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Rodney M. Feldmann, Carrie E. Schweitzer,
and Hiroaki Karasawa

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PART R, REVISED, VOLUME 1, CHAPTER 8Q: SYSTEMATIC DESCRIPTIONS: SECTION DAKOTICANCROIDA

RODNEY M. FELDMANN,¹ CARRIE E. SCHWEITZER,² and HIROAKI KARASAWA³

[¹Department of Geology, Kent State University, rfeldman@kent.edu; ²Department of Geology, Kent State University at Stark, cschweit@kent.edu; ³Mizunami Fossil Museum, Japan, GHA06103@nifty.com]

Section DAKOTICANCROIDA Karasawa, Schweitzer, & Feldmann, 2011

[KARASAWA, SCHWEITZER, & FELDMANN, 2011, p. 555]

Carapace quadrate, as wide as long or longer than wide; rostrum narrow, bilobed; orbits well developed, rimmed; eyes sheltered by orbits when retracted; anterolateral margins entire; posterior margin nearly straight; medial part of cervical groove weakly developed; gastric regions poorly separated from cardiac and intestinal regions; branchiocardiac groove well developed; pleural sutures located on sides of carapace; genital openings on coxae, female on third and male on fifth pereopods; fifth pereopods reduced; sternum of female without longitudinal grooves; lateral portion of posterior part of sternites visible, coxae of pereopods at same level as sternum; first pereopods isochelous (in part adapted from RATHBUN, 1917, p. 385; GLAESSNER, 1969, p. 491; BISHOP, 1983, p. 424; BISHOP, FELDMANN, & VEGA, 1998, p. 239). *Upper Cretaceous (Turonian–Maastrichtian)*.

Superfamily DAKOTICANCROIDEA Rathbun, 1917

[*nom. correct.* GLAESSNER, 1969, p. 491, *pro* Dakoticancroideae
RATHBUN, 1917, p. 385]

Carapace quadrate, as wide as long or longer than wide; rostrum narrow, bilobed; orbits well developed, rimmed; eyes sheltered by orbits when retracted; anterolateral margins entire; posterior margin

nearly straight; medial part of cervical groove weakly developed; gastric regions poorly separated from cardiac and intestinal regions; branchiocardiac groove well developed; pleural sutures located on sides of carapace; genital openings on coxae, female on third and male on fifth pereopods; fifth pereopods reduced; sternum of female without longitudinal grooves; lateral portion of posterior part of sternites visible, coxae of pereopods at same level as sternum; first pereopods isochelous (in part adapted from RATHBUN, 1917, p. 385; GLAESSNER, 1969, p. 491; BISHOP, 1983, p. 424; BISHOP, FELDMANN, & VEGA, 1998, p. 239). *Upper Cretaceous (Turonian–Maastrichtian)*.

Family DAKOTICANCRIDAE Rathbun, 1917

[Dakoticancridae RATHBUN, 1917, p. 385]

Carapace quadrate, as wide as long or longer than wide; rostrum narrow, bilobed; orbits well developed, rimmed; eyes sheltered by orbits when retracted; anterolateral margins entire; posterior margin nearly straight; medial part of cervical groove weakly developed; gastric regions poorly separated from cardiac and intestinal regions; branchiocardiac groove well developed; pleural sutures located on sides of carapace; fifth pereopods very reduced, subdorsal; sternum broad, sternites visible to posterior of carapace, sternite 4 with ridge parallel to anterior end, sternites 5, 6, and 7 with granular transverse ridges; sternum of female without longitudinal grooves; lateral portion of posterior part of sternites visible;

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male abdomen with all somites free, lateral terminations on pleonites rectangular, telson rounded triangular; female abdomen wide, with long epimeres, all pleonites free; coxae of pereopods at same level as sternum; first pereopods isochelous. *Upper Cretaceous (Campanian–Maastrichtian)*.

Dakoticancer RATHBUN, 1917, p. 385 [**D. overanus*, p. 386, pl. 32, 33, 6–14; M]. Carapace rectangular to transversely ovoid, length about equal to width or wider than long; orbits well developed; carapace regions well defined, ornamented with granules, often with marked ridges transversely; grooves deep; fifth pereopod subdorsal. *Upper Cretaceous (Campanian–Maastrichtian)*: USA (New Jersey, South Dakota, Tennessee), *Campanian*; Mexico (Nuevo Leon, San Luis Potosi), USA (Mississippi, New Jersey, South Dakota, Tennessee, Texas), *Maastrichtian*.—FIG. 1, 1*a–b*. **D. overanus*, KSU D 907, Maastrichtian, South Dakota; *a*, dorsal carapace; *b*, male sternum and pleon, scale bar, 1 cm (new).

Avitelmessus RATHBUN, 1923, p. 403 [**A. grapsoides*, p. 404, pl. 101, 102, 4; M]. Carapace large for family, circular with concave front, widest at midlength; carapace margin spinose; gastrocardiac groove well developed; protogastric and hepatic regions flattened; cardiac and epibranchial regions inflated, well developed; mesobranchial and metabranchial regions not well differentiated, flattened; first pereopods isochelous. *Upper Cretaceous (Campanian–Maastrichtian)*: USA (North Carolina, Tennessee).—FIG. 1, 3*a–b*. **A. grapsoides*, USNM 73122, Maastrichtian, Tennessee; *a*, dorsal view; *b*, ventral view of male, scale bars, 1 cm (new).

Tetracarcinus WELDER, 1905, p. 328 [**T. subquadratus*, p. 328, fig. 4–6; M]. Carapace generally small, subquadrate, length nearly equal to width, widest at position of epibranchial regions; orbits rimmed; lateral margins sinuous; posterior margin rimmed; cervical groove shallow medially and poorly developed distally; regions flattened, weakly inflated; epibranchial and metabranchial regions separated by broad depression enclosing narrow mesobranchial region; epibranchial regions transversely weakly inflated; cardiac region with posterior tubercle; first pereopods isochelous (Feldmann & others, 2013, p. 28). *Upper Cretaceous (Campanian–Maastrichtian)*: USA (Mississippi, New Jersey, Wyoming).—FIG. 1, 2. **T. subquadratus*, NJSM 233339, Campanian, New Jersey, dorsal carapace, scale bar, 5 mm (Feldmann & others, 2013, fig. 13,3).

Family IBERICANCRIDAE Artal & others, 2008

[Ibericancridae ARTAL & others, 2008, p. 7]

Carapace subrectangular, about as long as wide, generally widest just under half the

distance posteriorly but may be at position two-thirds the distance; rostrum narrow, downturned, bilobed or quadrilobed; orbits square, directed forward, fronto-orbital width ranging from about 40% to 70% maximum width but usually about half; branchiocardiac groove deep, cervical groove discontinuous; axial regions well defined and distinct; sternum narrow, deep sterno-abdominal cavity, sternite 5 with abdominal locking mechanism, sternal sutures 4/5 through 7/8 interrupted; female gonopore on coxa of pereopod 3, male gonopore on coxa of pereopod 5, spermatheca of female at sternal suture 7/8; male abdomen very narrow, all somites free, female abdomen wider, all somites free; pereopods 4 and 5 apparently subdorsal, 5 reduced in size (FELDMANN & others, 2013, p. 29). *Upper Cretaceous (Turonian–Maastrichtian)*.

Ibericancer ARTAL & others, 2008, p. 7 [**I. sanchoi*, p. 9, fig. 4–20; OD]. Carapace subrectangular; front broad, with inner-orbital projections; rostrum narrow, downturned, bilobed; orbits small, directed forward; branchiocardiac groove deep; sternum narrow, deep sterno-abdominal cavity, sternite five with abdominal locking mechanism, sternal sutures 4/5 through 7/8 interrupted; female gonopore on coxa of pereopod 3, male gonopore on coxa of pereopod 5, spermatheca of female at sternal suture 7/8; male abdomen very narrow, all somites free, female abdomen wider, all somites free; pereopods 4 and 5 apparently subdorsal, reduced in size. *Upper Cretaceous (Campanian)*: Spain.—FIG. 2, 1*a–b*. **I. sanchoi*, cast of holotype, MGSB 68572, numbered KSU D 446; *a*, dorsal carapace; *b*, ventral surface showing narrow sternum, scale bars, 1 cm (new).

Sodakus BISHOP, 1978, p. 608 [**S. tatankayotankaensis*, p. 608, fig 3, pl. 1, 1–6; OD]. Carapace rectangular; anterior margin straight, orbits shallow; lateral margins weakly convex, posterior margin wide, nearly straight; flanks steep; cervical and branchiocardiac grooves deep, forming ovate epibranchial region; urogastric and cardiac regions well-defined, urogastric long, narrow; cardiac triangular; sterno-abdominal cavity deep, narrow; sternites 1–3 fused, triangular; sternite 4 long, axially sulcate; sternite 5 directed laterally, short; sternite 6 very short, directed anterolaterally; male abdomen very narrow, telson blunt-triangular, somite 6 long (adapted from Schweitzer & others, 2017, p. 97). *Upper Cretaceous (Maastrichtian)*: Mexico (Nuevo Leon), USA (South Dakota).—FIG. 2, 2*a–b*. **S. tatankayotankaensis*, holotype, USNM 173580, Maastrichtian, South Dakota; *a*, dorsal carapace; *b*, ventral view of sternum and male pleon, scale bars, 1 cm (new).

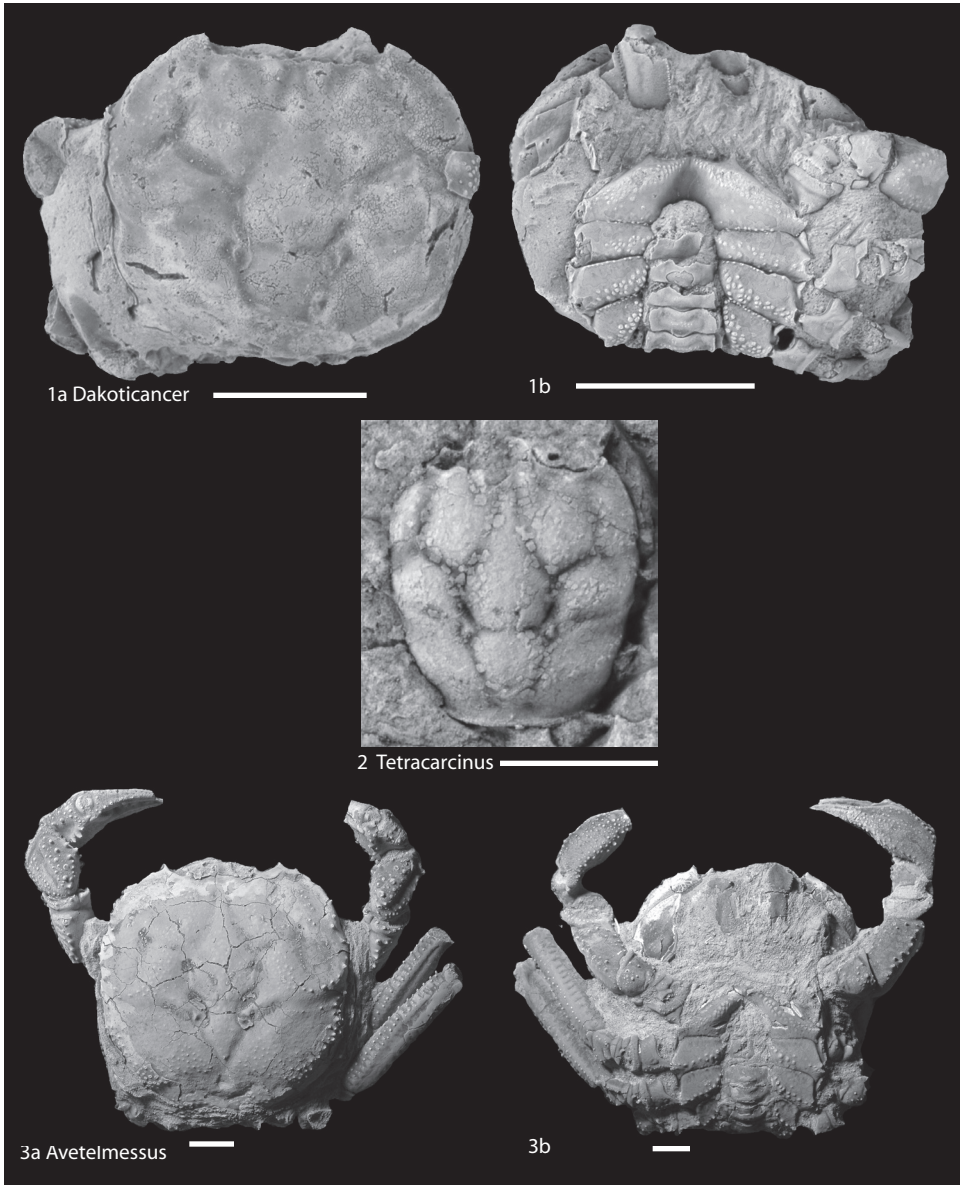


FIG. 1. Dakoticancridae (p. 2).

Seorsus BISHOP, 1988, p. 72 [**S. wadei*, p. 72, fig. 1A–F; OD]. Carapace slightly longer than wide, width about 93% maximum carapace width, width at position of single anterolateral spine about 40%–50% the distance posteriorly on carapace; rostrum long, with four blunt spines including inner-orbital spines; orbits square, rimmed, with intraorbital spine, fronto-orbital width ranging from half to 70% maximum carapace width; well-defined branchiocardiac groove, moderately defined cervical groove, and

well-defined axial regions; sternum narrow, sternopleonal cavity narrow, sternites 1–3 fused, sternite 4 long, with concave lateral margins, sternal suture 4/5 incomplete; male pleon with all somites free, subdorsal pereopods 4 and 5; major chela granular; propodus bulbous, two nodes at articulation with carpus; carpus granulated with X-shaped groove; fixed finger and dactylus thin, delicate (Feldmann & others, 2013, p. 29). *Upper Cretaceous (Turonian–Maastrichtian)*: USA (New Mexico), *Turonian*;

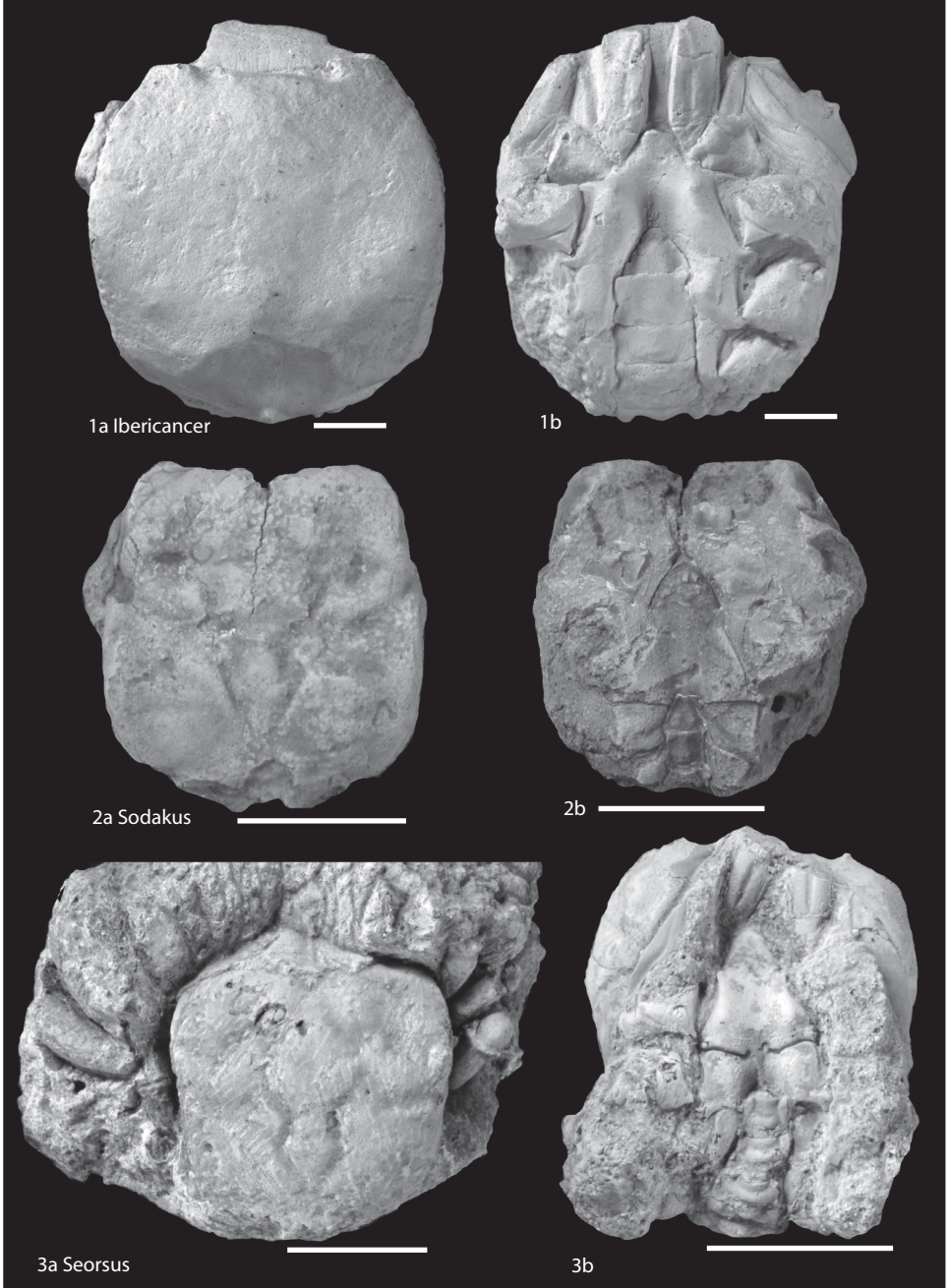


FIG. 2. Ibericanridae (p. 2–5).

USA (New Jersey), *Campanian*; USA (Mississippi), *Maastrichtian*.—FIG. 2,3*a–b*. *S. millerae* (BISHOP, 1992), NJSM 23318, Campanian, New Jersey, *a*, dorsal carapace; *b*, ventral surface showing sternum and ?male pleon, scale bar, 1 cm (Feldmann & others, 2013, fig. 14,1,3).

ABBREVIATIONS FOR MUSEUM REPOSITORIES

KSU D: Decapod Comparative Collection, Department of Geology, Kent State University, Kent, Ohio, USA
MGSB: Museo Geológico del Seminario de Barcelona, Barcelona, Spain
NJSM: New Jersey State Museum, Trenton, New Jersey, USA
USNM: United States National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA

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