



TREATISE ONLINE

Number 177

Part R, Revised, Volume 1:
Systematic Descriptions: Additions to Infraorder
Polychelida

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2023

KU PALEONTOLOGICAL
INSTITUTE

The University of Kansas

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

SYSTEMATIC DESCRIPTIONS: ADDITIONS TO
INFRAORDER POLYCHELIDACARRIE E. SCHWEITZER¹ and RODNEY M. FELDMANN²[¹Department of Earth Sciences, Kent State University at Stark, cschweit@kent.edu; ²Department of Earth Sciences, Kent State University, rfeldman@kent.edu]

Over the course of the intervening years since FELDMANN & others (2013) was published, new knowledge has accumulated and new taxa have been discovered and recognized. Thus, our understanding of the Polychelida has grown. The following are new genera classifications covering 2012 to December 2022. [These are additions to “Systematic descriptions: Infraorder Polychelida,” *Treatise Online* 60 (FELDMANN, SCHWEITZER, KARASAWA, SCHWEIGERT, & GARASSINO, 2013)].

Additions to
Family COLEIIDAE Van Straelen, 1925

[Coleiidae VAN STRAELEN, 1925, p. 131]

Angusteryon AUDO & FURRER, 2020, p. 33 [**A. oberlii*, p. 35, fig. 4; OD]. Cephalothorax subrectangular, long and narrow, narrowing anteriorly; pleon narrow, each pleonal somite of about the same length; merus and propodus of pereopod 1 long, fingers long, tips curved; very elongated pereopod 1 merus. *Lower Jurassic* (?Hettangian): Switzerland.—FIG. 1,1. **A. oberlii*, holotype, PIMUZ 26673, scale bar 1 cm (AUDO & FURRER, 2020, fig. 4A, photo by R. Roth, PIMUZ).

Gabaleryon AUDO, WILLIAMS, CHARBONNIER, & SCHWEIGERT, 2017, p. 208 [**G. coquelae*, fig. 4; OD]. Cephalothorax broadly ovate; ocular incisions large, directed anterolaterally; cervical and hepatic incisions small; cervical groove well marked, crossing midline; weak branchial keels posteriorly; pleon short, telson with rounded tip; scaphocerites large. *Lower Jurassic* (Toarcian): France, Germany, Italy, UK (England). *Middle Jurassic* (Bajocian–Bathonian): France.—FIG. 1,2. **G. coquelae*, holotype, MNHN.FA51506, Toarcian, France, scale bar 1 cm (photo by D. Audou, MNHN, provided by G. Schweigert, SMNS).

Additions to
Family ERYONIDAE De Haan, 1841[*nom. correct.* DANA, 1852, p. 515, *pro* Eryonidea DE HAAN, 1841 in 1833–1850, p. 148]

Rogeryon SCHWEIGERT & AUDO *in* AUDO, SCHWEIGERT, CHARBONNIER, & HAUG, 2017, p. 9 [**Eryon oppeli* WOODWARD, 1866, p. 500; OD]. Cephalothorax ovate, longer than wide; frontal margin narrow; cervical and postcervical incisions shallow; cervical groove strongly marked near cervical incision and near lateral margin, shallower between these two areas; postcervical groove strongly marked from postcervical incision toward median line; telson and uropods rounded; eyes with hexagonal ommatidia; median margin of third maxilliped ischium with a few proximal large teeth and numerous more distal small teeth (serrated aspect), first pereopods about as large as succeeding ones. [Emended from AUDO & others, 2017, p. 9.] *Upper Jurassic* (Tithonian): Germany.—FIG. 2,6. **R. oppeli* (WOODWARD), Tithonian, Germany, SMNS 66004, scale bar 1 cm (new).

Rosenfeldia GARASSINO, TERUZZI, & DALLA VECCHIA, 1996, p. 33 [**R. triasica* (p. 33, fig. 6–10, 17–20); OD]. Subcircular carapace, wider than long, with longitudinal median carina originating from posterior margin, two narrow carinae extending parallel to median carina; cervical and branchiocardiac notches do not extend into grooves; two parallel rows of tubercles located in median portion of cephalic region; pleon with weak axial keel, rounded, triangular pleura; subrectangular telson; exopodite of uropod without diaeresis; chela of pereopod 1 with dactylus with distal hook longer than propodus. [The type species is not well preserved.] *Upper Triassic* (Norian): Italy.—FIG. 2,1. **R. triasica*, holotype MFSNgp 16178, scale bar, 1 cm (Audou & others, 2017, fig. 1A [europeanjournaloftaxonomy.eu/index.php/ejt/article/view/492/1087], accessed through [creativecommons.org/licenses/by/4.0/]).

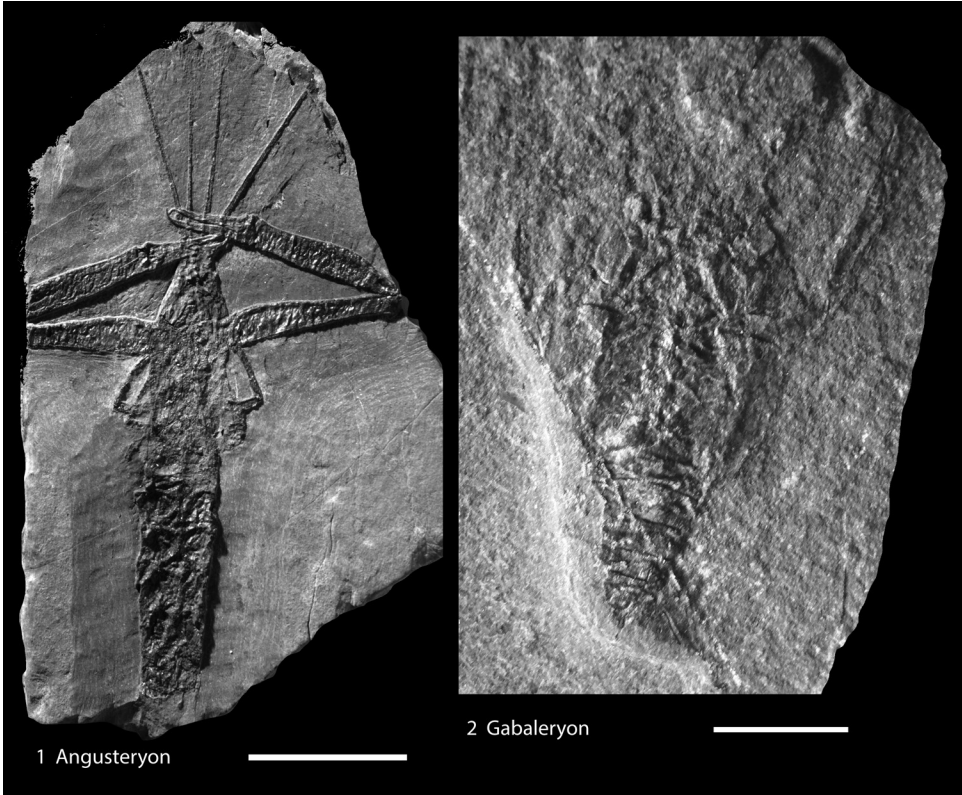


FIG 1. Coleiidae (p. 1).

Stonesfielderyon AUDO, SCHWEIGERT, & CHARBONNIER, 2020, p. 15 [**S. imitator*, p. 17, fig. 14; OD]. Cephalothorax dorsoventrally flattened, wider than long; orbits deep, rostrum with inner-orbital spines; cervical and hepatic incisions well marked; cervical groove well developed; cephalothorax with axial keel; pleonal somites wide. *Middle Jurassic (Bathonian)*: UK (England).—FIG. 2,2. **S. imitator*, holotype, FSL 170531, scale bar 1 cm (new; photo by D. Audo, MNHN, provided by G. Schweigert, SMNS).

Tethyseryon BRAVI, GARASSINO, BARTIROMO, AUDO, CHARBONNIER, SCHWEIGERT, THÉVENARD, & LONGOBARDI, 2014, p. 96 [**T. campanicus*, p. 96, fig. 13–14; OD]. Cephalothorax ovate, with strongly convex lateral margins; front concave; ocular incisions large, rimmed; cervical and hepatic incisions large; lateral margins of cephalothorax serrate, composed of spines of varying sizes; pleon wide, approximately as wide as posterior margin of carapace, pleonal somites short. *Middle Jurassic (Bajocian–Bathonian)*: Italy.—FIG. 2,4. **T. campanicus*, holotype CSMNF 22000a, scale bar 1 cm (new; photo by D. Audo, MNHN).

Voulteryon AUDO, SCHWEIGERT, SAINT MARTIN, & CHARBONNIER, 2014, p. 500 [**V. parvulus*, p.

502, fig. 5; OD]. Cephalothorax overall flattened but with some inflated areas, overall ovate; orbits directed anterolaterally, with outer-orbital spine; cervical and hepatic incisions narrow; cervical groove well marked, not quite crossing axis; axial keel extending most of length of cephalothorax; arcuate branchial keels; pleonites narrower than cephalothorax. *Middle Jurassic (Callovian)*: France.—FIG. 2,5. **V. parvulus*, holotype, MNHN.EA50708, scale bar 1 cm (new; photo by D. Audo, MNHN).

Wrangelleryon FELDMANN, SCHWEITZER & HAGGART, 2013, p. 136 [**W. perates*, p. 137, fig. 1–2; OD]. Carapace outline and surface not preserved; pleon flattened, keeled on at least somites 2–4, with triangular pleura terminating in short, sharp, posterolaterally directed spine; telson subtriangular with weakly convex lateral margins and acute tip; uropods not extending to tip of telson, spatulate, with rounded tips; exopod of uropods without diaeresis; pereopod 2(?) with large, well-developed cheliped; anterior and posterior margins of meri and outer surface of propodus with delicate, distally directed spines. *Lower Jurassic (Hettangian)*: Canada (British Columbia).—FIG. 2,3. **W. perates*, holotype, GSC No. 136896, scale bar 1 cm (new).

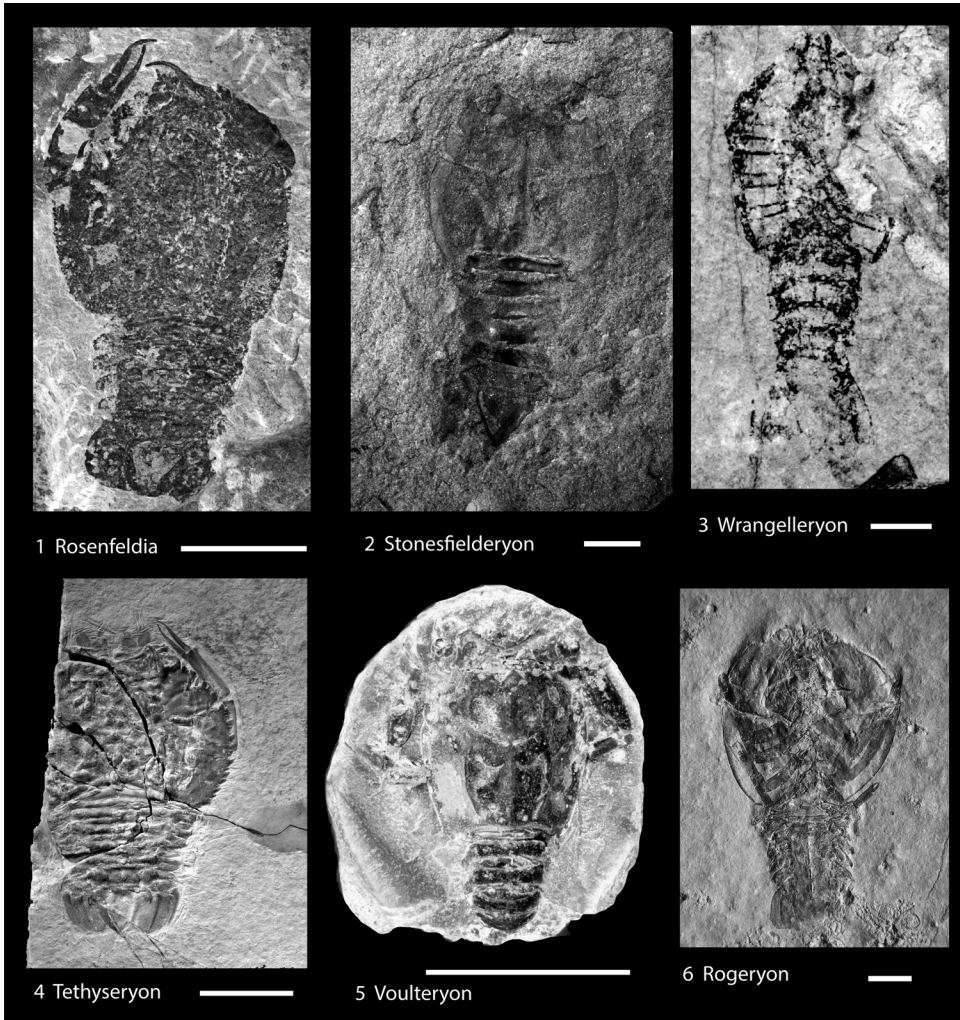


FIG 2. Eryonidae (p. 1–2).

Additions to Family POLYCHELIDAE Wood-Mason, 1875

[Polychelidae WOOD-MASON, 1875, p. 132]

Palaeopolycheles VON KNEBEL, 1909, p. 224 [**Eryon longipes* FRAAS, 1855, p. 94; M]. Cephalothorax longer than wide, granular overall; front wide; ocular incisions very large, directed forward; cervical and hepatic incisions well marked; axial and branchial keels present; pleonal somites granular, telson triangular with rounded tip, uropodal exopods with diaeresis. *Middle Jurassic (Callovian)*: France. *Upper Jurassic (Kimmeridgian)*: Germany.—FIG. 3, 1. **Palaeopolycheles longipes*, SMNS 63833, Kimmeridgian, Germany, scale bar, 1 cm (new; photo by G. Schweigert, SMNS).

Tauricheles AUDO, CHARBONNIER, & KROBICKI, 2018, p. 1026 [**Palaeopolycheles crymensis* LEVITSKI, 1974, p. 110, pl. 3, 1; OD]. Cephalothorax rectangular, lateral margins weakly convex; small U-shaped ocular incision; outer edge of ocular incision merged with anterior angle of anterolateral margin; cervical and postcervical incisions shallow; posterolateral angle not strongly projected; cervical groove crossing axis; pleonites with axial keel and oblique grooves extending from posterolateral corner toward axis; first pereopods very long, slender; uropodal exopod without diaeresis. [Emended from AUDO, CHARBONNIER, & KROBICKI, 2018, p. 1027.] *Lower Jurassic (Toarcian)–Middle Jurassic (Aalenian)*: Ukraine.—FIG. 3, 2. **T. crymensis* (LEVITSKI), holotype, GGM VI-165/1, scale bar 1 cm (photo by I. Starodubtseva, Vernadsky State Geological Museum, Moscow, Russia).

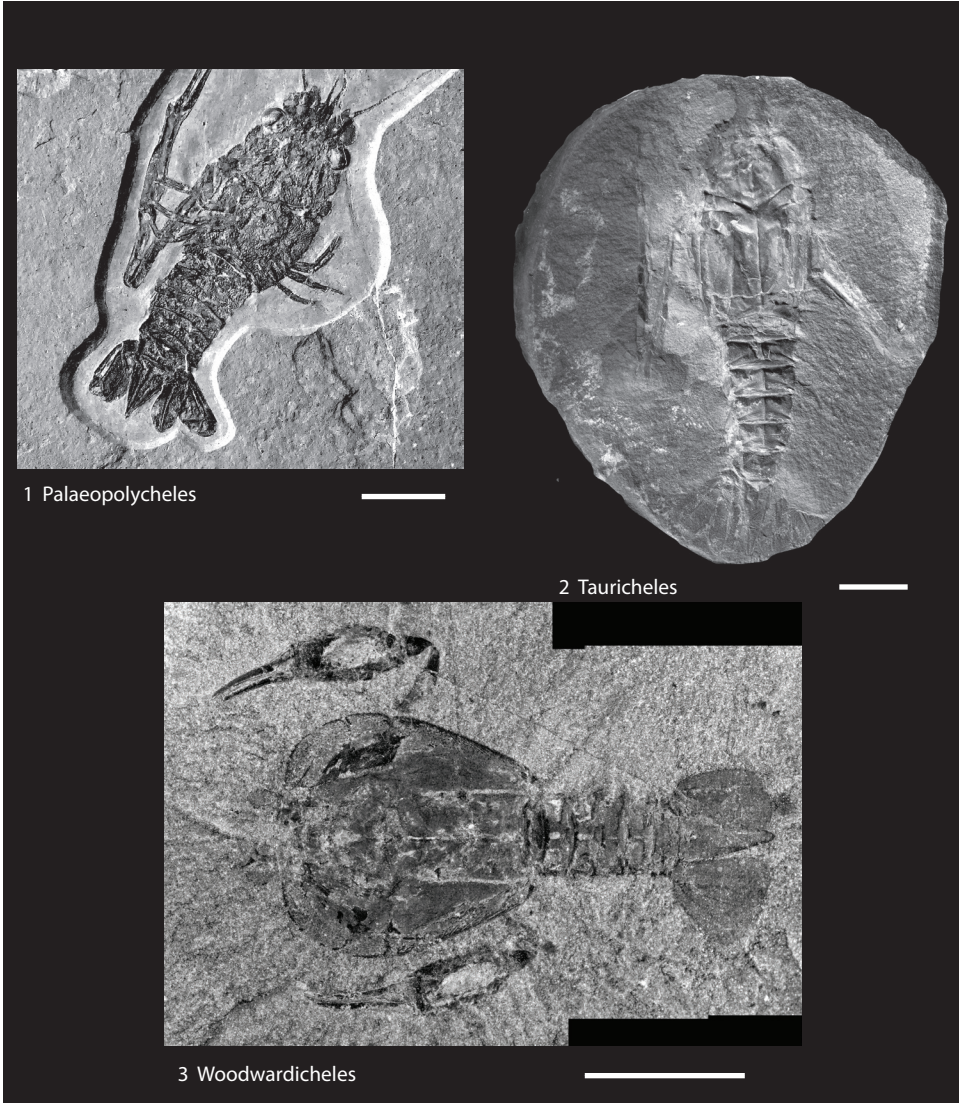


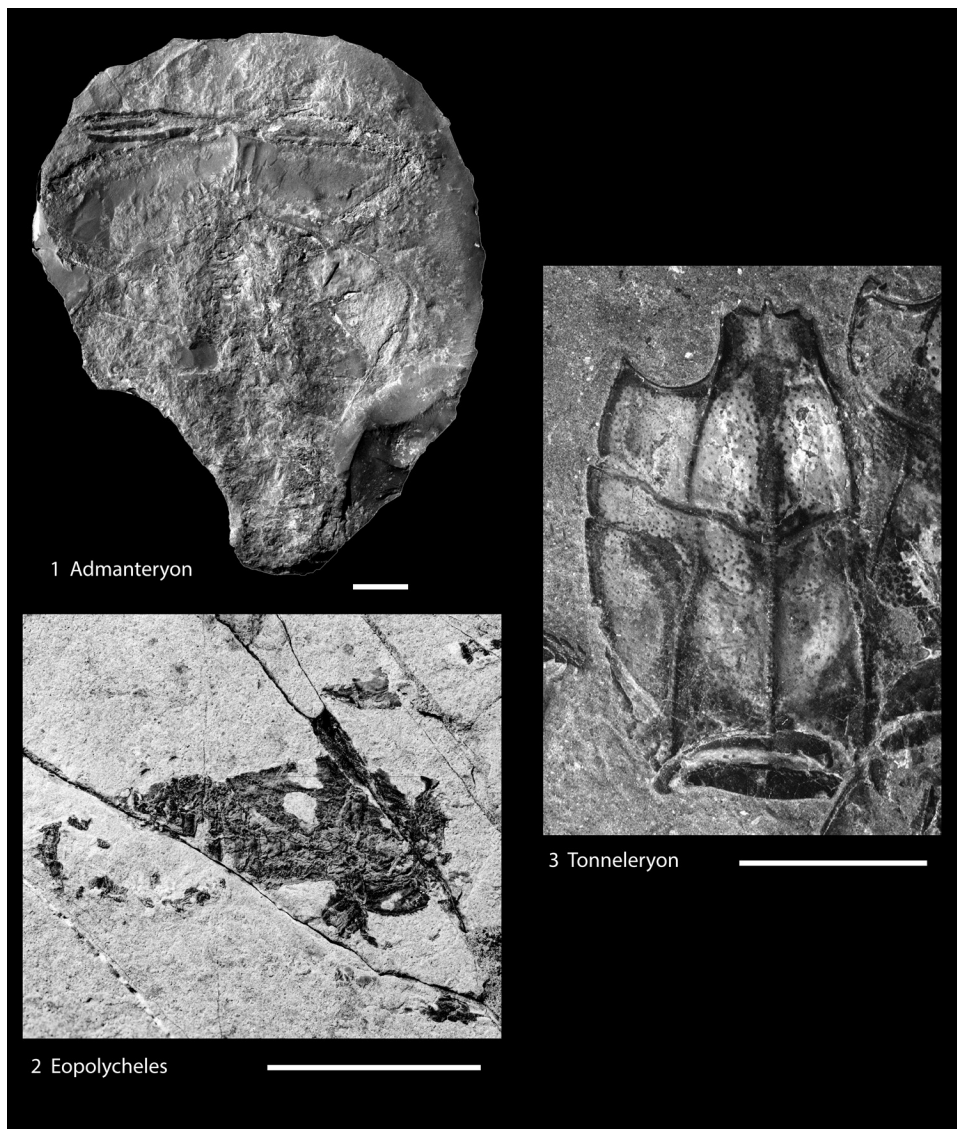
FIG 3. Polychelidae (p. 3–4).

Woodwardicheles AUDO, CHARBONNIER, & KROBICKI, 2018, p. 1028 [**Eryon neocomiensis* WOODWARD, 1881, p. 530, pl. 14, 1; OD]. Cephalothorax obovate, widest in anterior one-third; frontal margin straight, placed slightly posterior to antero-lateral margin anterior angle; ocular incision small, deep; frontal and anterior lateral margins serrate; ocular and hepatic incisions shallow; cervical groove curving near axis, crossing axis; branchial carinae parallel to axis; posterolateral angle not projected; telson triangular, with rounded tip; uropodal exopod without diaeresis. [Emended from

AUDO & others, 2018, p. 1028.] *Lower Cretaceous (Valanginian)*: Czech Republic.—FIG. 3,3. **W. neocomiensis*, holotype SNSB-BSPG AS I 994, scale bar, 1 cm (new; photo by J. Haug & C. Haug, Ludwig Maximilian University, Munich, Germany).

Updated Polychelida *incertae sedis*

Adamanteryon AUDO, SCHWEIGERT, SAINT MARTIN, & CHARBONNIER, 2014, p. 517 [**A. fourneti*, p. 518, fig. 10; OD]. Cephalothorax diamond-shaped; cervical and postcervical incisions very small or

FIG. 4. Polychelidae *incertae sedis* (p. 4–6).

absent; antennular and antennal flagella very long. *Middle Jurassic (Callovian)*: France.—FIG. 4,1. **A. fourneti*, holotype, UJF-ID.11514, scale bar 1 cm (new; photo by D. Audo, MNHN).

Eopolycheles GAŠPARIČ, AUDO, HITIJ, JURKOVŠEK, & KOLAR-JURKOVŠEK, 2020, p. 110 [**E. cornuaureus*, p. 110, fig. 3–4; OD]. Cephalothorax broadly ovate; shield with slightly pyriform outline; ocular incisions round, directed forward; tergites of pleonites 2–6 with pair of transverse grooves converging medially; telson broadly triangular, with blunt tip; uropodal exopod with diaeresis. [Emended from

GAŠPARIČ & others, 2020, p. 110.] *Upper Triassic (Carnian)*: Slovenia.—FIG. 4,2. **E. cornuaureus*, holotype BJ2467, scale bar, 1 cm (new; photo by R. Gašparič, Oertijdmuseum, The Netherlands)

Tonneleryon AUDO, 2016, p. 289 [**T. schweigerti*, p. 290, fig. 5A; OD]. Cephalothorax longer than wide, elongate ovate; frontal margin with short, triangular rostrum; ocular incision very deep, directed anteriorly; cervical and postcervical incisions shallow; short posterolateral angle not extending along pleon; postorbital carina extending entire length of cephalothorax, sinuous just posterior to deep cervical

groove; postrostral and postcervical carinae continuous with one another, all carinae densely granular; carapace apparently punctate; uropodal exopod with diaeresis. *Lower Jurassic (Toarcian)*: Germany.—FIG. 4,3. **T. schweigerti*, holotype, SMNS 70308/2, scale bar 1 cm (new; photo by D. Audo, MNHN).

ABBREVIATIONS FOR MUSEUM REPOSITORIES

- BJ:** Slovenian Museum of Natural History, Ljubljana, Slovenia
BSPG: Bayerische Staatsammlung für Paläontologie und historische Geologie München Munich, Germany
CSMNF: Museo di Paleontologia, Centro Museale, Centro Musei delle Scienze Naturali e Fisiche, Università degli Studi di Napoli “Federico II,” Naples, Italy
FSL: Université Claude Bernard, Lyon 1, Lyon, France
GGM: Vernadsky State Geological Museum, Moscow, Russia
GSC: National Type Specimen Collection, Geological Survey of Canada, Ottawa, Ontario, Canada
MFSN: Museo Friulano di Storia Naturale, Udine, Italy
PIMUZ: Palaeontological Institute and Museum, University of Zürich, Switzerland.
SMNS: Staatliches Museum für Naturkunde, Stuttgart, Germany
UJF: Université Joseph Fourier, Institut Dolomieu, Grenoble, France

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