1833–1850, p. 70; =*Cryptosoma orientis* ADAMS & WHITE, 1849, p. 62, pl. 13, 4] [=*Thealia* LUCAS, 1839, p. 577 (type, *T. acanthopora*, p. 579, pl. 21, M)]. Carapace transversely ovoid, widest at position of last anterolateral spine, which is often longest of lateral spines; front narrow, sulcate; anterolateral margin granular or tuberculate, anterolateral corner usually with well-developed spine but spine may be absent; posterolateral margin entire; carapace regions poorly developed with axial regions best developed, ornamented with linear array of tubercles; carapace with oblique ridges ornamented with tubercles, ridges extend from gastric regions to branchial regions, two or three ridges present on each side of axis of carapace; chelae with tubercles and spines on upper margin; merus of cheliped sometimes with long spine. *Eocene* (*Priabonian*)–*Holocene*: USA (Washington), *Priabonian*; Ivory Coast, *Eocene*; Caribbean (Leeward Islands, Antigua), USA (Oregon, Washington), *Oligocene*; Slovakia, *Burdigalian*; Japan, *Langhian*; Austria, *Tortonian*; Caribbean (Leeward Islands, Antigua and Aruba), Argentina, Japan, Panama, Malaysia (Sarawak), USA (Oregon, Washington), *Miocene*; Caribbean (Leeward Islands, Aruba), Japan, *Pliocene*; Japan, *Pleistocene*; Indo-Pacific region, Japan, eastern Atlantic Ocean, Africa, Indian Ocean, Hawaii, Australia, *Holocene*.—FIG. 2, 3a–b. *M. marcusana* RATHBUN, 1926, Oligocene, Washington; a, UWBM 103145, dorsal carapace; b, UWBM 103552, right chela and merus, scale bars, 1 cm (new).
- Mursilata** HU & TAO, 1996, p. 69 [**Platymaia kilmeri* HU, 1981, p. 72, pl. 1, 1, 6, 9; OD]. Carapace wider than long, with longitudinal oblique ridges bearing large tubercles; anterolateral margin with poorly developed blunt spines; one posterolateral spine just posterior to anterolateral corner; manus of cheliped with short, blunt spines on upper surface. *Miocene*: Taiwan.—FIG. 2, 4. **M. kilmeri* (HU), NMNS 002163, dorsal carapace, Miocene, Taiwan, scale bar, 1 cm (new; photo by T.-Y. Chan, National Taiwan Ocean University).
- Mursilia** RATHBUN, 1918, p. 160, pl. 57, 27 [**M. ecristata*; OD]. Known only from manus of chela; in general resembling chelae of *Mursia* and *Calappa* but lacking a crest of spines on the lower margin. *Miocene*: Panama.—FIG. 3, 1. **M. ecristata*, holotype, USNM 135219, chela, scale bar, 1 cm (new).
- Mursiopsis** RISTORI, 1889, p. 405, pl. 15, 6–8 [**M. pustulosus*; M]. Carapace about as wide as long, with well-defined axial regions and arcuate ridges

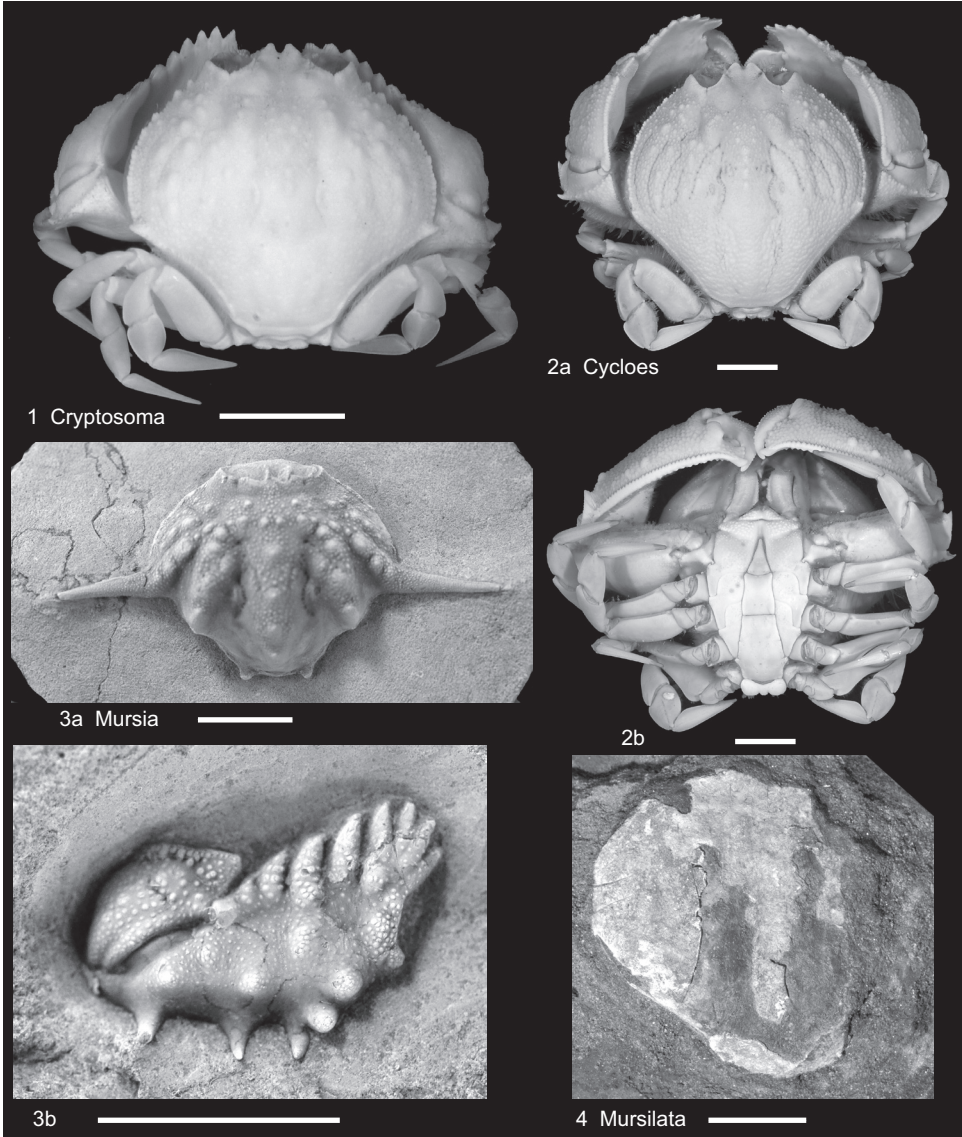


FIG. 2. Family Calappidae (p. 3).

bearing large swellings on branchial and hepatic regions; several spines on posterolateral margins; carapace finely granular overall. *Oligocene (Rupelian)*: Italy.—FIG. 3,2. **M. pustulosus*, scale bar, 1 cm (Ristori, 1889, pl. 15,6).

Nantocyclois BESCHIN, BUSULINI, & TESSIER, 2013, p. 126–127, pl. 3,1 [**N. eocenicus*; OD]. Carapace subcircular to ovate, about as wide as long; front narrow; orbits directed forward; anterolateral margins tightly convex; posterolateral margins with several large spines, lacking

posterolateral flange; posterior margin with three large, rounded spines, axial spine shorter than longer lateral spines; carapace regions poorly defined except axial regions, which are clearly marked, especially posteriorly; ornamented with numerous tubercles that may be loosely arranged linearly or randomly placed. *Eocene (Lutetian)*: Italy.—FIG. 3,3. **N. eocenicus*, holotype, MCZ 3483, scale bar, 1 cm (new; photo by G. Tessier, Museo Civico di Storia Naturale, Venice).

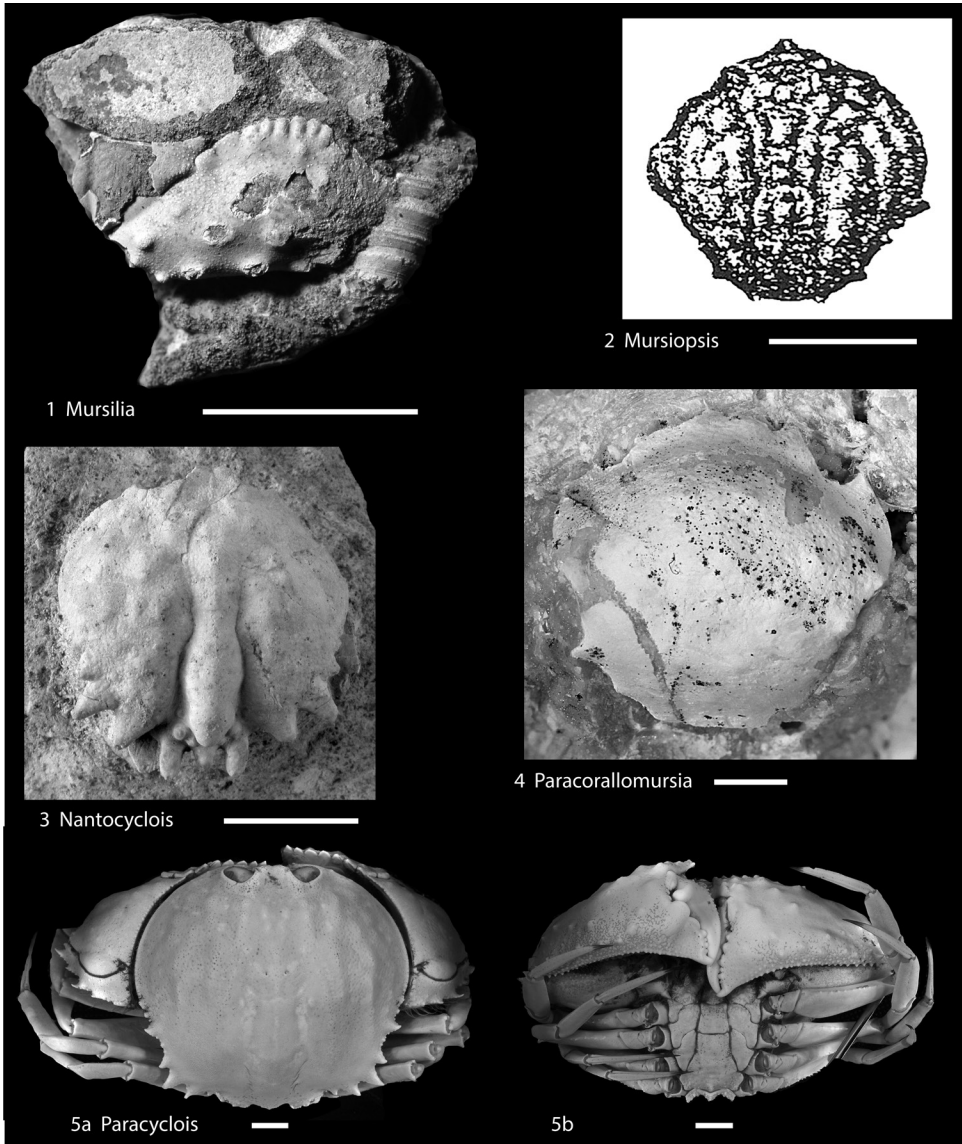


FIG. 3. Family Calappidae (p. 3–6).

Paracorallomursia BESCHIN & others, 2016, p. 78, pl. 9, 7–8 [**P. medizzai*; OD]. Carapace trapezoidal, widest about one third the distance posteriorly; front broad, orbits wide, fronto-orbital width more than half maximum carapace width; anterolateral margins short, arcuate; posterolateral margins converging posteriorly, with a few blunt spines. *Eocene* (*Ypresian*); Italy.—FIG. 3, 4. **P. medizzai*, holotype, VR 94102, scale bar, 1 mm (new; photo by I. Rocchetti, Museo di Storia Naturale di Verona, Italy).

Paracyclois MIERS, 1886, p. 288–289, pl. 24, 1 [**P. milneedwardsii*; M]. Carapace round, orbits closely spaced, with at least one fissure; anterolateral margins granular; posterolateral margin with small, spined flange and a few spines posterior to flange; posterior margin with three spines with spinelets; axial regions well defined laterally but not well differentiated; lateral margins with weakly defined longitudinal rows of large tubercles. *Pleistocene*: Victoria, Australia. *Holocene*: Indo-Pacific region.—FIG. 3, 5a–b. *P. atlantis* CHACE, 1939,

USNM 250843, Holocene, Caribbean; dorsal (*a*) and ventral (*b*) views, scale bars, 1 cm (new).

Pseudocoralomursia BESCHIN & others, 2016, p. 79, pl. 10, 1 [**P. barbierii*; OD]. Carapace hexagonal, widest about one-third the distance posteriorly, very strongly vaulted longitudinally; front bluntly triangular, downturned, orbits oblique; anterolateral margin convex, terminating in blunt spine; posterolateral margin weakly convex, with a central blunt spine; posterior margin concave; regions poorly defined as broad swellings. *Eocene (Ypresian)*: Italy.—FIG. 4, 1. **P. barbierii*, scale bar, 1 mm (new; photo by I. Rocchetti, Museo di Storia Naturale di Verona, Italy).

Stenodromia A. MILNE-EDWARDS in DE BOUILLÉ, 1873, p. 434, pl. 4, 4 [**S. gibbosa*; M]. Carapace about as wide as long, widest about half the distance posteriorly at anterolateral corner, moderately vaulted transversely and longitudinally; front narrow, short; orbits rimmed, fronto-orbital width a little over half maximum carapace width, upper orbital margin with two fissures; anterolateral margins crenulate; posterolateral margins with one long spine directed posterolaterally and perhaps a few small spines; posterior margin straight, with posteriorly directed spine at posterior corners and possibly spines along margin. Carapace regions in general poorly defined; axial and protogastric regions best defined; axial regions raised into ridge with tubercles on mesogastric and cardiac regions; branchial ridge bearing tubercles and hepatic row of tubercles more or less parallel to axial ridge; mesogastric tubercle highest point on carapace. *Oligocene (Rupelian)*: France, Italy.—FIG. 4, 2. **S. gibbosa*, cast of syntype, MNHN R03835 numbered KSU D 1297, Oligocene, France, scale bar, 1 cm (new).

Tavernolesia ARTAL & ONETTI, 2017, p. 8 [**Stenodromia calasanci* VÍA, 1959, p. 38, fig. 8; OD]. Carapace longer than wide, moderately vaulted longitudinally; front axially sulcate, orbits wide, circular; anterolateral margins very tightly convex, granular; posterolateral margins with long central spine; posterior margin narrow, with three spines; carapace ornamented with three longitudinal rows of large tubercles, one axial and lateral two beginning at about epibranchial region and extending to posterolateral margins. *Eocene (Lutetian)*: Spain.—FIG. 4, 3. **T. calasanci* (VÍA), holotype, MGSB 15928, scale bar, 1 cm (new).

Tutus COLLINS in COLLINS, PORTELL, & DONOVAN, 2009, p. 93, pl. 2, 4–5 [**T. granulosa*; OD]. Carapace longer than wide, ovoid, moderately vaulted transversely and longitudinally; regions poorly defined; axial regions with elongate crest extending from mesogastric region to intestinal region; crest with weak elevations on mesogastric, metagastric, and cardiac regions; lateral regions poorly defined, with eight swellings arrayed roughly into two rows, increasing in size posteriorly, posteriormost one appearing to be a posterolateral spine; carapace surface pustulose anteriorly, smoother posteriorly; posterior margin triangular. *Lower Miocene*: Caribbean (Leeward Islands).—FIG. 4, 4. **T.*

granulosa, holotype, (BMNH) In.63675, scale bar, 1 cm (new).

ABBREVIATIONS FOR MUSEUM REPOSITORIES

- KSU D: Decapod Comparative Collection, Department of Geology, Kent State University, Kent, Ohio, USA
 MCV: Museo Civico “D. Dal Lago” di Valdagno, Italy
 MCZ: Museo Civico “G. Zannato” di Montecchio Maggiore, Vicenza, Italy
 MGSB: Museo Geológico del Seminario de Barcelona, Spain
 MMNS: Mississippi Museum of Natural Science, Jackson, Mississippi, USA
 MNHN: Muséum National d'histoire naturelle, Paris, Collection de Paléontologie, France
 NMNS: National Museum of Natural Science, Taiwan
 USNM: United States National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA
 UWBM: Burke Museum, University of Washington, Seattle, Washington, USA
 VR: Museo di Storia Naturale di Verona, Italy

REFERENCES

- Adams, Arthur, & Adam White. 1849. Crustacea, Part 2. *In* A. Adams, ed., *The Zoology of the Voyage of H.M.S. Samarang*; under the command of Captain Sir Edward Belcher, C.B., F.R.A.S., F.G.S., during the years 1843–1846. Reeve, Benham, & Reeve. London. p. 33–66, pl. 7–13.
- Artal, Pedro, & Alfonso Onetti. 2017. *Tavernolesia*, new genus (Crustacea, Decapoda, Brachyura), from the Eocene of the Iberian Peninsula. *Batalleria* 24:6–12.
- Bellwood, Orpha. 1996. A phylogenetic study of the Calappidae H. Milne Edwards 1837 (Crustacea: Brachyura) with a reappraisal of the status of the family. *Geological Journal of the Linnean Society* 113:165–193.
- Beschin, Claudio, Alessandra Busulini, & Giuliano Tessier. 2013. Crostacei medio-eocenici della “Pietra di Nanto” (Monte Berici, Vicenza—Italia settentrionale). *Lavori—Società Veneziana di Scienze Naturali* 38:111–146.
- Beschin, Claudio, Alessandra Busulini, Giuliano Tessier, & Roberto Zorzin. 2016. I crostacei associati a coralli nell'Eocene inferiore dell'area di Bolca (Verona e Vicenza, Italia nordorientale). *Memorie del Museo Civico di Storia Naturale di Verona, series 2, Sezione Scienze della Terra* 9:189 p.
- Beurlen, Karl. 1930. *Vergleichende Stammesgeschichte Grundlagen, Methoden, Probleme* unter besonderer Berücksichtigung der höheren Krebse. *Fortschritte in der Geologie und Paläontologie* 8:317–586.
- Bittner, Alexander. 1883. *Neue Beiträge zur Kenntniss der Brachyuren-Fauna des Alttertiärs von Vicenza und Verona. Denkschriften der Kaiserlichen Akademie der Wissenschaften (Mathematisch-Naturwissenschaftliche Klasse)* 46:299–316, pl. 1.
- Brullé, G. A. 1837–1839. Crustacés. *In* Philip Barker-Webb & Sabin Berthelot, *Histoire Naturelle des Iles*

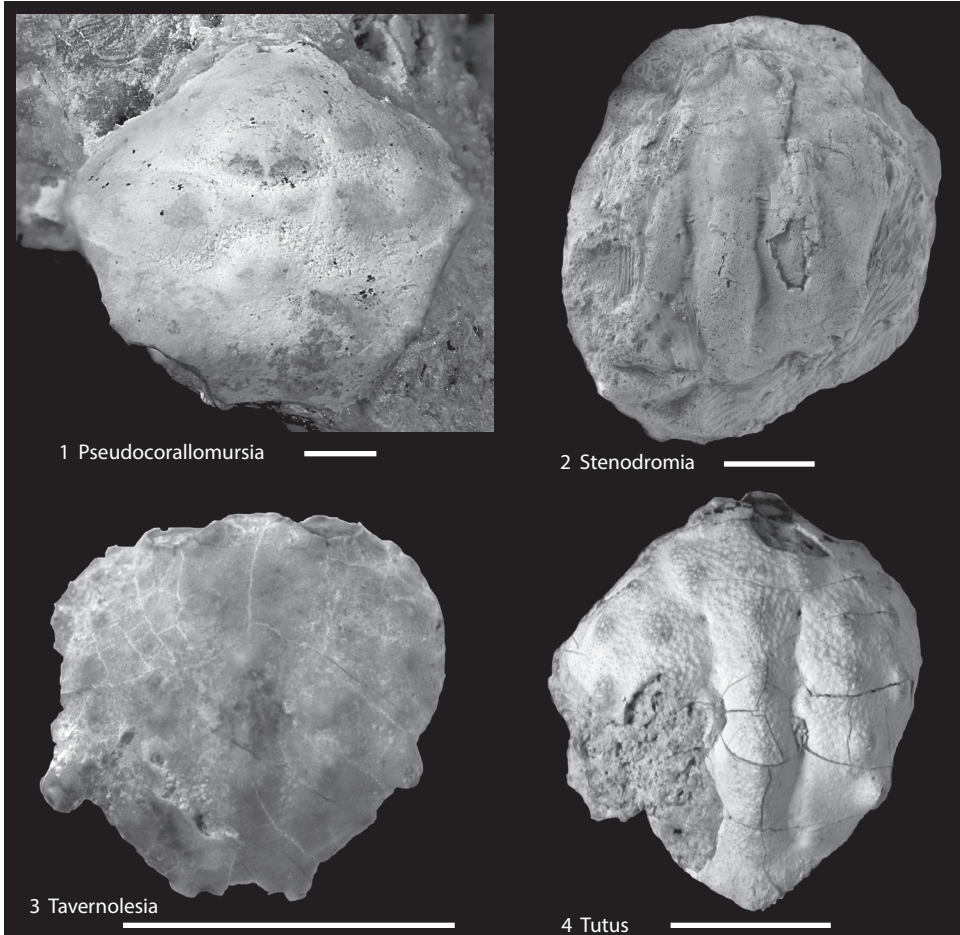


FIG. 4. Family Calappidae (p. 6).

- Canaries, Tome 2, Part 2. Béthune. Paris. p. 13–18 (1839), unique plate (1837).
- Chace, F. A., Jr. 1939. Preliminary descriptions of one new genus and seventeen new species of decapod and stomatopod Crustacea: Reports on the scientific results of the first Atlantis expedition to the West Indies, under the joint auspices of the University of Havana and Harvard University. *Memoirs de la Sociedad Cubana de Historia Natural* 13:31–54.
- Chace, F. A., Jr. 1968. A new crab of the genus *Cycloes* (Crustacea: Brachyura: Calappidae) from Saint Helena, South Atlantic Ocean. *Proceedings of the Biological Society of Washington* 81:605–612.
- Collins, J. S. H., R. W. Portell, & S. K. Donovan. 2009. Decapod crustaceans from the Neogene of the Caribbean: Diversity, distribution and prospectus. *Scripta Geologica* 138:55–111.
- Dana, J. D. 1852. Parts I and II, Crustacea. U.S. Exploring Expedition during the Years 1838, 1839, 1840, 1841, 1842, under the Command of Charles Wilkes, U.S.N., 13. C. Sherman. Philadelphia. 1618 p., 1 map, 96 pl. Plates in separate folio atlas.
- De Angeli, Antonio, & Loris Cecon. 2014. Nuovi crostacei brachiuri (Decapoda) dell'Eocene inferiore di Monte Magrè (Vicenza, Italia settentrionale). *Lavori—Società Veneziana di Scienze Naturali* 39:77–92.
- De Angeli, Antonio, & Alessandro Garassino. 2003. *Bittnerilia*, new genus for *Lambrus eocaenus* Bittner, 1883 (Decapoda, Brachyura, Calappidae) from the Middle Eocene of Veneto (N Italy). *Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale in Milano* 144(1):13–22.
- De Bouillé, Roger. 1873. Paléontologie de Biarritz et de quelques autres localités des Basses-Pyrénées. *Compte-Rendu Travaux Congrès Scientifique de France (39e session à Pau):427–450*, 6 pl.
- de Haan, Wilhelm. 1833–1850. Crustacea. In P. F. von Siebold, ed., *Fauna Japonica sive Descriptio Animalium, quae in Itinere per Japoniam, Jussu et Auspiciis Superiorum, qui summum in India Batava Imperium Tenent,*

- Suscepto, Annis 1823–1830 Collegit, Notis, Observationibus et Adumbrationibus Illustravit. J. Müller et Co. Lugduni Batavorum [=Leyden]. p. i–xvii, i–xxxi, ix–xvi, 1–243, pl. A–J, L–Q, 1–55, circular graph 2.
- Desmarest, A. G. 1823. Crustacés Malacostracés, Malacostraca (Crust.). In Frederic Cuvier, ed., Dictionnaire des Sciences Naturelles. Vol. 28: F. G. Levrault & Le Normant. Strasbourg & Paris. p. 138–425.
- Fabricius, J. C. 1798. Supplementatione Entomologiae Systematicae. C. G. Proft & Storch. Hafnia [=Copenhagen]). i + 572 p.
- Feldmann, R. M., C. E. Schweitzer, & George Phillips. 2019. Paleogene Decapoda (Caridea, Anomura, Axiidea, Brachyuran) from Mississippi and Alabama, USA. *Journal of Crustacean Biology* 39:270–302.
- Gistel, Johannes. 1848. Naturgeschichte des Thierreichs für Höhere Schulen. Hoffmann'scher Verlags-Buchhandlung. Stuttgart. v–xvi, 216 p., 32 pl.
- Glaessner, M. F. 1929. Crustacea Decapoda. In F. J. Pompeckj, ed., Fossilium Catalogus, 1: Animalium, Vol. 41. W. Junk. Berlin. p. 1–464.
- Glaessner, M. F. 1969. Decapoda. In R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part R, Arthropoda 4, Vol. 2. The Geological Society of America, Inc. & The University of Kansas Press. Boulder, Colorado, & Lawrence, Kansas. p. 400–533, 626–628.
- Heller, Camil. 1861. Beiträge zur Crustaceen-Fauna des Rothen Meeres. Sitzungsberichte der Bayerischen Akademie der Wissenschaften zu München, Mathematisch-Physikalischen Klasse 43:297–374.
- Herbst, J. F. W. 1782–1804. Versuch einer Naturgeschichte der Krabben und Krebse Nebst Einer Systematischen Beschreibung ihrer Verschiedenen Arten, Vol. 1–2. G. A. Lange & J. C. Fuessly. Berlin & Zürich. 274 p., pl. 1–21 (vol. 1, 1782–1790); i–viii, iii, iv + 1–225 p., pl. 22–46 (vol. 2, 1791–1796); 1–66 p., pl. 47–50 (vol. 3, 1799–1804).
- Hu, C.-H. 1981. Studies on Cenozoic fossil crabs from Taiwan Island. Proceedings of the Geological Society of China 24:56–74, pl. 1–4.
- Hu, C.-H., & H.-J. Tao. 1996. Crustacean fossils of Taiwan. Taipei, Taiwan, Republic of China. 228 p.
- International Commission on Zoological Nomenclature. 1964. Opinion 712. Forty-seven genera of decapod Crustacea, placed on the Official List. Bulletin of Zoological Nomenclature 21(5):336–351.
- Latreille, P. A. 1810. Considérations Générales sur l'Ordre Naturel des Animaux Composant les Classes des Crustacés, des Arachnides, et des Insectes, avec un Tableau Méthodique de leurs Genres, Disposes en Familles. F. Schoell. Paris. 444 p.
- Linnaeus, Carolus von. 1758. Systema Naturae per Regna tria Naturae, Secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis. Editio Decima, reformata, vol. 1. Laurentii Salvii. Holmiae (=Stockholm). 823 p.
- Lucas, Hippolyte. 1839. Observations: Sur un nouveau genre de crustacé de l'ordre des décapodes brachyures. Annales de la Société Entomologique 8:575–581, pl. 21.
- Miers, E. J. 1886. Report on the Brachyura collected by H. M. S. Challenger during the years 1873–1876. In C. W. Thomson & John Murray, eds., Report of the Scientific Results of the Voyage of H. M. S. Challenger during the years 1873–1876 (Zoology). Johnson Reprints. New York. p. 1–362.
- Milne Edwards, Henri. 1834–1840. Histoire Naturelle des Crustacés, Comprenant l'Anatomie, la Physiologie, et la Classification de Ces Animaux. 3 vol. Imprimerie et Fonderie de Fain (vol. 1–2); Imprimerie de Fain & Thunot (vol. 3). Paris. 468 p. (vol. 1, 1834); 532 p. (vol. 2, 1837); 638 p. + 32 p. [atlas], 42 pl. (vol. 3, 1840).
- Pelseneer, Paul. 1886. Notice sur les Crustacés Décapodes du Maastrichtien du Limbourg. Bulletin du Musée Royal d'Histoire Naturelle de Belgique, Bruxelles 4(3):161–175.
- Rathbun, M. J. 1918. Decapod crustaceans from Panama. In T. W. Vaughan, ed., Contributions to the geology and paleontology of the Canal Zone, Panama and geologically related areas in Central America and the West Indies. United States National Museum Bulletin 103:123–184, pl. 54–66.
- Rathbun, M. J. 1919. West Indian Tertiary decapod crustaceans. In T. W. Vaughan, ed., Contributions to the Geology and Paleontology of the West Indies. Carnegie Institution of Washington Publication 291. Carnegie Institution. Washington, D.C. p. 157–184, pl. 1–9.
- Rathbun, M. J. 1926. The fossil stalk-eyed Crustacea of the Pacific slope of North America. United States National Museum Bulletin 138:i–viii, 1–155.
- Ristori, Giuseppe. 1889. Crostacei Piemontesi del Miocene Inferiore. Bollettino della Società Geologica Italiana 7:397–412, pl. 15.
- Ross, Arnold, J. E. Lewis, & R. J. Sclolaro. 1964. New Eocene decapods from Florida. Quarterly Journal of the Florida Academy of Sciences 27:187–196.
- Schweitzer, C. E., P. C. Dworschak, & J. W. Martin. 2011. Replacement names for several fossil Decapoda. *Journal of Crustacean Biology* 31:361–363.
- Schweitzer, C. E., & R. M. Feldmann. 2000. New species of calappid crabs from western North America and reconsideration of the Calappidae De Haan sensu lato. *Journal of Paleontology* 74: 230–246.
- Schweitzer, C. E., & R. M. Feldmann. 2010. New fossil decapod crustaceans from the Remy Collection, Muséum national d'Histoire naturelle, Paris. *Geodiversitas* 32:399–415.
- Stimpson, William. 1862. Notes on North American Crustacea, in the Museum of the Smithsonian Institution. No. II. Annals of the Lyceum of Natural History of New York 7(1):176–246, pl. 2, 5. Read April 1860; pages 49–118, pl. 2, 3 in subsequent reprint.
- Stimpson, William. 1871. Preliminary report on the Crustacea dredged in the Gulf Stream in the Straits of Florida, by L. F. de Pourtalès, Assist. U. S. Coast Survey, part I: Brachyura. Bulletin of the Museum of Comparative Zoology 2(1–5):109–160.
- Vía Boada, Luis. 1959. Decápodos fósiles del Eoceno español. Boletín del Instituto Geológico y Minero de España 70:1–72.
- Weber, Frederico. 1795. Nomenclator Entomologicus Secundum Entomologiam Systematicum ill. Fabricii Adjectis Speciebus Recens Detectis et Varietatibus. C. E. Bohn, Chilonii et Hamburgi. 171 p.