Shallow-water Comatulids (Echinodermata: Crinoidea) from Ambon and Lombok Islands, Indonesia

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Shallow-water comatulids were collected by scuba diving from Lombok and Ambon islands, Indonesia in 1992 and 1994. The collection consisted of a total of 35 species in 20 genera among Comatulidae, Himerometridae, Mariametridae, Colobometridae, and Antedonidae. Two species were newly recorded from Indonesian waters.

Key Words: Comatulida, feather stars, Ambon Island, Lombok Island, Indonesia, shallow water.

Introduction

Taxonomic studies of comatulids in Indonesian waters were traditionally done by using the specimens collected by expedition cruises, including the Challenger, the Siboga, and the Albatross Expeditions (Carpenter 1884, 1888; Hartlaub 1891; A. H. Clark 1912a, c, d, f, 1918, 1931, 1936, 1941, 1945, 1950; Reichensperger 1913; A. H. Clark and A. M. Clark 1967). Recently, the French-Indonesian KARUBAR Expedition reported 15 species of 4 families of comatulids from deep waters (180–800 m) of the east Banda Sea collected by dredging in 1991 (Messing et al. 2000).

The shallow-water (less than 50 m deep) comatulids of the East Indian Archipelago were studied by Messing (1998b): a total of about 100 comatulid species were recorded including 43 species from the Banda Sea and 41 species from Aru and Kai islands of Indonesia. Meanwhile in neighboring seas, Messing (1994) described 40 species of comatulids at Madang, Papua New Guinea, Lane et al. (2000) listed 102 species from the South China Sea in the depth of 0–510 m, Mekhova and Britayev (2012) revealed 32 species from Southern Vietnam at 0–30 m of depth, and Messing and Tay (2016) reported 39 species from Singaporean shallow waters.

In this study, we report comatulid specimens from Indonesian shallow waters (less than 15 m deep) of Ambon Island in the Banda Sea and Lombok Island of the Lesser Sunda Islands during a project study conducted by the National Museum of Nature and Science, Tokyo, in 1992 and 1994. A synonymy, brief description of the specimens, and distribution are given for each species.

Materials and Methods

Specimens were collected by scuba diving at depths of shallower than 15 m, from Ambon Island on 25 November–9 December 1992 and from Lombok Island on 3–15 February 1994. The collection consisted of a total of 35 species in 20 genera among Comatulidae, Himerometridae, Mariametridae, Colobometridae, and Antedonidae. Two species were newly recorded from Indonesian waters.

Key Words: Comatulida, feather stars, Ambon Island, Lombok Island, Indonesia, shallow water.
Results

A total of 191 comatulid specimens, 110 and 81 specimens collected from Ambon and Lombok islands, Indonesia, respectively, were referred to 35 species in 20 genera belonging to Comatulidae, Himerometridae, Mariametridae, Colobometridae, and Antedonidae. Two species, Clarkcomanthus mirus and Clarkcomanthus exilis, are newly recorded from Indonesian waters. Comatulidae is the most diverse family, represented by 20 species of 9 genera (excluding three unidentified species).

Order Comatulida A. H. Clark, 1908a
Family Comatulidae Fleming, 1828

Comatella nigra (Carpenter, 1888)

Material examined. 13 specimens. Ambon Is. NSMT E-8146 (1 specimen), Latuhalat, 10 m, December 1, 1992; NSMT E-8153 (1), Silale, 15 m, December 2, 1992. Lombok Is. NSMT E-8196 (1), Gili Air I., February 3, 1994; NSMT E-8207 (1), E-8209 (1), E-8217 (1), E-8218 (1), E-8227 (1), E-8228 (2), E-8231 (1), E-8237 (1), Gili Air I., February 5, 1994; NSMT E-8253 (1), Kodek, February 15, 1994.

Description. Centrodorsal large, thin discoidal, circular in aboral view, 6–9 mm across, 1–2 mm thick, with cirrus sockets in 1–2 irregular rows. Cirri XXIII–XLII, 20–29, 15–28 mm long. Longest 2–3 cirrals (in 5th–10th) 1.2 times longer than wide; cirrals beyond about 10th with a low distal transverse ridge; 6–7 distal ones with a blunt aboral spine. Radials wholly concealed by centrodorsal or narrowly exposed. Division series very short. IBr 2; Ibr1 oblong, with proximal sides in contact laterally; Ibr2 (axil) triangular or rhombic, free laterally. II–IVBr all 2: IIIBr or IVBr twisted outward, consequently rays not in a plane. Arms 20–50 (usually 38–45), 80–115 mm long; first syzygy at br1,2 and second syzygy at br3,4; middle brachials beyond br3 much shorter than wide with oblique articulation; distal brachial margin everted and spiny. P1 excessively longer than other proximal pinnules, 21–25 mm long, of 47–60 segments; combs of 13–22 teeth confluent with inner edge of pinnules. Pinnule combs to P4–P6, rarely to P7–P10. First 2 pinnules of P2–P4 with a large fin-like expansion.

Distribution. Southern Vietnam (Mekhova and Britayev 2012); Indonesia, northern Australia, Philippines (A. M. Clark and Rowe 1971); Great Barrier Reef (Gibbs et al. 1976; Fabricius 1994).
Fabricius 1994); South China Sea (Lane et al. 2000); Papua New Guinea (Messing 1998b). Depth range: 0–120 m (Lane et al. 2000).

**Comatella stelligera** (Carpenter, 1888)

*Actinometra stelligera* Carpenter, 1888: 308, pl. 5 fig. 5a–d, pl. 58 figs 1, 2; Hartlaub 1891: 104.

**Comatella stelligera**—A. H. Clark 1909b: 136; 1912a: 68; 1912b: 3; 1913: 3; 1918: 5, pl. 2; 1929: 636; 1931: 98, pl. 4 figs 6–9; 1936: 296; Reichensperger 1913: 84; H. L. Clark 1915: 101; 1921: 13; 1946: 26; Gislén 1922: 18, figs 7–9; 1940: 3; A. M. Clark and Rowe 1971: 15 (key); A. M. Clark 1972: 85; Gibbs et al. 1976: 110; Liao 1983: 263; Chen et al. 1988: 76, fig. 6; Liao and A. M. Clark 1995: 27, fig. 12, pl. 1 fig. 2; Fabricius 1994: 1228 (table); Messing 1994: 239 (list); Rowe and Gates 1995: 147; Kogo 1998: 14, fig. 9; 2002: 4; Lane et al. 2000: 476 (table); Pilcher and Messing 2001: 16 (table); Kirkendale and Messing 2003: 527; Kogo and Fujita 2005: 326; Mekhova and Britayev 2012: 918.

*Actinometra maculata* Carpenter, 1888: 307, pl. 5 fig. 1a–d, pl. 55 fig. 2; Hartlaub 1891: 105.

**Comatella maculata**—A. H. Clark 1909b: 138; 1911b: 16; 1912a: 70; 1912b: 4; 1913: 3; 1918: 7; 1931: 112, pl. 20 fig. 20; 1937: 98; Reichensperger 1913: 84; H. L. Clark 1915: 101; 1921: 12; 1946: 26; Gislén 1922: 16, figs 4–6; A. M. Clark and Spencer Davis 1966: 598 (list); A. M. Clark and Rowe 1971: 15 (key); A. M. Clark 1972: 84; Meyer and Macurda 1980: 83; Liao, 1983: 263, pl. 1; Chen et al. 1988: 76, fig. 4; Fabricius 1994: 1228 (table); Messing 1994: 239 (list); Liao and A. M. Clark 1995: 27, pl. 1 fig. 1; Rowe and Gates 1995: 146; Lane et al. 2000: 476 (table); Kogo 2006: 225.

*Actinometra notata* Carpenter, 1889: 312, pl. 26 figs 6–12.

**Antedon basset-smithi** Bell, 1894: 399, pl. 24.

**Material examined.** 4 specimens. **Lombok Is.** NSMT E-8151 (1 specimen), Silale, 15 m, December 2, 1992; NSMT E-8167 (1), Silale, 15 m, December 3, 1992; NSMT E-8170 (1), Eri, 10 m, December 4, 1992. **Lombok Is.** NSMT E-8194 (1), Gili Air I., February 3, 1994.

**Description.** Centrodorsal thin discoidal, roundish or pentagonal in aboral view, 4–7 mm across, 1–1.5 mm thick, with cirrus sockets in 2 irregular rows. Cirri XXXII (or wholly lost), 18–19, about 15 mm long. Longest cirrals (4th–7th) about 2 times longer than wide; cirrals beyond 6th with aboral spine. Radials wholly concealed by centrodorsal. IBr 2: Ibr, trapezoidal, free laterally, Ibr, (axil) low pentagonal. IBr all 2. Rays in a plane. Ossicles of division series and basal brachials smooth without distal spines. Arms 20, 80 mm long. First syzygy at br1,2; middle brachials beyond br3 slightly shorter than wide, with oblique articulation and slightly everted distal margin. P, longest, 16 mm long, of 45 segments; combs of 13–15 teeth confluent with inner edge of pinnulars. Pinnule combs to P3. First 2 pinnulars of P3–P5, each with a large fin-like expansion.

**Remarks.** Among the 10 *Comatella* specimens from Gili Air of Lombok Island, 9 larger specimens (20–50 arms) were identified as *C. nigra*, and only this smallest specimen (20 arms) was as *C. stelligera*. The larger specimens have twisted division series and stout arms, while this specimen has plane division series and slender arms.

**Distribution.** Maldives, Sri Lanka, Bay of Bengal, Indonesia, northern Australia, Philippines, China (A. M. Clark and Rowe 1971); Myanmar (A. M. Clark 1972); southern Vietnam (Mekhova and Britayev 2012); Papua New Guinea, Micronesia (Meyer and Macurda 1980; Messing 1994); Timor Sea (Rowe and Gates 1995; South Pacific Ocean (A. M. Clark and Rowe 1971); South China Sea (Lane et al. 2000); Taiwan (Chen et al. 1988); Japan (A. M. Clark and Rowe 1971; Kogo 1998, 2006; Pilcher and Messing 2001; Kogo and Fujita 2005). Depth range: 0–210 m (Lane et al. 2000).

**Alloeocomatella pectinifera** (A. H. Clark, 1911c)

*Comissia pectinifera* A. H. Clark, 1911c: 644; 1912a: 78; 1913: 6; 1929: 636; 1931: 255, pl. 25 figs 69, 70.

**Comissa pectinifera**—A. M. Clark and Spencer Davis 1966: 598 (list); A. M. Clark and Rowe 1971: 14 (key); Messing 1994: 239 (list).

*Comissia magnifica* (not of Gislén, 1922)—Kogo 1998: 20, fig. 15.

**Alloeocomatella pectinifera**—Messing 1995: 445, figs 3e–g, i, j, 5, 6; 1998b: 189 (table); 2001: 291; 2007: 99; MarshallCrossland and Price 1999: 25; Kogo 2002: 6; Kogo and Fujita 2005: 328.

**Material examined.** 4 specimens. **Ambon Is.** NSMT E-8151 (1 specimen), Silale, 15 m, December 2, 1992; NSMT E-8167 (1), Silale, 15 m, December 3, 1992; NSMT E-8170 (1), Eri, 10 m, December 4, 1992. **Lombok Is.** NSMT E-8194 (1), Gili Air I., February 3, 1994.

**Description.** Centrodorsal thin discoidal, roundish or pentagonal in aboral view, 4–7 mm across, 1–1.5 mm thick, with cirrus sockets in 2 irregular rows. Cirri XXXII (or wholly lost), 18–19, about 15 mm long. Longest cirrals (4th–7th) about 2 times longer than wide; cirrals beyond 6th with aboral spine. Radials wholly concealed by centrodorsal. IBr 2: Ibr, trapezoidal, free laterally, Ibr, (axil) low pentagonal. IBr all 2. Rays in a plane. Ossicles of division series and basal brachials smooth without distal spines. Arms 20, 80 mm long. First syzygy at br1,2; middle brachials beyond br3 slightly shorter than wide, with oblique articulation and slightly everted distal margin. P, longest, 16 mm long, of 45 segments; combs of 22–33 teeth confluent with outer edge of pinnulars, excessively long, nearly a half of pinnule length. Pinnule combs to F5.

**Distribution.** Indonesia, Philippines (A. M. Clark and Rowe 1971); Maldives, northern Australia, Papua New Guinea, Micronesia, Melanesia (Messing 1995, 1998b); Sumatra (MarshallCrossland and Price 1999); Japan (Kogo 1998, 2002; Kogo and Fujita 2005). Depth range: 3–23 m (Messing 1995).

**Comatula pectinata** (Linnaeus, 1758)

*Asterias pectinata* Linnaeus, 1758: 663.

**Comatula pectinata**—A. H. Clark 1909a: 394; 1909b: 148; 1931: 339, pl. 20 fig. 49, pl. 33 fig. 100, pl. 34 fig. 101, pl. 35 fig. 102, pl. 36 fig. 103, pl. 37 fig. 104, pl. 38 figs 105–
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Material examined. 3 specimens. *Ambon Is.*, NSMT E-8143 (1 specimen, juvenile), E-8147 (2), Latuhalat, 10 m, December 1, 1992.

Description. Centrodorsal thin discoidal, 1–2.2 mm across, up to 0.6 mm thick, roundish in aboral view, with cirrus sockets in 1 aligned row. Cirri VII–VIII, 11–14, 5–8 mm long. Longest cirrals (4<sup>th</sup>–5<sup>th</sup>) 1.2 times longer than wide; cirrals smooth without aboral tubercle. Radials narrowly exposed, in contact laterally. IBr 2(1+2): Ibr<sub>1</sub> trapezoidal, in contact laterally; Ibr<sub>2</sub> (axil) triangular, free laterally. IIBr not present. Arms 10; anterior arms 85 mm, posterior arms 50 mm long; first syzygy at br<sub>1,2</sub>, second usually at br<sub>3,4</sub>; P<sub>1</sub> longest, 7–8 mm long, of 30–32 segments; combs of 4–7 teeth confluent with outer edge of pinnulars. Pinnule combs to P<sub>2</sub>.

Remarks. *Comatula purpurea* (Müller, 1843) was synonymized with *Comatula pectinata* by Rowe and Gates (1995: 148). These two species had been distinguished mainly by the arrangement of cirri (A. H. Clark 1931: 320, in key): cirri are segregated in the interradial angles in the former species, while not in the latter. The specimens (NSMT E-8143 and E-8147) show both types of cirri arrangement.

Distribution. Singapore (Messing and Tay 2016); Indonesia, northern Australia, Philippines (A. M. Clark and Rowe 1971); Great Barrier Reef (Gibbs et al. 1976; Fabricius 1994); South China Sea (Lane et al. 2000). Depth range: 0–120 m (Lane et al. 2000).

**Capillaster multibrachiatus** (Linnaeus, 1758)

* Asterias multibrachiata* Linnaeus, 1758: 663; Müller 1843: 133.

* Comatula (Alecto) multibrachiata—Müller 1849: 261.

* Actinometra multibrachiata—Carpenter 1882: 521, 523; 1888: 322, pl. 66 figs 1–3.

* Comaster multibrachiatus—A. H. Clark 1909a: 391.

* Capillaster multibrachiatus—A. H. Clark 1909b: 134; 1911a: 530; 1911b: 16; 1912a: 76; 1912b: 4; 1913: 5; 1918: 14; 1931: 173, pl. 8 fig. 5, pl. 11 fig. 30, pl. 13 fig. 34, pl. 14 figs 35, 36, pl. 81 figs 222, 223; 1934: 10; 1936: 296; 1937: 99; Reichensperger 1913: 84; H. L. Clark 1915: 101; 1921: 14; 1946: 27; Gislén 1938bb: 9.

* Capillaster multibrachiatus—A. M. Clark and Spencer Davis 1966: 598 (list); A. M. Clark and Rowe 1971: 15 (key); A. M. Clark 1972: 76; Fishelson 1974: 184 (list); Gibbs et al. 1976: 108; Tortone 1977: 275 (list); Meyer and Macurda 1980: 75; Marshall and Rowe 1981: 382; Chen et al. 1988: 75, figs 3, 23D; Fabricius 1994: 1228 (table); Liao and A. M. Clark 1995: 14, fig. 4; Messing 1994: 239 (list); 1998b: 189 (table); Rowe and Gates 1995: 139; Kogo 1998: 17, fig. 12; 2002: 6; Marshall Crossland and Price 1999: 25; Kogo and Fujita 2005: 327; Mekhova and Britayev 2012: 915; Messing and Tay 2016: 633, fig. 4A–C.

*Phanogena multibrachiata* (Carpenter, 1888)

* Actinometra multibrachiata* Carpenter, 1888: 299, pl. 56 figs 3, 4.

* Comaster multibrachiatus—A. H. Clark 1912a: 86; 1931: 437, pl. 46 fig. 142.

* Comaster multibrachiatus—A. M. Clark and Rowe 1971: 16 (key); Messing 1994: 239 (list); 1998b: 189 (table); Liao and A. M. Clark 1995: 25, fig. 11; Rowe and Gates 1995:
Phanagenia multibrachiata—A. H. Clark 1909a: 392; 1913: 13; Messing 1998a: 206 (list); 2001: 290; Kogo 2002: 7; Kogo and Fujita 2005: 329; Mekhova and Britayev 2012: 920.

Material examined. 5 specimens. Ambon Is. NSMT E-8155 (1 specimen), E-8157 (1), Silale, 15 m, December 2, 1992, E-8184 (1; juvenile of 14 arms), Leahari, December 8, 1994. Lombok Is. NSMT E-8246 (2), Gili Air I., February 5, 1994.

Description. Centrodorsal small, pentagonal orstellate in aboral view, 1.5–2.5 mm across, up to 0.5 mm thick, lacking cirrus sockets and cirri. Radials trapezoideal, in contact laterally. IBr 2: Ibr1 oblong or trapezoideal, in contact laterally, Ibr2 (axil) low pentagonal, free laterally. IIbr–Vbr 2(1+2), rarely 4(3+4). Division series narrow and widely separated from each other. Aboral interradial area of disk with many calcareous deposits. Arms 40–97, 50–200 mm long. First syzygy at br1+2. Brachials of middle to distal arm with spiny distal margins. P7 longest, 9–25 mm long, of 35–50 segments with distal comb thorn. Cirrals short and stout, XXV–XLVI, 10–13, 10–14 mm long. Longest cirrals (3rd–5th) 2 times longer than wide; succeeding cirrals gradually shortened, with distal transverse ridge or aboral spine. Radials narrowly exposed, in contact laterally. IBr 2: Ibr1 oblong in contact laterally; Ibr2 (axil) low pentagonal, free laterally. IIbr–Vbr 2(1+2) or 4(3+4). Armes 55–124, 77–158 mm long; first syzygy at br1+2. P7 longest, 13–17 mm long, of 40–62 segments; combs of 7–12 teeth confluent with outer edge of pinnules; first comb tooth transverse. Pinnule combs to P6, rarely to middle pinnules.

Distribution. Maldives, Bay of Bengal, Singapore, Indonesia, China (A. M. Clark and Rowe 1971); southern Vietnam (Mekhova and Britayev 2012); western, northern, and eastern Australia (Rowe and Gates 1995); Sulu Sea, Papua New Guinea (Messing 1994, 1998b); South China Sea (Lane et al. 2000); Taiwan (Liao and A. M. Clark 1995); Japan (A. M. Clark and Rowe 1971; Kogo 2002; Kogo and Fujita 2005). Depth range: 20–83 m (Lane et al. 2000).

Phanagenia gracilis (Hartlaub, 1890)

Actinometra gracilis Hartlaub, 1890: 187; 1891: 111, pl. 5 fig. 55.

Comaster gracilis—A. H. Clark 1909b: 139; 1912a: 84; 1913: 12; 1918: 35 (key); 1931: 430, pl. 47 figs 143, 144; 1936: 296; 1937: 99; 1952: 266; A. M. Clark and Spencer Davis 1966: 598 (list); A. M. Clark and Rowe 1971: 16 (key); A. M. Clark 1972: 84; Meyer and Macurda 1980: 81; Mierzwa 1984: 108, fig. 3d; Fabricius 1994: 1228 (table); Messing 1994: 239 (list); 1998b: 189 (table); Liao and A. M. Clark 1995: 24 (key); Kogo 1998: 25, fig. 19; Lane et al. 2000: 476 (table).

Phanogenia gracilis—Messing 1998a: 206 (list); 2001: 290; 2007: 98; Pilcher and Messing 2001: 16 (table); Kirkendale and Messing 2003: 524; Kogo and Fujita 2005: 329; Owen et al. 2009: 1517; Mekhova and Britayev 2012: 920.

Material examined. 17 specimens. Ambon Is. NSMT E-8108 (1 specimen), Pombo I., lagoon, November 27, 1992; NSMT E-8131 (1), E-8134 (1), E-8137 (1), Pombo I., 10 m, November 28, 1992; NSMT E-8156 (1), E-8158 (1), E-8159 (1), E-8164 (1), E-8165 (2), Silale, 15 m, December 2, 1992; NSMT E-8192 (2), Lilibooi, 15 m, December 9, 1992. Lombok Is. NSMT E-8198 (3), Gili Air I., February 3, 1994; NSMT E-8219 (1), E-8236 (1), Gili Air I., February 5, 1994.

Description. Centrodorsal small, pentagonal or stellate in aboral view, 4–5 mm across, up to 0.5 mm thick, with 0–16 small cirrus sockets in 1 aligned row. Cirri weak or absent, 0–XI, 14–16, up to 15 mm long; cirrals smooth without aboral spine. Radials trapezoideal, in contact laterally. IBr 2:
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Actinometra schlegelii

1986). et al. (Rowe 1986: 244). We treated here C. nobilis and C. schlegelii as separate species.

Distribution. Southern Vietnam (Mekhova and Britayev 2012); Sumatra (MarshallCrossland and Price 1999); western, northern, and eastern Australia, Coral Sea (Rowe et al. 1986); Sulu Sea, Papua New Guinea (Messing 1998b); Borneo, South China Sea (Lane et al. 2000); Japan (Kogo 1998, 2002; Pilcher and Messing 2001). Depth range: 8–92 m (Rowe et al. 1986).

Comaster schlegelii Carpenter, 1881

Actinometra schlegelii Carpenter, 1881: 210. Actinometra schlegelii—Carpenter 1884: 55; 1888: 331 (key). Comaster (Comanthina) schlegelii—A. H. Clark 1911a: 536. Comaster schlegelii—L. Clark 1915: 101; 1921: 20; A. H. Clark 1937: 99.

Comaster schlegelii—A. H. Clark 1912a: 91; 1912b: 8; 1913: 14; 1918: 46; 1931: 466 (part), pl. 53 fig. 158, pl. 64 fig. 180, H. L. Clark 1946: 33; A. M. Clark and Spencer Davis 1966: 598 (list); Gibbons et al. 1976: 109; Rowe et al. 1986: 244, figs 2e, 8c, 8d; Messing 1994: 239 (list); 1999b: 189 (table); Rowe and Gates 1995: 142; Kogo 1998: 30, fig. 24; MarshallCrossland and Price 1999: 25; Lane et al. 2000: 476 (table).

Comaster schlegelii—A. M. Clark and Rowe 1971: 16 (key); Meyer and Macurda 1980: 75; Zmarzly 1984: 108, fig. 3c; Chen et al. 1988: 76, figs 9, 23G; Fabricius 1994: 1228 (table); Liao and A. M. Clark 1995: 18 (part).

Comaster schlegelii—Messing 1998a: 206 (list); 2007: 96; Pilcher and Messing 2001: 16 (table); Kirkendale and Messing 2003: 528; Kogo and Fujita 2005: 331; Mekhova and Britayev 2012: 917; Messing and Tay 2016: 638.

Actinometra duplex Carpenter, 1888: 335. Comasterus duplex—A. H. Clark 1908c: 205.

Material examined. 3 specimens. Ambon Is. NSMT E-8141 (1 specimen), E-8142 (1), Titil, 10 m, November 30, 1992; NSMT E-8190 (1), Lilibooi, 15–20 m, December 9, 1992.

Description. Centrodorsal small, discoidal, 3.1–3.3 mm across, up to 1.2 mm thick, with cirrus sockets aligned in 1, partly 2 rows. Cirr XVII–XX, 13–15, 8–10 mm long. Longest cirrals (5th–7th) 1.2 times longer than wide; cirrals beyond 7th with transverse ridge; 2–4 distal cirrals usually with aboral spine. Radials mostly concealed by centrodorsal. Ib r: Ib, trapezoidal, in contact laterally, Ib free laterally. IIBr usually inner side 4(3–4) and outer 2 (‘2–4–2 order’). IVBr and VBr all 4(3–4). Interradial area with thin irregular polygonal perisomic plates. Arms 66–109, 80–125 mm long. First syzygy at br3,4, P1 longest, 20 mm long, of about 55 segments with distal comb of 7–10 teeth confluent with inner edge of pinnulars; 3–5 pinnulars with paired teeth of same size at both edges; proximal 2–3 teeth transverse. Pinnule combs to P3, rarely to P4r. P5.

Remarks. Hoggett and Rowe (1986) distinguished this species from C. schlegelii. On the other hand, Messing and Tay (2016) restored this species to synonymy under C. schlegelii, following A. H. Clark (1931). These two species are distinguishable by number of arms (Carpenter 1884: 55), and by cirrus number, comb distribution, and color pattern (Rowe et al. 1986: 244). We treated here C. nobilis and C. schlegelii as separate species.

Distribution. Maldives, Sri Lanka, Bay of Bengal, Indonesia, northern and western Australia, Philippines, China, South Pacific Ocean (A. M. Clark and Rowe 1971; Rowe and Gates 1995); southern Vietnam (Mekhova and Britayev 2012); Sumatra (MarshallCrossland and Price 1999); western, northern, and eastern Australia, Coral Sea (Rowe et al. 1986); Sulu Sea, Papua New Guinea (Messing 1998b); Borneo, South China Sea (Lane et al. 2000); Japan (Kogo 1998, 2002; Pilcher and Messing 2001). Depth range: 3–30 m (Lane et al. 2000).

Clarkcomanthus luteofuscum (H. L. Clark, 1915)

Comanthus luteofuscum H. L. Clark, 1915: 102. Comanthus luteofusae—H. L. Clark 1921: 18.

Clarkcomanthus luteofuscum—Rowe et al. 1986: 233, figs 2c, d, 7a, b; Fabricius 1994: 1228 (table); Messing 1994: 239 (list); 1999b: 189 (table); 2007: 97; Rowe and Gates 1995: 142; Kogo 1998: 50, fig. 39; MarshallCrossland and Price 1999: 25; Kirkendale and Messing 2003: 530; Kogo and Fujita 2005: 335; Summers et al. 2014: 336.

Comanthus samoana (not of A. H. Clark, 1909f)—A. H. Clark 1931: 593 (part); 1936: 298 (part).

Comanthus samoanus (not of A. H. Clark, 1909f)—Meyer and Macurda 1980: 81. Cerolia samoana (not of A. H. Clark, 1909f)—H. L. Clark 1946: 36 (part).

Material examined. 3 specimens. Ambon Is. NSMT E-8127 (1 specimen), E-8132 (1), Pombo L, 10 m, November 28, 1992; NSMT E-8163 (1), Silale, 15 m, December 2, 1992.

Description. Centrodorsal thin discoidal, 4–5 mm across, 1 mm thick, with cirrus sockets aligned in 1, partly 2 rows. Cirri XVIII–XXV including 2–6 rudimentary ones, 15–17, 11–13 mm long. Longest cirrals (4th–6th) slightly longer than wide; cirrals smooth, without aboral spine. Radials narrowly exposed, in contact laterally. IBr: Ib, oblong, in contact laterally; Ib (axil) low pentagonal, free laterally. IIBr 4(3–4). IIIBr usually 4(3–4) on inner side and 2 on outer side of ray. IVBr and VBr 4(3–4). Interradial area with thin irregular polygonal perisomic plates. Arms 48–83, 62–85 mm long; first syzygy at br3,4, P1 longest, 13–17 mm long, of 34–50 segments; combs of 6–10 teeth confluent with inner edge of pinnulars; 3–4 pinnulars with paired teeth of same size at both edges; first comb tooth transverse. Pinnule combs to P3, rarely to P4r. P5.

Remarks. Kogo and Fujita (2005). Depth range: 3–30 m (Lane et al. 2000).
cretal teeth confluent with outer edge of pinnules. P_{3b}, P_{4b}, and P_{1} much longer than succeeding pinnules. Pinnule combs to P_{3}.

**Distribution.** Western, northern, and eastern Australia, Indonesia, Melanesia (Rowe et al. 1986); Sumatra (MarshallCrossland and Price 1999); Great Barrier Reef (Fabricius 1994); Sulu Sea, Papua New Guinea, Micronesia (Messing 1994, 1998b, 2007; Kirkendale and Messing 2003); Japan (Kogo and Fujita 2005). Depth range: 0–18 m (Rowe et al. 1986).

**Clarkcomanthus alternans** (Carpenter, 1881)

*Actinometra alternans* Carpenter, 1881: 208; 1888: 330 (key). *Comanthia alternans*—A. H. Clark 1912a: 90; 1913: 13; 1931: 488; Reichensperger 1913: 87. *Comanthus alternans*—A. H. Clark 1908c: 206; H. L. Clark 1915: 101; 1921: 16; Rowe et al. 1986: 224, fig. 6a; Fabricius 1994: 1228; Messing 1994: 239 (list); 1998b: 189 (table); 2007: 97; Rowe and Gates 1995: 143; Kogo 1998: 33, fig. 26; 2002: 9; Lane et al. 2000: 476 (table); Kirkendale and Messing 2003: 530; Kogo and Fujita 2005: 332; Mekhova and Britayev 2012: 915. *Clarkcomanthus alternans*—Summers et al. 2014: 336.

**Material examined.** 8 specimens. *Ambon Is.* NSMT E-8110 (1 specimen), Pombo I., Lagoon, November 27, 1992; NSMT E-8114 (1), Pombo L, 10 m, November 28, 1992. *Lombok Is.* NSMT E-8197 (1), Gili Air I., February 3, 1994; NSMT E-8242 (1), Gili Air I., February 5, 1994; NSMT E-8255 (2), E-8256 (1), E-8260 (1), Kodek, February 15, 1994.

**Description.** Centrodorsal small, thin, pentagonal or stellate in aboral view, 2.5–3.5 mm across, up to 0.4 mm thick, lacking cirrus sockets and cirri. Radials trapezoidal, in contact laterally. IBr 2: Ibr1, oblong, in contact laterally; Ibrx (axil) low pentagonal, free laterally. IIIBr 2, rarely 4(3+4); outer brachials twisted outward. IVBr and VBr 4(3+4). Arms 48–122, 60–100 mm long; first syzygy at brx+4, P_{5} longest, 9–16 mm long, of 32–44 segments; combs of 6–10 teeth confluent with outer edge of pinnules; 2–3 distal pinnules with small secondary tooth. Pinnule combs to P_{5}, rarely to P_{7}–P_{10}.

**Distribution.** Southern Vietnam (Mekhova and Britayev 2012); western, northern and eastern Australia, Indonesia, New Guinea, New Caledonia, Philippines (Rowe et al. 1986); Sulu Sea, Papua New Guinea, Micronesia (Messing 1994, 1998b, 2007; Kirkendale and Messing 2003); South China Sea (Lane et al. 2000); Japan (Rowe et al. 1986; Kogo 1998, 2002; Kogo and Fujita 2005). Depth range: 0–90 m (Lane et al. 2000).

**Clarkcomanthus littoralis** (Carpenter, 1888)

*Actinometra littoralis* Carpenter, 1888: 346, pl. 67 figs 1, 2.* Clarkcomanthus littoralis*—Rowe et al. 1986: 236, fig. 7c–f; Fabricius 1994: 1228 (table); Messing 1994: 239 (list); 1998b: 189 (table); 2007: 97; Rowe and Gates 1995: 141; Kogo 1998: 51, fig. 40; MarshallCrossland and Price 1999: 25; Pilcher and Messing 2001: 16 (table); Kirkendale and Messing 2003: 529; Kogo and Fujita 2005: 335; Summers et al. 2014: 336.

**Material examined.** 19 specimens. *Ambon Is.* NSMT E-8169 (1 specimen), E-8180 (1), Eri, 10 m, December 4, 1992. *Lombok Is.* NSMT E-8199 (3), Gili Air I., February 3, 1994; NSMT E-8206 (1), E-8212 (1), E-8216 (1), E-8222 (1), E-8223 (1), E-8225 (2), E-8229 (1), E-8230 (1), E-8234 (1), E-8238 (1), Gili Air I., February 5, 1994; NSMT E-8251 (2), E-8254 (1), Kodek, February 15, 1994.

**Description.** Centrodorsal small, discoidal, circular, pentagonal or stellate in aboral view, 2–3 mm across, up to 0.5 mm thick, with 0–12 cirrus sockets in 1 aligned row. Cirri absent or weak, if present, up to X, 11–13, 6–8 mm long. Longest cirrals (4^{3+4}) about 1.5 times longer than wide; 2–3 most distal cirrals with a small aboral spine or tubercle. Radials narrowly exposed, in contact laterally. Ibr 2: Ibr, oblong, in contact laterally; Ibrx (axil) triangular or low pentagonal, free laterally. IIIBr and IIIBr 4(3+4) or 2. Armes 14–c. 50; anterior arms 85–130 mm, posterior arms 35–80 mm long; first syzygy at brx+4, P_{5} longest, 14–26 mm long, of 36–48 segments; combs of 6–11 teeth confluent with outer edge of pinnules; distal pinnules often with secondary tooth. Pinnule combs to P_{5}.

**Distribution.** Western, northern, and eastern Australia, Indonesia, Melanesia (Rowe et al. 1986); Sulu Sea (Messing 1998b, 2007); Great Barrier Reef (Fabricius 1994); Papua New Guinea (Messing 1994); Micronesia (Messing 1998b, 2007; Kirkendale and Messing 2003); Japan (Kogo 1998; Pilcher and Messing 2001; Kogo and Fujita 2005). Depth range: 1–144 m (Rowe et al. 1986).

**Clarkcomanthus mirabilis**

(Rowe, Hoggett, Birtles, and Vail, 1986)

*Comanthus mirabilis* Rowe et al., 1986: 226, fig. 6B, C.* Clarkcomanthus mirabilis*—Summers et al. 2014: 336.

**Material examined.** 1 specimen. *Lombok Is.* NSMT E-8232 (1 specimen), Gili Air I., February 5, 1994.

**Description.** Centrodorsal small, stellate in aboral view, 3 mm across, reduced to level with radial-circlet, lacking cirrus sockets and cirri. Radials trapezoidal, 2 mm long, in contact laterally. Ibr 2: Ibr, trapezoidal, in contact laterally; Ibrx (axil) pentagonal, free laterally. IIIBr 4(3+4). Arms 39; anterior arms 110 mm, posterior arms 85 mm long; first syzygy at brx+4, P_{5} longest, 18 mm long, of 49 segments; combs of 12–14 teeth confluent with outer edge of pinnules, some pinnules with secondary tooth; most proximal tooth transverse. Pinnule combs to P_{2}, rarely to P_{2}–P_{5}. Disc covered with many nodules.

**Distribution.** Philippines, Papua New Guinea (Messing 1994); northern and eastern Australia, Indonesia, New Caledonia. Depth range: 3–18 m (Rowe et al. 1986).
Clarkcomanthus exilis
(Rowe, Hoggett, Birtles, and Vail, 1986)

Oxycomanthus exilis Rowe et al., 1986: 251, fig. 9a; Vail 1987: 554 (table), 557; Fabricius 1994: 1228 (table); Messing 1994: 239 (list); 1998b: 189 (table); 2007: 98; Rowe and Gates 1995: 149; Kirkendale and Messing 2003: 533; Kogo 2002: 11; Kogo and Fujita 2005: 335.

Oxycomanthus exilis—Kogo 1998: 49, fig. 38.

Clarkcomanthus exilis—Summers et al. 2014: 336.

Material examined. 1 specimen. Ambon Is. NSMT E-8128 (1 specimen), Pombo I., 10 m, November 28, 1992.

Description. Centrodorsal small, pentagonal in aboral view, 2 mm across, 0.2 mm thick, with about 10 minute cirrus sockets in 1 aligned row. Cirri V including 3 rudimentary ones, 12, up to 6 mm long. Cirrals smooth without aboral spine. Radials trapezoidal, in contact laterally. Rays in a plane. IBr 2: Ibr1 oblong, in contact laterally; Ibr 2 (axil) pentagonal, free laterally. IIBr low pentagonal, free laterally. IIBr and IIIBr all 4(3+4). Arms presumably 34, 64 mm long, first syzygy at br 3+4. P1 longest, 9 mm long, of 41 segments; combs of 8 teeth non-confluent. Pinnule combs restricted to proximal pinnules. The specimen of a species of Clarkcomanthus, other than C. mirus. Pinnule combs to P4.

Distribution. First record in Indonesia; previously known from eastern Australia, New Caledonia (Rowe et al. 1986; Fabricius 1994); Philippines (Messing 1998b); Micronesia (Kirkendale and Messing 2003). Depth range: 3–25 m (Rowe et al. 1986).

Clarkcomanthus mirus
(Rowe, Hoggett, Birtles, and Vail, 1986)

Oxycomanthus mirus Rowe et al., 1986: 255, figs 3c, 9c–d; Fabricius 1994: 1228 (table); Rowe and Gates 1995: 150; Messing 1998b: 189 (table).

Oxycomanthus cf. mirus—Kirkendale and Messing 2003: 533.

Clarkcomanthus mirus—Summers et al. 2014: 336.

Material examined. 2 specimens. Ambon Is. NSMT E-8188 (1 specimen), Lilibooi, 15–20 m, December 9, 1992.

Lombok Is. NSMT E-8247 (1), Gili Trawangan I., February 13, 1994.

Description. Centrodorsal thin discoidal, roundish to stellate in aboral view, 2.5–3 mm across, up to 0.5 mm thick, with cirrus sockets in 1 aligned row. Cirri I–XII, 11–12, 6 mm long. Longest cirrals (4th–7th) 2 times longer than wide; all cirrals smooth without aboral spine. Radials trapezoidal, in contact laterally. IBr 2: Ibr1 oblong, in contact laterally; Ibr2 (axil) low pentagonal, free laterally. IIIBr and IIIIBr all 4(3+4). Arms 27–32; anterior arms 95–130 mm, posterior arms 65–80 mm long; first syzygy at br 3+4. Middle brachials beyond br, wedge-shaped with everted distal margin. P1 longest, 11–15 mm long, of 40 segments; combs of 10–12 discrete teeth non-confluent, with pointed tip; 3–4 pinnulairs often with small secondary tooth. P1 similar to P10, excessively longer than succeeding pinnules. Pinnule combs to P2.

Distribution. First record in Indonesia; previously known from eastern Australia, New Caledonia (Rowe et al. 1986; Fabricius 1994); Philippines (Messing 1998b); Micronesia (Kirkendale and Messing 2003). Depth range: 3–10 m (Rowe et al. 1986).

Clarkcomanthus sp. 1

Material examined. 1 specimen. Ambon Is. NSMT E-8116 (1 specimen), Pombo I., 10 m, November 28, 1992.

Description. Centrodorsal thin discoidal, pentagonal in aboral view, 3.2 mm across, 0.7 mm thick, with 16 cirrus sockets in 1 aligned row, only 3 rudimentary cirri retained. Radials trapezoidal, in contact laterally. IBr 2: Ibr1 oblong, in contact laterally at base; Ibr2 (axil) low pentagonal, free laterally. IIIBr 4(3+4), rarely 2. IIIBr 2, rarely 4(3+4). IVBr 2. Arms 31 or 32, 30–35 mm long; first syzygy at br 3+4, middle brachials beyond br, with everted and spiny distal edge. P1 longest, 9 mm long, of 41 segments; combs of 8 teeth non-confluent, with pointed tip; distal 2 or 3 pinnules with secondary tooth; first comb tooth transverse. Pinnule combs to P3, rarely to P4.

Remarks. This specimen closely resembles to the specimens of Clarkcomanthus mirus (NSMT E-8188 and 8247). Though the components of the division series and the distribution of pinnule combs are different: IIIBr series is usually 4(3+4) and combs are limited to P2 in C. mirus, while IIIBr mainly of 2 and combs extend to P4 in this specimen. From these points, this specimen is regarded as a young individual of some species of Clarkcomanthus, other than C. mirus.

Clarkcomanthus sp. 2

Material examined. 1 specimen. Ambon Is. NSMT E-8140 (1 specimen), Tial, 10 m, November 30, 1992.

Description. Centrodorsal discoidal, roundish in aboral view, 1 mm across, 0.4 mm thick, with cirrus sockets in 1 aligned row. Cirri VI, 9, 5 mm long. Cirrals beyond 1st longer than wide, smooth, no aboral spine; opposing spine prominent. Radials trapezoidal, in contact laterally. IBr 2: Ibr1 oblong; Ibr2 (axil) pentagonal, free laterally; IIIBr 4(3+4). Arms 11, 38 mm long; first syzygy at br 3+4, middle brachials of middle arm with spiny distal margin. P1 9 mm long, of 26–28 segments; combs of 4–7 teeth non-confluent, with pointed tip; no secondary tooth. P2 and P3 absent. P4 3.5 mm long, of 12 segments, no comb. Middle pinnules slender, not swollen without recognizable gonad; pinnulas with spiny distal margin.

Remarks. This specimen is supposedly a young individual of a species of Clarkcomanthus, for having a small centrodorsal, non-confluent teeth of combs, and distalmost pinnule comb restricted to on proximal pinnules. The specimen resembles to C. exilis and C. mirus for holding non-confluent teeth. Though the distalmost comb is on P1 or P2 in these two species, while on P3 in this specimen. It also
Comatulids from Ambon and Lombok islands

Comanthus annulatum—A. H. Clark 1912a: 98; 1912b: 9; Comanths
Comanthus annulata

Comanthus wahlbergii—A. H. Clark 1911b: 17.

Comanthus parvicirrus (Müller, 1841)

Alecto parvicirra Müller, 1841: 145.

Actinometra parvicirca—Carpenter 1881: 204; 1882: 519; 1888: 338, pl. 61, pl. 67 figs 3, 4; Hartlaub 1891: 96.

Comanthus (Comanthus) parvicirra—A. H. Clark 1911a: 53; Utinomi and Kogo 1965: 265.

Comanthus (Valida) parvicirra—A. H. Clark 1911b: 18.

Comanthus parvicirrus—A. H. Clark 1912a: 9; 1913: 16; 1931: 603, pl. 64 fig. 29; Marshall and Rowe 1981: 383; Liao 1983: 264; Zmarzly 1984: 108, fig. 4; Rowe et al. 1986: 211, fig. 5a, b; Vail 1987: 553, 554 (table); Chen et al. 1988: 76, fig. 10; Fabricius 1994: 1228 (table); Messing 1994: 239 (list); 1998b: 189 (table); 2007: 97; Liao and A. M. Clark 1995: 21, fig. 10, pl. 2 fig. 1; Rowe and Gates 1995: 144; Kogo 1998: 33, fig. 26; 2002: 10; MarshallCrossland and Price 1999: 26; Lane et al. 2000: 476 (table); Pilcher andMessing 2001: 16 (table); Kirkendale and Messing 2003: 531; Kogo and Fujita 2005: 331; Mekhova and Britayev 2012: 916; Summers et al. 2014: 337; Messing andTay 2016: 638.

Alecto timorensis Müller, 1841: 145.

Comatula timorensis—Müller 1849: 263.

Comanthus timorensis—A. H. Clark 1931: 603; pl. 64 fig. 181, pl. 75 fig. 204, pl. 76 fig. 205, pl. 77 figs 206, 207; 1936: 299; Gislen 1940: 7; H. L. Clark 1946: 38.

Actinometra annulata Bell, 1882: 535, pl. 35.

Comanthus (Comanthus) annulata—A. H. Clark 1911a: 530.

Comanthus annulata—A. H. Clark 1912a: 98; 1912b: 9; 1913: 17; H. L. Clark 1921: 16.

Comanthus annulatum—H. L. Clark 1915: 101.

Comanthus (Vania) annulata—A. H. Clark 1918: 53; Gislen 1922: 49, figs 37–40.

Comanthus intricata A. H. Clark, 1908b: 220.

Material examined. 16 specimens. Ambon Is. NSMT E-8104 (1 specimen, juvenile), Pombo I., November 26, 1992; NSMT E-8125 (1, 10 arms), E-8129 (1), Pombo I., 10 m, November 28, 1992; NSMT E-8149 (1), Latuhalat, 15 m, December 1, 1992; NSMT E-8154 (1), E-8168 (1), Silale, 15 m, December 2, 1992; NSMT E-8178 (1), Eri, 10 m, December 4, 1992; NSMT E-8182 (1), Lealari, December 8, 1992; NSMT E-8189 (1), Lilibooi, 15 m, December 9, 1992. Lombok Is. NSMT E-8193 (1), E-8221 (1), E-8235 (1), E-8239 (1), E-8240 (1), E-8245 (1), Gili Air I., February 3, 1994.

Description. Centrodorsal small, thin discoidal, round, pentagonal or stellate in aboral view, 2.5–3.5 mm across, up to 0.5 mm thick, with cirrus sockets in 1 aligned row. Cirri short and weak, VI–X, 8–15, 7–12 mm long. Longest cirrus (5th–7th) 1.3 times longer than wide; 2–3 distal cirrals with a low transverse ridge. Radial cirri pinnular, in contact laterally. IBr 2: Ibr, oblong, in contact laterally; Ibr, (axil) triangular, free or in contact laterally. IIibr and IIIibr 4(3+4), rarely 2. IVbr all 4(3+4). Arms 19–42; anterior arms 70–180 mm, posterior arms 40–80 mm long; first syzygy at br 3+4. P2 longest, 10–13 mm long, of 34–48 segments; combs of 6–12 discrete teeth confluent with outer edge of pinnulans; first comb tooth transverse. Combed pinnule tips usually coiled. Pinnule combs to middle, often to distal pinnules. Middle pinnulans of distal pinnule with smooth distal edge.

Distribution. South Africa (A. M. Clark 1972); western Indian Ocean, Bay of Bengal, Indonesia, Philippines, China (A. M. Clark and Rowe 1971); southern Vietnam (Mekhova and Britayev 2012); Sumatra (MarshallCrossland and Price 1999); Singapore (Messing andTay 2016); Hong Kong (A. M. Clark 1982); northern Australia (A. M. Clark and Rowe 1971; Rowe et al. 1986; Rowe and Gates 1995); Great Barrier Reef (Gibbs et al. 1976; Vail 1987; Fabricius 1994; Rowe and Gates 1995); eastern Australia (Rowe and Gates 1995); Coral Sea (Rowe et al. 1986); Papua New Guinea (Messing 1994); Micronesia (Meyer and Macurda 1980; Zmarzly 1984; Messing 1998b, 2007; Kirkendale and Messing 2003); South Pacific Ocean (A. M. Clark and Rowe 1971); South China Sea (Lane et al. 2000); Japan (A. M. Clark and Rowe 1971; Kogo 1998, 2002; Pilcher andMessing 2001; Kogo and Fujita 2005). Depth range: 1–110 m (Lane et al. 2000).

Comanthus samoanus—A. H. Clark 1931: 593 (part); 1936: 298 (part).

Comanthus samoanus—Gibbs et al. 1976: 110.

Material examined. 6 specimens. Ambon Is. NSMT E-8106 (1 specimen), Pombo I., lagoon, November 27, 1992; NSMT E-8124 (1), Pombo L, 10 m, November 28, 1992; NSMT E-8145 (1), Latuhalat, 10 m, December 1, 1992; NSMT E-8160 (1), Silale, 15 m, December 2, 1992; NSMT

Comanthus parvicirrus resembles to Comanthus sp. (NSMT E-8195) in absence of P2 and P3, but this specimen has non-confluent teeth, while Comanthus sp. has confluent teeth, while
E-8189 (1), Lilibooi, 15–20 m, December 9, 1992. **Lombok Is.** NSMT E-8215 (1), Gili Air L., February 5, 1994.

**Description.** Centrodorsal thin disoidal, circular in aboral view, 2.5–4 mm across, 0.3–1 mm thick, with flat aboral pole and cirrus sockets in 1 aligned, partly 2 rows. Cirri XV–XXIII, 14–16, 7–11 mm long. Longest cirrals (usually 4th–5th) 1.3 times longer than wide; 4–7 distal cirrals with aboral spine or transverse ridge. Radials almost wholly concealed by centrodorsal. Rays in a plane. IBr 2: Ibr1 oblong, in contact laterally, Ibr2 (axil) low pentagonal, free laterally. IIBr 4(3+4), rarely 2. IIBr 4(3+4). Arms 20–42; anterior arms 60–105 mm, posterior arms 35–85 mm long; first syzygy at br3+4. P1 longest, 14 mm long, of about 40 segments; combs of 7–10 teeth confluent with outer edge of pinnulars; first comb tooth transverse; 3–4 distal pinnulars with transverse ridge or paired teeth. Pinnule combs to P3, often to middle pinnules.

**Distribution.** Maldives, Sri Lanka, Sumatra (MarshallCrossland and Price 1999); western, northern, and eastern Australia, Tasman Sea, New Zealand, Coral Sea, Melanesia (Rowe et al. 1986; Rowe and Gates 1995); Great Barrier Reef (Vail 1987; Fabricius 1994); Papua New Guinea (Messing 1994, 1998b); Micronesia (Kirkendale and Messing 2003); South China Sea (Lane et al. 2000); Japan (Kogo 1998; Kogo and Fujita 2005). Depth range: 1–103 m (Lane et al. 2000).

**Comanthus gisleni** Rowe, Hoggett, Birtles, and Vail, 1986

*Comanthus gisleni* Rowe et al., 1986: 219, figs 4b, 5d; Vail 1987: 555; Fabricius 1994: 1228 (table); Messing 1994: 239 (list), 1998b: 189 (table); Rowe and Gates 1995: 144; Kogo 1998: 35, fig. 28; 2002: 10; MarshallCrossland and Price 1999: 26; Lane et al. 2000: 476 (table); Kogo and Fujita 2005: 332; Mekhova and Britayev 2012: 915, fig. 6; Summers et al. 2014: 337.

**Material examined.** 1 specimen. **Ambon Is.** NSMT E-8226 (1 specimen), Gili Air L., February 5, 1994.

**Description.** Centrodorsal thin disoidal, pentagonal in aboral view, 3 mm across, 0.3 mm thick, with cirrus sockets in 1 aligned row. Cirri XIV, including 2 rudimentary ones, 13–14, 7–8 mm long. Longest cirrals (5th–6th) 1.3 times longer than wide; cirrals beyond 7th shorter than wide with blunt aboral crest. Radials trapezoidal, in contact laterally. IBr 2: Ibr1 trapezoidal, in contact laterally at base; Ibr2 (axil) low triangular, free laterally. IIBr 2, rarely 4(3+4). IIBr 4(3+4), rarely 2. Arms 28, 65–85 mm long; first syzygy at br3+4. P1 longest, 14 mm long, of about 40 segments; combs of about 6 teeth confluent with outer edge of pinnulars; first comb tooth transverse. Pinnule combs to middle, often to distal pinnules. Middle pinnulars of distal pinnule fringed with small distal spines.

**Distribution.** Sri Lanka, Sumatra (MarshallCrossland and Price 1999); southern Vietnam (Mekhova and Britayev 2012); Thailand, western, northern, and eastern Australia, Coral Sea, Melanesia (Rowe et al. 1986); Timor Sea (Rowe and Gates 1995); Borneo (Lane et al. 2000); Sulu Sea, Papua New Guinea (Messing 1994, 1998b); Great Barrier Reef (Vail 1987; Fabricius 1994); Japan (Rowe et al. 1986; Kogo 2002; Kogo and Fujita 2005). Depth range: 0–32 m (Rowe et al. 1986).

**Comanthus suavia** Rowe, Hoggett, Birtles, and Vail, 1986

*Comanthus suavia* Rowe et al., 1986: 222, fig. 5e–g; Messing 1994: 239 (list); 1998b: 189 (table); 2007: 97; Rowe and Gates 1995: 145; MarshallCrossland and Price 1999: 16; Obuchi 2013: 16, fig. 1, pl. 10a; Summers et al. 2014: 337.

**Material examined.** 1 specimen. **Ambon Is.** NSMT E-8195 (1 specimen), Gili Air L., February 3, 1994.

**Description.** Centrodorsal thin disoidal, circular in aboral view, 0.8 mm across, with 10 cirrus sockets in 1 aligned row. Cirri IV retained, 8, 4 mm long, with knobby articulation. Longest cirrals (2nd–3rd) 2.5 times longer than wide; middle and distal cirrals slightly longer than wide, without aboral spine; opposing spine prominent. Rays in a plane. Division series widely separated each other. Radials oblong, in contact laterally at base. IBr 2: Ibr1, rectangle, slightly wider than long, Ibr2 (axil) pentagonal. Arms 10, 45 mm long; first syzygy at br3+4. P1 longest, 15 mm long, of 21 segments; with 8 teeth confluent with outer edge of pinnulars; first comb tooth transverse; combined pinnules with transverse bar; some pinnules longer than wide. P2 and P3 absent; P4 4 mm long, of 10 segments, with 0–4 confluens teeth. P5 4 mm long, of 10 segments, no comb. Pinnule slender; no recognizable gonad; middle and distal pinnules spiny at distal margin. P3 and P4 present; P5 and P6 absent.

**Remarks.** This specimen belongs to the genus *Comanthus* for having a small centrodorsal, exposed radials and a few

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This specimen belongs to the genus *Comanthus* for having a small centrodorsal, exposed radials and a few
Comatulids from Ambon and Lombok islands

Actinometra bennetti —H. Clark 1946: 36.

Material examined. 3 specimens. Ambon Is. NSMT E-8103 (1 specimen), Pombo I., 10 m, November 25, 1992. Lombok Is. NSMT E-8204 (1), Kodek, February 15, 1994; NSMT E-8257 (1), Gili Air I., February 3, 1994.

Description. Centrodorsal large, thick discoidal or low hemispherical, 7–10 mm across, 3–4 mm thick, with cirrus sockets in 2–3 crowded rows; aboral pole deeply concave. Cirri long and stout, XXXII–LVIII, 26–35, 25–32 mm long. Proximal cirrals mostly as long as wide; 7–10 distal cirrals slightly shorter than wide with blunt aboral tubercle. Radials wholly concealed by centrodorsal. IBr 2: Ibr1 oblong, proximal angle in contact laterally; Ibr2 (axil) low pentagonal, in close to laterally. IIIBr–VBr 4(3–4), rarely 2, free laterally. Arms 40–80, 80–150 mm long; first syzygy at br3–4; P9 longest, 22–30 mm long, 56–62 segments; combs of 10–14 teeth non-confluent, with pointed tip. Pinnule combs to P9.

Distribution. Sri Lanka, Bay of Bengal, Indonesia, northern Australia, Philippines, China, South Pacific Ocean (A. M. Clark and Rowe 1971); southern Vietnam (Mekhova and Britayev 2012); Sumatra (MarshallCrossland and Price, 1999); Singapore (Messing and Tay 2016); western, northern, and eastern Australia (Rowe and Gates 1995); Papua New Guinea (Messing 1994, 1998b); South China Sea (Lane et al. 2000); Japan (A. M. Clark and Rowe 1971; Kogo and Fujita 2005). Depth range: 0–50 m (Lane et al. 2000).

Family Himerometridae A. H. Clark, 1908b

Himerometra robustipinna Carpenter, 1881

Material examined. 3 specimens. Ambon Is. NSMT E-8103 (1 specimen), Pombo I., 10 m, November 25, 1992. Lombok Is. NSMT E-8204 (1), Kodek, February 15, 1994; NSMT E-8257 (1), Gili Air I., February 3, 1994.

Description. Centrodorsal large, thick discoidal or low hemispherical, 7–10 mm across, 3–4 mm thick, with cirrus sockets in 2–3 crowded rows; aboral pole deeply concave. Cirri long and stout, XXXII–LVIII, 26–35, 25–32 mm long. Proximal cirrals mostly as long as wide; 7–10 distal cirrals slightly shorter than wide with blunt aboral tubercle. Radials wholly concealed by centrodorsal. IBr 2: Ibr1 oblong, proximal angle in contact laterally; Ibr2 (axil) low pentagonal, in close to laterally. IIIBr–VBr 4(3–4), rarely 2, free laterally. Arms 40–80, 80–150 mm long; first syzygy at br3–4; P9 longest, 22–30 mm long, 56–62 segments; combs of 10–14 teeth non-confluent, with pointed tip. Pinnule combs to P9–P11.

Distribution. Sri Lanka, Bay of Bengal, Indonesia, northern Australia, Philippines, China, South Pacific Ocean (A. M. Clark and Rowe 1971); southern Vietnam (Mekhova and Britayev 2012); Sumatra (MarshallCrossland and Price, 1999); Singapore (Messing and Tay 2016); western, northern, and eastern Australia (Rowe and Gates 1995); Papua New Guinea (Messing 1994, 1998b); South China Sea (Lane et al. 2000); Japan (A. M. Clark and Rowe 1971; Kogo 1998; Kogo and Fujita 2005). Depth range: 0–57 m (Lane et al. 2000).

Heterometra amboinae (A. H. Clark, 1912a)

Craspedometra amboinae A. H. Clark, 1912a: 35 (list); 1918: 78 (footnote); Reichensperger 1913: 99.
**Material examined.** 2 specimens. **Lombok Is.** NSMT E-8249 (2 specimens), Kodek, February 15, 1994.

**Description.** Larger specimen. Centrodorsal discoidal, 7 mm across, 3 mm thick, with cirrus sockets in 1–2 irregular rows and flat aboral pole. Cirri stout, XXIII, 33–35, about 11th with prominent aboral spine. Radials wholly concealed by centrodorsal. IBr 2: Ibr 1 oblong, in contact laterally; Ibr 2 (axil) low triangular, free laterally. IBr 4(3+4).

**Remarks.** Four *Heterometra* species, namely *H. varipinna* (Carpenter, 1882), *H. affinis* Hartlaub, 1880), *H. amboinae* (A. H. Clark, 1912a), and *H. sarae* A. H. Clark, 1941, were recorded from Ambon (A. H. Clark, 1941). In these 4 species, *H. amboinae* is the most closely related to *H. sarae* in sharing excessively short middle-distal brachials. According to A. H. Clark (1941: 230–232), brachials beyond br 4 are 3–4 times wider than long in *H. amboinae* while 6–8 times wider than long in *H. sarae*. Based on these characteristics, present specimens were identified with *H. amboinae*.

**Distribution.** Sri Lanka, Singapore, Indonesia (A. H. Clark 1941; A. M. Clark and Rowe 1971). Depth range: 0–50 m (A. H. Clark 1941).

**Family Mariametridae**

*Heterometra amboinae*—A. H. Clark 1918: 78 (key); 1941: 297, pl. 29 fig. 123, pl. 31 figs 131–136; A. M. Clark and Rowe 1971: 22 (key).

**Material examined.** 3 specimens. **Ambon Is.** NSMT E-8112 (1 specimen), E-8113 (1), E-8122 (1), Pombo I., 10 m, November 28, 1992.

**Description.** Centrodorsal low hemispherical, 4–6 mm across, 2 mm thick, with cirrus sockets in 2–3 alternating rows and concave aboral pole. Cirri XXVII–XXXV, 19–25, 17–27 mm long. Longest cirrals (6th–12th) about 1.2 times longer than wide; cirrals beyond 11th with low aboral crest. Radials wholly concealed by centrodorsal. IBr 2: Ibr 1 oblong, free laterally; Ibr 2 (axil) low pentagonal. IBr 3 and IIIBr all 2. Division series with rounded adambulacral lateral processes. Arms 20–30, 80–140 mm long; first syzygy at br 14; br 2 and P 3 similar, stiff and erect, 14–16 mm long, of 13–16 segments, much longer and stouter than P 1 and P 4.

**Distribution.** Western Indian Ocean, Red Sea, Maldives, Sri Lanka, Bay of Bengal, Indonesia, western, northern, and eastern Australia, Philippines, China (A. M. Clark and Rowe 1971; Rowe and Gates 1995); southern Vietnam (Mekhova and Britayev 2012); Sumatra (MarshallCrossland and Price 1999); Singapore (A. M. Clark 1972; Messing and Tay 2016); Sulu Sea, Papua New Guinea, Micronesia (Meyer and Macurda 1980); Messing 1994, 1998b, 1999; Kirken Kale and Messing 2003; Great Barrier Reef (Fabricius 1994); South Pacific Ocean (A. M. Clark and Rowe 1971); South China Sea (Lane et al. 2000); Japan (A. M. Clark and Rowe 1971; Kogo 1998, 2002; Pilcher and Messing 2001; Kogo and Fujita 2005). Depth range: 0–245 m (Lane et al. 2000).

**Liparometra articulata** (Müller, 1849)

*Comatula (Alecto) articulata* Müller, 1849: 263.

*A. H. Clark 1912a: 152.

**Liparometra articulata**—A. H. Clark 1913: 31; 1918: 103: 1941: 461, pl. 53 figs 240–242; H. L. Clark 1946: 46; A. M. Clark and Rowe 1971: 24 (key); Meyer et al. 1984: 182; Fabricius 1994: 1228 (table); Rowe and Gates 1995: 159; Lane et al. 2000: 477 (table); Kogo 2002: 19; Kogo and Fujita 2005: 337.

**Liparometra articulata**—Kogo 1998: 64, fig. 52.

**Material examined.** 12 specimens. **Ambon Is.** NSMT E-8144 (1 specimen), Latahumal, 10 m, December 1, 1992; NSMT E-8173 (1), E-8181 (1), Eri, 10 m, December 4, 1992; NSMT E-8185 (1), E-8186 (2), E-8187 (1), Latuhalat, 10 m, December 1, 1992; **Lombok Is.** NSMT E-8233 (1), E-8241 (1), E-8243 (1), Gili Air I., February 5, 1994; NSMT E-8252 (2), Kodek, February 15, 1994.

**Description.** Centrodorsal low hemispherical, 4–7 mm across, 2–3 mm thick, with cirrus sockets in 2–3 alternating rows and small flat aboral pole. Cirri XXVII–XLI, 21–33, 14–31 mm long. Longest cirrals (7th–13th) 1.2 times longer than wide; cirrals beyond 6th–12th with a sharp aboral crest. Radials almost wholly concealed by centrodorsal. Division series short, with low aboral synarthrial tubercle and thick adambulacral lateral processes. IBr 2: Ibr 1 oblong; Ibr 3 (axil)
low pentagonal, in contact laterally. IIbr and IIIbr all 2. Arms 14–41, 53–139 mm long; first syzygy at br3+4, P2 and P3 similar, longest, 10–14 mm long, of 22–28 segments, longer and stouter than P1, P4 and succeeding pinnules.

**Distribution.** Northern Australia, Indonesia, China (A. M. Clark and Rowe 1971); Great Barrier Reef (Fabricius 1994; Rowe and Gates 1995); South China Sea (Lane et al. 2000); Japan (A. M. Clark and Rowe 1971; Kogo 2002; Kogo and Fujita 2005). Depth range: 0–69 m (Lane et al. 2000).

**Lamprometra palmata** (Müller, 1841)

*Comatula* (Alecto) *palmata* Müller, 1841: 144.

*Alecto palmata* Müller, 1849: 261.

*Antedon palmata*—Carpenter 1888: 226 (key); Hartlaub 1891: 49; pl. 3 fig. 27.

*Himerometra palmata*—A. H. Clark 1907a: 356 (list).

* Dichrometra palmata*—A. H. Clark 1909c: 12 (list); 1911b: 27; 1912a: 148; Reichensperger 1913: 103.

* Lamprometra palmata*—A. H. Clark 1941: 474, pl. 53 figs 243–246, pl. 54 figs 248–252, pl. 55 fig. 257; A. M. Clark 1972: 104, fig. 10a–e; Liao and A. M. Clark 1995: 41, fig. 21; Kogo 1998: 65, fig. 53.

* Lamprometra palmata*—A. H. Clark 1913: 33; 1918: 100 (key); 1929: 641; 1934: 11; 1936: 303; 1937: 100; H. L. Clark 1915: 101; 1946: 47; Gislén 1938b: 14; 1940: 10; A. M. Clark and Spencer Davis 1966: 598 (list); A. M. Clark and Rowe 1971: 24 (key); Meyer and Macurda 1980: 84; A. M. Clark 1982: 486 (table); Chen et al. 1988: 78, fig. 21; Messing 1994: 239; 1998b: 189 (table); 2007: 96; Rowe and Gates 1995: 134; MarshallCrossland and Price 1999: 27; Lane et al. 2000: 477 (table); Pilcher and Messing 2001: 16 (table); Kogo 2002: 20; 2006: 231; Kirkendale and Messing 2003: 535; Kogo and Fujita 2005: 340; Mekhova and Britayev 2012: 914; Rankin and Messing 2008: 25, figs 2e–f, 5, 16–19; Messing and Tay 2016: 650.

* Antedon moorei* Bell, 1894: 401.

* Lamprometra moorei*—Gislén 1938b: 14, fig. 3.

* Antedon conjunction* Carpenter, 1889: 311, pl. 27 figs 1, 2.

**Material examined.** 6 specimens. *Ambon Is.* NSMT E-8111 (4 specimens), Pombo I., 10 m, November 28, 1992; NSMT E-8139 (1), Tial, 10 m, November 30, 1992. *Lombok Is.* NSMT E-8200 (1), Gili Air I., February 3, 1994.

**Description.** Centrodorsal thick discoidal or low hemispherical, 2–6 mm across, up to 1.3 mm thick, with cirrus sockets in 2–3 irregular rows and flat aboral pole. Circir XXII–XXVI, 20–24, 13–18 mm long. Longest cirrals (3–4 in 5th–12th) 1.2 times longer than wide; cirrals beyond 12th gradually shortened, with a minute aboral spine or tubercle. Radials almost wholly concealed by centrodorsal. Ibr 2: Ibrl square, in contact laterally at base; Ibr2 (axil) pentagonal, free laterally. Ibrl and IIIbr all 2. Division series with low aboral synarthrial tubercle. Arms 16–39, 42–72 mm long; first syzygy at br3+4. P3 longest, 7–11 mm long, of 16–21 segments, much longer and stouter than P1 and P4, proximal pinnulars stout, gradually attenuated with flagellate tip.

**Distribution.** Western India, Pakistan, Maldives, Bay of Bengal, Indonesia, northern Australia, Philippines, China (A. M. Clark and Rowe 1971); Sri Lanka (A. M. Clark and Rowe 1971; MarshallCrossland and Price 1999); southern Vietnam (Mekhova and Britayev 2012); Hong Kong (A. M. Clark 1982; Liao and A. M. Clark 1995); Papua New Guinea (Messing 1994, 1998b); Micronesia (Messing 1998b; Kirkendale and Messing 2003); Hawaiian Is., South Pacific Ocean (A. M. Clark and Rowe 1971); South China Sea (Lane et al. 2000); Japan (A. M. Clark and Rowe 1971; Kogo 1998; Kogo and Fujita 2005). Depth range: 0–50 m (Lane et al. 2000).
Material examined. 2 specimens. Lombok Is. NSMT E-8201 (2 specimens), Gili Air I., February 3, 1994.

Description. Centrodorsal discoidal, about 3 mm across, 1 mm thick, with cirrus sockets compactly in 1 aligned row and flat aboral pole. Cirri XV–XVI, 24, 11–13 mm long; cirri wholly shorter than long; beyond 4th with transverse ridge. Radials narrowly exposed, in contact laterally at base. IBr 2: Ibr1 oblong, free laterally; Ibr 2 (axil) pentagonal. IBr 4(3+4). Division series with aboral synarthrial tubercle and weak adambulacral processes. Arms 10–12, 35–65 mm long; first syzygy at br 3+4; P2 longest, 7–8 mm long, of 18–21 segments, much longer than succeeding pinnules; middle pinnules about 1.5 times longer than wide with smooth distal margin. P1 similar to P2, slightly shorter. P3 always, P5 sometimes absent.

Distribution. Indonesia (A. M. Clark and Rowe 1971); western, northern, and eastern Australia (Rowe and Gates 1995); Papua New Guinea (Messing 1994, 1998b). Depth range: 0–40 m (Rowe and Gates 1995).

Colobometra perspinosa (Carpenter, 1881)

Antedon perspinosa Carpenter, 1881: 178; 1888: 193 (key); Hartlaub 1891: 85, pl. 5 fig. 54.

Cyllometra perspinosa—A. H. Clark 1907a: 357 (list).

Colobometra perspinosa—A. H. Clark 1912a: 164; 1913: 37; 1918: 125; 1936: 308; 1947: 117, pl. 14 figs 67–69; Gislén 1940: 14, pl. 3 fig. 14; H. L. Clark 1946: 52; A. M. Clark and Rowe 1971: 19 (key); Chen et al. 1988: 78, figs 18, 23F; Messing 1994: 239 (list); 1998b: 189 (table); Rowe and Gates 1995: 134; Kogo 1998: 76, fig. 61; MarshallCrossland and Price 1999: 27; Lane et al. 2000: 477 (table); Pilcher and Messing 2001: 16 (table); Kogo and Fujita 2005: 342; Mechkova and Britayev 2012: 910; Messing and Tay 2016: 639.

Material examined. 4 specimens. Ambon Is. NSMT E-8105 (1 specimen), Pombo I., Iagoon, November 22, 1992; NSMT E-8121 (1), Pombo I., 10 m, November 28, 1992; NSMT E-8152 (1), Silale, 15 m, December 2, 1992. Lombok Is. NSMT E-8202 (1, juvenile), Gili Air I., February 3, 1994.

Description. Centrodorsal hemispherical, 4–5 mm across, 2 mm thick, with cirrus sockets sparsely arranged in 1–2 lows and depressed aboral pole. Cirri long, reaching 1/3 of arm length, X–XVII, 41–52, 26–33 mm long. Longest cirrals (6th–12th) 1.5–2 times longer than wide; cirrals beyond 4th with flared and spiny distal margin; about 20 distal cirrals with prominent paired aboral spines. Radials oblong, in contact laterally. IBr 2: Ibr 1 oblong, free laterally; Ibr 2 (axil) low pentagonal. Division series and first brachials with aboral synarthrial tubercle. Arms 10, 70–90 mm long; first syzygy at br 3+4; proximal brachials with lateral expansion and tuft of spines on distal edge. Oral pinnules mostly composed of long segments (2–3 times longer than wide) with tuft of sharp distal spines. P1–P4 longest, 13–15 mm long, of 13–15 segments. P5 always (also P6 and P7 in juvenile individual) absent.

Distribution. Indonesia, northern Australia, Philippines, South Pacific Ocean (A. M. Clark and Rowe 1971); southern Vietnam (Mekhova and Britayev 2012); Sumatra (MarshallCrossland and Price 1999); Singapore (Messing and Tay 2016); western, northern, and eastern Australia (Rowe and Gates 1995); Sumatra, Borneo (MarshallCrossland and Price, 1999; Lane et al. 2000); Sulu Sea, Micronesia (Messing 1998b); South China Sea (Lane et al. 2000); Taiwan (Chen et al. 1988); Japan (Kogo 1998; Pilcher and Messing 2001; Kogo and Fujita 2005). Depth range: 0–122 m (Lane et al. 2000).

Oligometra serripinna (Carpenter, 1881)

Antedon serripinna Carpenter, 1881: 182.

Oligometra serripinna—A. H. Clark 1908a: 126 (list); 1918: 130; A. M. Clark and Rowe 1971: 19 (key); Vail 1987: 555; Liao and A. M. Clark 1995: 47, fig. 26; MarshallCrossland and Price 1999: 28; Messing and Tay 2016: 642, fig. 7C, D, F.

Oligometra serripinna serripinna—A. H. Clark 1947: 217.

Material examined. 10 specimens. Ambon Is. NSMT E-8120 (1 specimen), E-8123 (8), Pombo I., 10 m, November 28, 1992; NSMT E-8166 (1), Silale, 10 m, December 3, 1992.

Description. Centrodorsal discoidal, 1.5–2 mm across, 0.8–1.5 mm thick, with cirrus sockets in 1 aligned row and flat aboral pole. Cirri XV–XVI, 24, 11–13 mm long; cirrals wholly shorter than long; beyond 4th with transverse ridge. Radials narrowly exposed, in contact laterally at base. IBr 2: Ibr1 oblong, free laterally; Ibr 2 (axil) pentagonal. IBr 4(3+4). Division series with aboral synarthrial tubercle and weak adambulacral processes. Arms 10–12, 70–90 mm long; first syzygy at br 3+4; proximal brachials with lateral expansion and tuft of spines on distal edge. Oral pinnules mostly composed of long segments (2–3 times longer than wide) with tuft of sharp distal spines. P1–P4 longest, 13–15 mm long, of 13–15 segments. P5 always (also P6 and P7 in juvenile individual) absent.

Distribution. Western Indian Ocean, Red Sea, Maldives, Sri Lanka, Bay of Bengal, Philippines, Indonesia, Japan (A. M. Clark and Rowe 1971); Sumatra (MarshallCrossland and Price 1999); Singapore (Messing and Tay 2016); Great Barrier Reef (Vail 1987); South China Sea (Lane et al. 2000); Taiwan (Liao and A. M. Clark 1995). Depth range: 0–90 m (Lane et al. 2000).
Antedonidae Norman, 1865

**Dorometra nana** (Hartlaub, 1890)

**Description.** Centrodorsal hemispherical, 2 mm across, 1.3 mm thick, with cirrus sockets in 2–3 alternating rows and papilllose aboral pole. Cirri all lost, presumably XL–L. Radials wholly concealed by centrodorsal. IBr 2 with aboral synarthrial tubercle: IBr 1 oblong, free laterally; IBr 2 (axil) rhombic. Arms 10, tips broken, presumably 30–40 mm long; first syzygy at br 3+4. Proximal pinnules slender. P 3 longest, 8–12 mm long, of 22–26 segments, about 1.5 times longer than wide with smooth distal margin. P 2 intermediate in length between P 1 and P 3.

**Distribution.** Indonesia (A. H. Clark and Rowe 1971); Great Barrier Reef (Fabricius 1994). Depth range: 2–15 m (A. H. Clark and A. M. Clark 1967).

**Material examined.** 1 specimen. **Lombok Is.** NSMT E-8203 (1 specimen), Gili Air I., February 3, 1994.

**Comatulida**

Although our surveys are very limited to show the complete comatulid fauna of Ambon and Lombok islands, but the fauna may be characterized by widely-distributed species. Of 31 identified species reported in this study, 16 species (52%) were collected at both islands. The most frequently occurring species in this study were *Comanthus parvicirrus* (collected at 7 sites), *Capillaster multiradiatus* (at 6 sites), *Comanthus walhbergii* and *Liparometra articulata* (at 5 sites). Succeeding common species were *Comatella nigra*, *Alloeocomatella pectinifera*, *Phanogenia multibrachiata*, *P. gracilis*, *Comaster nobilis*, *Clarkcomanthus alternans*, *C. littoralis*, *Annieasia bennetti*, *Himerometra robustipinna*, *Lampropoma palmata*, *Cenometra bella*, and *Colobometra perispinos* (collected at 3–4 sites). Among these 16 species, 11 species were occupied by Comatulidae.

The 31 species collected in this study are also occurring in the neighboring seas. Out of 40 species collected at Madang, Papua New Guinea (Messing 1994), 25 species (63%) are also found in this study. Similarly, 28 of 46 species (61%) at northern Papua New Guinea, 27 of 40 species (68%) in Sulu Sea, and 15 of 19 species (79%) at Chuuk Atoll, Caroline Islands (Messing 1998b), 20 of 47 species (43%) at western Philippines and 8 of 20 species (40%) at northern Borneo (Lane et al. 2000, ‘zone 3’ and ‘zone 4’, respectively), 20 of 32 species (63%) in the Bay of Nhatrang, southern Vietnam (Mekhova and Britayev 2012), and 13 of 39 species (33%) at Singapore (Messing and Tay 2016), are found in this study. Furthermore, 25 of 31 species collected in this study extend their distribution northwardly to subtropical southwestern Japan (Kogo and Fujita 2005). The majority of the species from Ambon and Lombok islands are widely distributed to the western Pacific Ocean.

In this study, the family Comatulidae occupies 67.6% (23 species) of the total number of species (34 species) collected at Ambon and Lombok islands, which supports that this family is the most diverse in the shallow-water comatulid fauna in the tropical west Pacific. In the neighboring tropical seas mentioned above, Comatulidae is the most dominant at the average ratio of 55.8% (40.9 to 72.2%) in 7 out of 8 areas (Messing 1994, 1998b; Lane et al. 2000; Mekhova and Britayev 2012). In Singapore waters, on the contrary, Comatulidae is the second family occupied 28.2% (11 species) follows with Himerometridae 35.9% (14 species) (Messing and Tay 2016). The ratio of Comatulidae in this study is relatively higher than those reported from these neighboring seas in the tropical western Pacific. This may be due to the difference in surveyed depths. The depths are 0–15 m in this study, while from 0 to 30–50 m in the neighboring seas.
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