*Zootaxa* 5550 (1): 145–158
https://www.mapress.com/zt/


**Article**

ISSN 1175-5326 (print edition)
**ZOOTAXA**
ISSN 1175-5334 (online edition)

https://doi.org/10.11646/zootaxa.5550.1.15
http://zoobank.org/urn:lsid:zoobank.org:pub:D7F0E0A4-493C-4B7D-BC99-49081E0F5AF4

# Three new records of the conger eels (Anguilliformes: Congridae) from Taiwan and the Dongsha Islands

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## Abstract

Three newly recorded species of conger eels were recently discovered in Taiwanese waters and the South China Sea. These are *Heteroconger polyzona* Bleeker, 1868; *Parabathymyrus philippinensis* Ho, Smith & Shao, 2015; and *Congriscus maldivensis* (Norman, 1939). A brief description of the Taiwanese collections is provided in this paper.

**Key words:** New record, fish fauna, fish taxonomy, Taiwan, Congridae

## Introduction

Taiwan is located between the tropical and subtropical regions, boasting a rich biodiversity. The Dongsha (Pratas) Islands in the South China Sea fall under the jurisdiction of Taiwan.

In this paper, we report new records of congrid eels from Taiwan and Dongsha Island. The two new records from Taiwan are the widely distritubed Indo-West species *Heteroconger polyzona* Bleeker, 1868, and the recently described species *Parabathymyrus philippinensis* Ho, Smith & Shao, 2015 from the Philippines. The new record from the Dongsha Islands, South China Sea, is *Congriscus maldivensis* (Norman, 1939), a widely distributed species in the Indo-West Pacific.

## Materials and methods

Counts are measured following Böhlke (1989). The material was collected by commercial trawlers, which operated at a depth of 200–580 m. However, there is no exact information on the specific depths at which collections were made. Studied materials are deposited in the Laboratory of Aquatic Ecology, Department of Aquaculture, National Taiwan Ocean University (TOU-AE), National Museum of Marine Biology & Aquarium (NMMB-P), Biodiversity Research Center, Academia Sinica (ASIZP), and National Museum of Marine Science & Technology (NMMST-P).

## Systematics

### Family Congridae

#### *Parabathymyrus philippinensis* Ho, Smith & Shao, 2015

Figs 1–4; Table. 1

*Parabathymyrus philippinensis* Ho, Smith & Shao, 2015:131, fig. 1 (holotype, ASIZP68112, 398 mm TL, paratype, ASIZP68117, 341 mm TL, Aurora, Luzon, Philippines, depth 233–356 m).

*Accepted by I-S. Chen: 20 Jun. 2024; published: 10 Dec. 2024*


**FIGURE 1**. The fresh specimen of *Parabathymyrus philippinensis*, TOU-AE9460, 355 mm TL. A. Whole body. B. Head anterior body.

**Specimen examined.** NMMB-P30757 (1, 268), Dong-gang fishing port, Pingtung County, SW Taiwan, commercial trawler, 17 Aug. 2017, coll. J.-F. Huang. TOU-AE9460 (1, 355), DaXi fishing port, Yilan County, NE Taiwan, commercial trawler, 14 Mar. 2023, coll. J.-F. Huang.

**Description of Taiwanese specimens.** Head length 15.7–16.8% of TL; preanal length 40.7–41.4; predorsal length 15.8–17.7; trunk length 24.6–25.0; tail length 58.6–59.3; depth at anus 6.3–6.5. Eye diameter 14.3–18.4% of HL; interorbital width 11.6–17.5; snout length 16.8–19.5; interbranchial width 20.3–20.4; pectoral fin length 36.6–41.7; gill opening 13.7–14.8; upper jaw length 29.3–30.1.

Body moderately elongate and stout, anteriorly cylindrical in cross section, gradually becoming oval and compressed posteriorly; trunk length one fourth of total length; tail much longer than body. Dorsal-fin origin slightly above base of pectoral fin. Anal fin starting immediately behind anus, slightly anterior to middle of total length. Gill opening relatively small, slightly smaller than eye diameter and snout length.

Head slightly large; snout short and blunt; eye relatively large, more than half upper jaw length. Mouth moderately large, rictus extending to posterior margin of eye.

Lateral line complete, 7 pores before pectoral fin base, 8 pores before dorsal-fin origin, 43–44 pores before anal-fin origin, and 139–143 total pores.

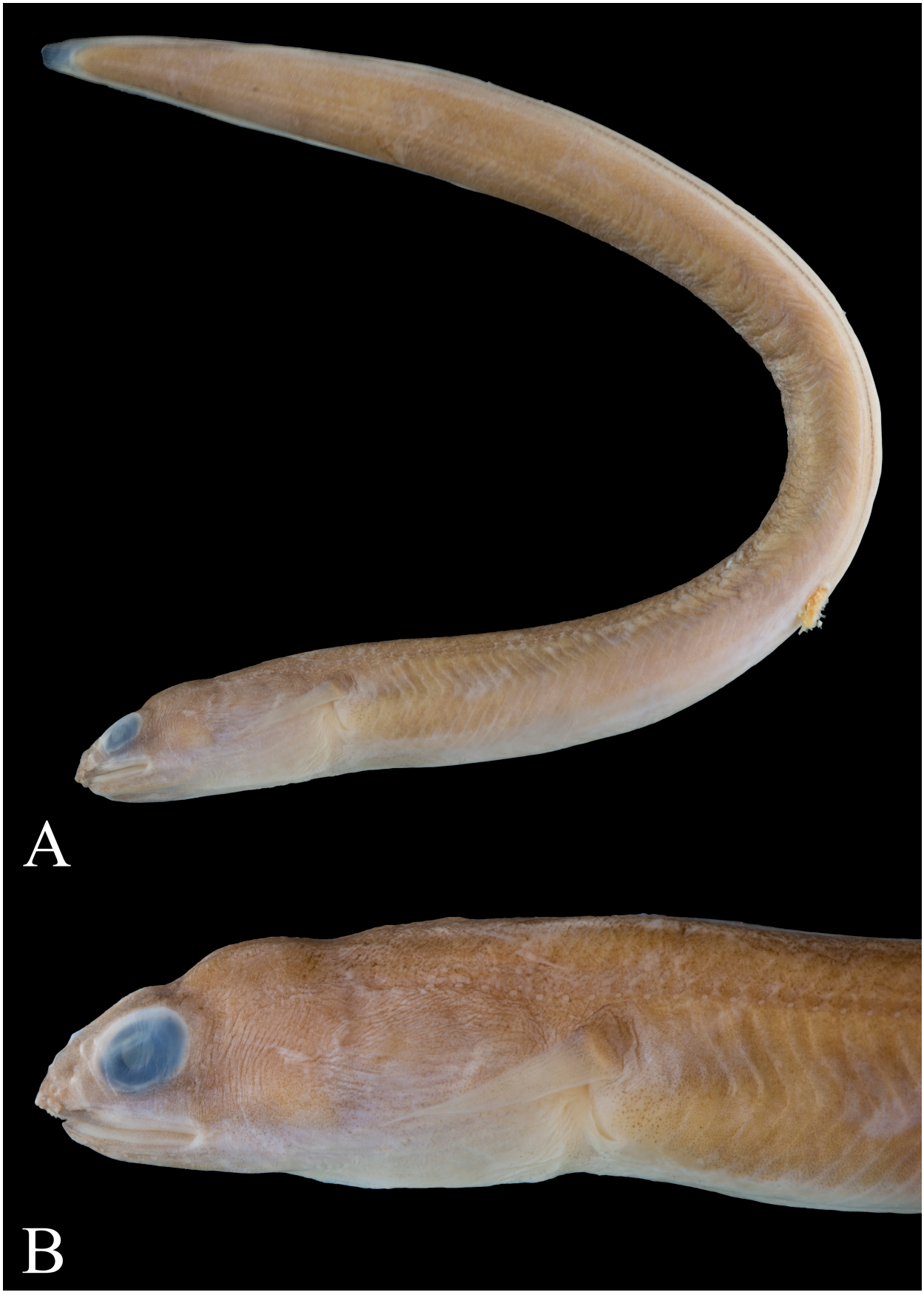


**FIGURE 2.** The preserved specimen of *Parabathymyrus philippinensis*, NMMB-P30757, 268 mm TL. A. Whole body. B. Head anterior body.

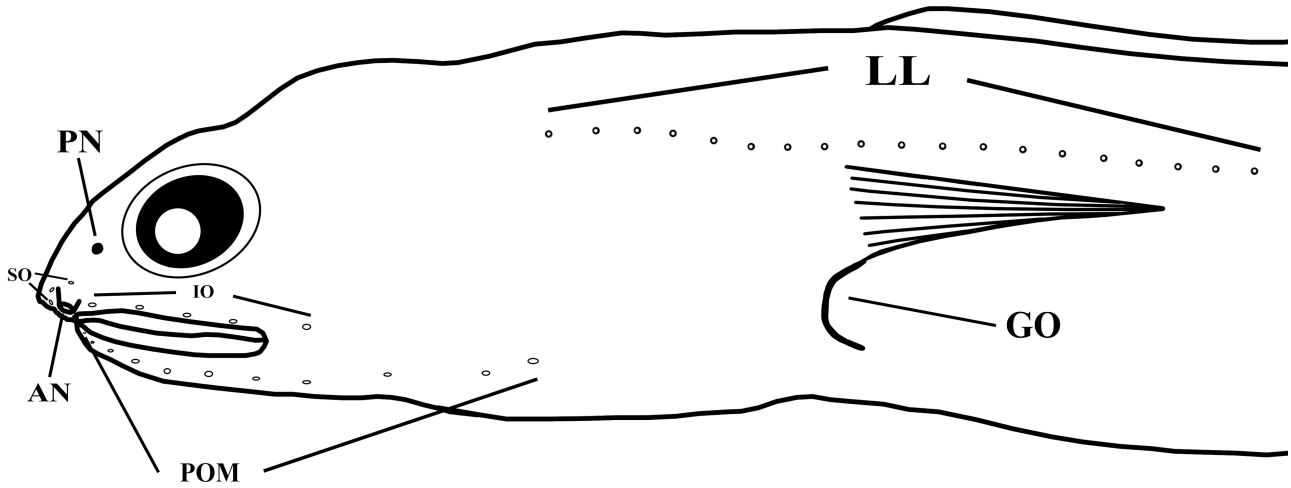


**FIGURE 3.** *Parabathymyrus philippinensis*, NMMB-P30757, 268 mm TL. Lateral view of head showing head pores and partial lateral line pores.

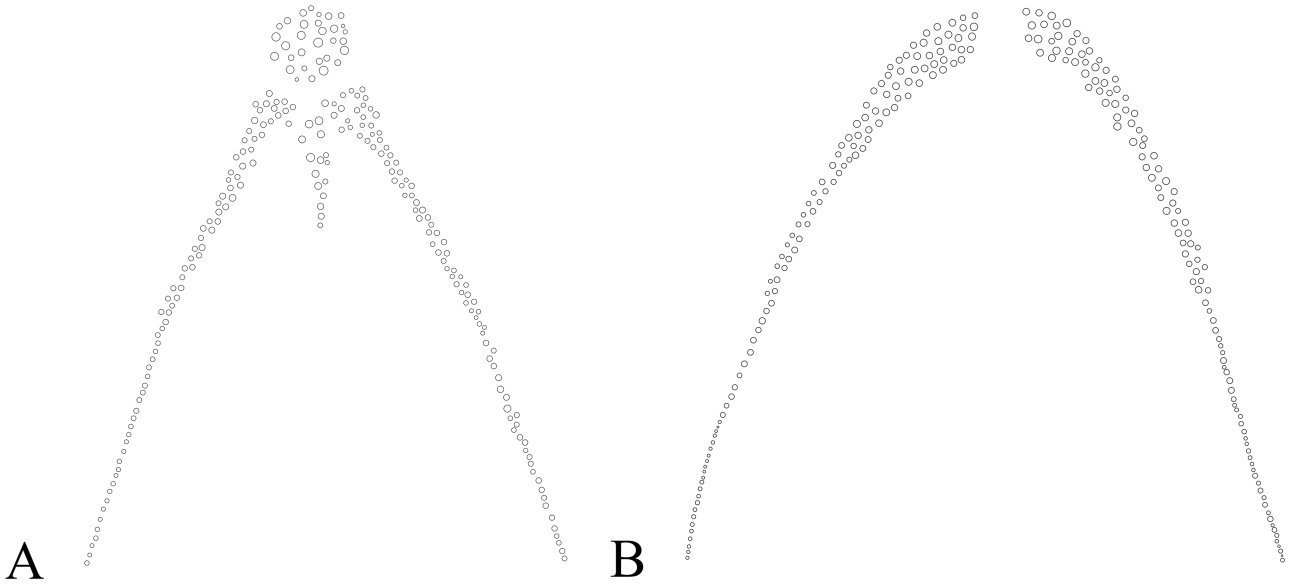


**FIGURE 4.** The jaw teeth of *Parabathymyrus philippinensis*, TOU-AE9460, 355 mm TL. A. Upper jaw. B. Lower jaw.

Head pores (Fig. 3): supraorbital canal with 3 pores, first and second pores located in front of anterior nostril, third pore located above anterior nostril; infraorbital canal with 5 pores, first pore located below posterior nostril, second, third, and fourth pores located under eye, and fifth pore located under posterior margin of eye; preoperculomandibular canal with 11 pores. No pore on adnasal, frontal, and supratemporal commissure. Predorsal vertebrae 9–11; preanal vertebrae 44–45; total vertebrae 141–146.

Teeth small and blunt (Fig. 4A, B), some of them fang; 4–5 rows of small fang teeth on intermaxilla forming a rounded patch; vomerine teeth small blunt and forming a small triangular patch; maxillary and mandibular teeth, wider anteriorly and in 4 or 5 rows, gradually narrower posteriorly and in 1 or 2 rows.

Coloration. When fresh (Fig. 1A, B), body light brownish dorsally and whitish. After preservation (Fig. 2A, B), body brownish and abdomen yellowish.

**Distribution.** Known previously only from the Philippines and now recorded on both the northern and southern coasts of Taiwan, at depths of 233–356 m.

**TABLE 1.** Morphometrics and meristics data of NMMB-P30757 and TOU-AE9460, compared with the holotype and paratype of *Parabathymyrus philippinensis* (Ho, Smith & Shao 2015). LL=laterial line.

| | NMMB-P30757 | TOU-AE9460 | Holotype ASIZP 68112 | Paratypes ASIZP 68117 |
|---|---|---|---|---|
| TL (mm) | 268 | 355 | 398 | 341 |
| **%TL** | | | | |
| Head length | 15.7 | 16.8 | 17.5 | 17.9 |
| Trunk length | 25.0 | 24.6 | 23.7 | 20.9 |
| Tail length | 59.3 | 58.6 | 58.8 | 59.8 |
| Predorsal length | 15.8 | 17.7 | 17.5 | 19.3 |
| Preanal length | 40.7 | 41.4 | 41.2 | 40.2 |
| Depth at anus | 6.3 | 6.5 | 6.2 | 6.3 |
| **%HL** | | | | |
| Eye diameter | 18.4 | 14.3 | 17.2 | 21.3 |
| Interorbital width | 11.6 | 17.5 | 10.2 | 12.1 |
| Snout length | 16.8 | 19.5 | 15.0 | 17.2 |
| Interbranchial width | 20.4 | 20.3 | 26.6 | 29.2 |
| Pectoral fin length | 41.7 | 36.6 | 40.4 | 35.2 |
| Gill opening length | 14.8 | 13.7 | 10.5 | 17.2 |
| Upper jaw length | 29.3 | 30.1 | 31.7 | 32.5 |
| **Vertebrae** | | | | |
| Predorsal | 9 | 11 | 8 | 8 |
| Preanal | 44 | 45 | 42 | 42 |
| Total | 141 | 146 | 141 | 142 |
| **Pores** | | | | |
| Prepectoral LL | 7 | 7 | 8 | 8 |
| Predorsal LL | 8 | 8 | 10 | 8 |
| Preanal LL | 43 | 44 | 40 | 42 |
| Total | 139 | 143 | 140 | 141 |
| SO pores | 3 | 3 | 3 | 3 |
| IO pores | 5 | 5 | 5 | 5 |
| POM pores | 11 | 11 | 11 | 11 |
| ST pores | 0 | 0 | 0 | 0 |
| F pores | 0 | 0 | 0 | 0 |
| AD pores | 0 | 0 | 0 | 0 |

## Remarks

The first time reporting *Parabathymyrus philippinensis* record from Taiwan. The two specimens collected from Dong-gang and DaXi generally agree with the original description given by Ho, Smith & Shao (2015), except for some minor differences. The head length is slightly smaller (15.7–16.8% vs. 17.5–17.9% TL), trunk length is slightly larger (24.6–25.0% vs. 20.9–23.7% TL), eye diameter is slightly smaller (14.3–18.4% vs. 17.2–21.3% HL), interbranchial is smaller (20.3–20.4% vs. 26.6–29.2% HL), and upper jaw length is slightly smaller (29.3–30.1% vs. 31.7–32.5% HL). *Parabathymyrus philippinensis* differs from the other two congeners in having 3 supraorbital pores (vs. 4), 139–143 total lateral line pores (vs. 121–132 in *P. macrophthalmus* Kamohara, 1938, 159–163 in *P. brachyrhynchus* (Fowler, 1934)), and 141–146 total vertebrae (vs. 128–137 in *P. macrophthalmus*, 149–152 in *P. brachyrhynchus*).

### *Heteroconger polyzona* Bleeker, 1868

Figs 5–7; Table. 2

*Heteroconger polyzona* Bleeker, 1868:332 (type locality, Ambon, Indonesia). Castle and Randall, 1999:30 (3 occurrences the type locality, Ambon, Indonesia; 1 occurrence near the Dumaguete, Negros, Philippines; 1 occurrence near the Normanby Island, D'Entrecasteaux Island, Papua New Guinea).

**Specimen examined.** NMMB-P34131 (1, 288), Kenting, Pingtung County, Southern Taiwan, hand collected, 5–8 m depth, 04 May. 2017, coll. by C.-W. Lu.

**Description of Taiwanese specimen.** Head length 6.3% of TL; preanal length 31.9; predorsal length 7.6; trunk length 25.6; tail length 68.1. Head length 19.8 of % PAL; predorsal length 23.8; trunk length 80.2. Depth at gill opening 39.9% of HL; depth at anus 38.0; interorbital width 10.8; interbranchial width 25.2; eye diameter 10.1; snout length 13.6; upper jaw length 17.1; lower jaw length 16.5.

Body moderately elongate, anteriorly cylindrical in cross section, becoming oval posteriorly; anus at about anterior third of total length; tail much longer than body. Dorsal-fin origin slightly behind gill opening. Anal fin beginning immediately behind anus. Gill opening relatively small, slightly smaller than eye diameter; interbranchial width larger than gill opening and eye diameter.

Head medium size; snout short, rounded; eye large, slightly longer than snout. Upper and lower jaws with fleshy lips; posterior end of upper jaw located slightly behind vertical line of anterior margin of eye. Anterior nostril tubular, located in front of upper lip, and directed forward. Posterior nostril hole-shaped, located in front of eye, about same level as dorsal margin of eye.

Lateral line complete, 4 pores before gill opening, 6 pores before dorsal-fin origin, 47 pores before anal-fin origin, and 133 total pores. Posterior part of body, about one head long, without lateral line pores.

Few pores on lateral line of head (Fig. 6). Supraorbital canal with 3 pores; located in front of and above posterior nostril. Infraorbital canal with 3 pores; first pore located between anterior and posterior nostrils, second pore located below eye, and third pore located below posterior edge of eye. Mandibular canal 4 in numbers. No pore on preopercular canal, frontal, and supratemporal commissure. Predorsal vertebrae 9; preanal vertebrae 48; total vertebrae 152.

Teeth conical and blunt (Fig. 7A, B); arranged in wide rows, with 4 rows of canine teeth in front of upper and lower jaws; two middle rows rounder and blunt, rear teeth in single row. Vomer bearing drop-shaped teeth, front teeth wider and arranged in about 6 rows, rear teeth in 2 rows. No intermaxillary tooth.

Coloration. Fresh coloration unknown. For preserved specimen (Fig. 5A, B), body white with many black stripes, like in pattern in zebra. Small black spots on snout, upper and lower lips. Chin black. Black stripes on other parts of head somewhat worm-like. Seventeen black stripes on back of trunk, aligned or slightly staggered left and right; stripes in order of, 4–6, 9–11, 15–16 extending downward to ventral side or with both sides connected forming rings. Tail with 24 black stripes; stripes at middle extending downward forming a ring, rear stripes becoming wider and lighter in color. Black stripes at tail about 1 head long, not obvious and limited to base of the dorsal fin. Dorsal and anal fins white, except at base parts with black stripes extending from body; dorsal fin also bearing few black dots.

**Distribution.** Known previously only from the Indo-West Pacific: Ryukyu Islands, Philippines, Indonesia, Papua New Guinea, Vanuatu, and now recorded on the southern coasts of Taiwan, at depths of 5–8 m.

**Remarks.** The Taiwan specimen generally agrees well with the description of *Heteroconger polyzona* provided by Castle and Randall (1999). Only some minor differences are noted. The present specimen has the preanal length slightly longer (31.9% vs. 29.2–31.5% TL), depth at gill opening slightly larger (39.9% vs. 36.3–39.1% HL), gill opening slightly smaller (8.7% vs. 9.8–13.5% HL), eye diameter slightly smaller (10.1% vs. 13.1–18.4% HL), and snout length slightly larger (13.6% vs. 9.4–11.8% HL). Adding the present new record, four species of garden eels are now known in Taiwan. The other three species are *Gorgasia japonica* Abe, Miki & Asai, 1977; *G. taiwanensis* Shao, 1990; and *H. hassi* (Klausewitz & Eibl-Eibesfeldt, 1959).


**FIGURE 5.** The preserved specimen of *Heteroconger polyzona*, NMMB-P34131, 288 mm TL. A. Whole body. B. Head anterior body.

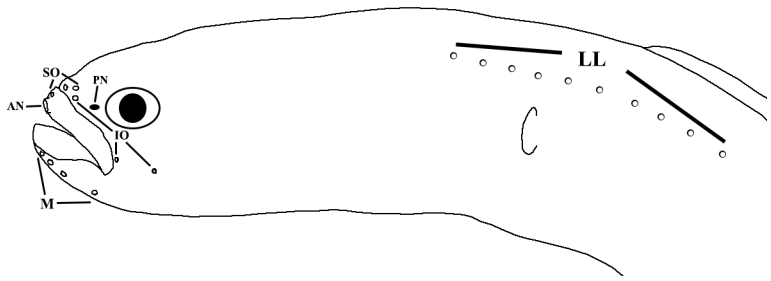


**FIGURE 6.** *Heteroconger polyzona*, NMMB-P34131, 288 mm TL. Lateral view of head showing head pores.

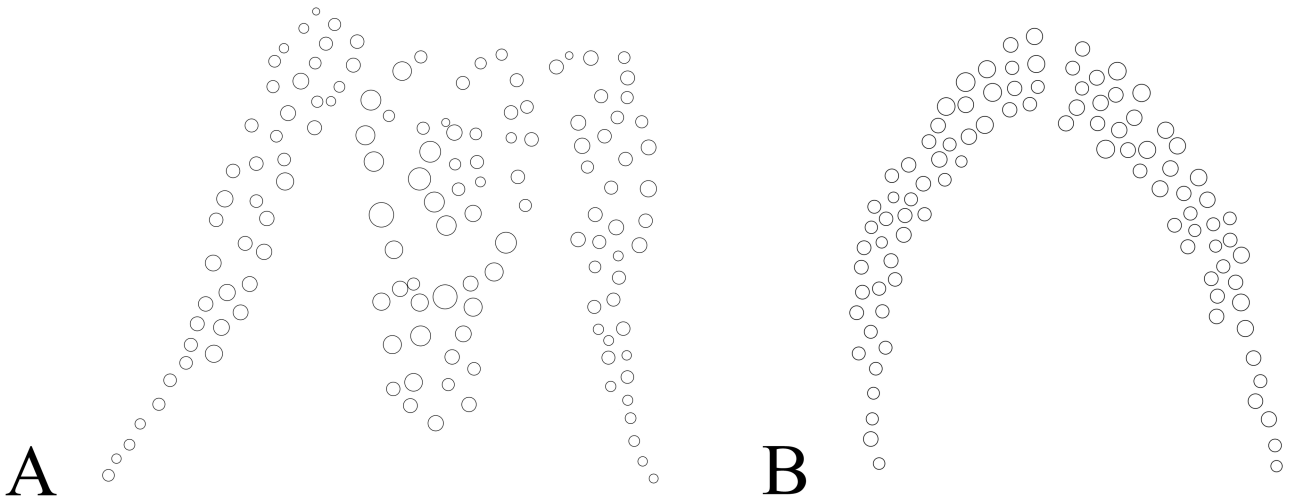


**FIGURE 7.** The jaw teeth of *Heteroconger polyzona*, NMMB-P34131, 288 mm TL. A. Upper jaw. B. Lower jaw.

**TABLE 2.** Morphometric and meristic data of NMMB-P34131, compared with the type and additional specimens of *Heteroconger polyzona* (Castle & Randall, 1999). LL=laterial line.

| | NMMB-P34131 | BPBM18547 (n=6) | RMNH7160 (n=1) BPBM32306 (n=4) |
|---|---|---|---|
| TL (mm) | 288 | 297–347 | 219–348 |
| **%TL** | | | |
| Head length | 6.3 | - | - |
| Preanal length | 31.9 | - | 31.2 (29.2–31.5) |
| Trunk length | 25.6 | - | - |
| Tail length | 68.1 | - | - |
| Predorsal length | 7.6 | - | - |
| **%PAL** | | | |
| Head length | 19.8 | - | 22.5 (19.0–22.5) |
| Trunk length | 80.2 | - | - |
| Predorsal lenght | 23.8 | - | 25.2 (21.6–25.3) |
| **%HL** | | | |
| Depth at gill opening | 39.9 | - | 26.8 (36.3–39.1) |
| Depth at anus | 38.0 | - | 35.3–38.5 |
| Gill Opening length | 8.7 | - | 9.8 (10.2–13.5) |
| Interorbital width | 10.8 | - | - |

*.....continued on the next page*

**TABLE 2.** (Continued)

| | NMMB-P34131 | BPBM18547 (n=6) | RMNH7160 (n=1) BPBM32306 (n=4) |
|---|---|---|---|
| Interbranchial width | 25.2 | - | - |
| Eye diameter | 10.1 | - | 13.1 (14.9–18.4) |
| Snout length | 13.6 | - | 11.8 (9.4–11.1) |
| Upper jaw length | 17.1 | - | - |
| Lower jaw length | 16.5 | - | - |
| **Vertebrae** | | | |
| Predorsal | 9 | 8–9 | - |
| Preanal | 48 | 49–53 | - |
| Total | 152 | 153–159 | - |
| **Pores** | | | |
| Predorsal LL | 6 | - | - |
| Preanal LL | 47 | - | 41 (48–51) |
| Total | 133 | - | - |
| SO | 1+2 | - | 1+2 |
| IO | 3+0 | - | 3+0 |
| POM | 4+0 | - | 4+0–1 |
| ST | 0 | - | 0 |

### *Congriscus maldivensis* (Norman, 1939)

Figs 8–11; Table. 3

*Conger maldivensis* Norman, 1939:37, fig. 11 (holotype, 352 mm TL, paratypes, 2 specimens 302 and 340 mm TL, BMNH 1939.5.24.610–612, Maldives, depth 494 m).

*Congriscus maldivensis*: Castle, 1968:695, pl. 106D (brief redescription of paratype TL 340 mm). Karrer, 1982:18, fig. 4 (3 occurrences near northwestern Madagascar, depth 700 m). Adam *et. al*., 1998:8 (2 occurrences near the Maldives, depth 354 m).

**Specimen examined.** Dongsha Island, South China Sea, commercial bottom trawl, about 580 m: TOU-AE7668 (1, 241), 2 Dec. 2019, coll. J.-F. Huang. ASIZP 57965 (3, 286–353), 19 Aug. 1991, coll. K.-T. Shao. NMMST-P00879 (1, 221), 17 Aug. 1991, coll. K.-T. Shao. NMMB-P33385 (1, 248), 13 Feb. 2019, coll. H.-C. Ho. NMMB-P33795 (8, 187–264), 14 Jan. 2019, coll. H.-C. Ho. NMMB-P33828 (1, 253), 14 Jan. 2019, coll. H.-C. Ho. NMMB-P34024 (13, 174–288), 13 Feb. 2019, coll. H.-C. Ho. NMMB-P34888 (2, 180–183), 13 Feb. 2019, coll. H.-C. Ho.

**Description of Taiwanese specimens.** Head length 15.1–17.4% of TL; preanal length 41.5–43.4; predorsal length 17.5–20.2; trunk length 24.3–27.0; tail length 56.6–58.5. Depth at gill opening 39.5–56.5% of HL; depth at anus 24.8–42.5; interorbital width 7.3–12.5; interbranchial width 12.0–36.1; eye diameter 19.2–24.1; snout length 22.9–28.0; pectoral fin 31.4–38.8; gill opening 9.3–17.8; upper jaw length 33.1–42.6; lower jaw length 27.7–38.1.

Body stout, anteriorly oval in cross section, gradually becoming compressed posteriorly; trunk length about one fourth of total length; tail much longer than body, exceeding body about a half of total length. Dorsal-fin origin slightly behind base of pectoral fin. Anal fin starting immediately behind anus. Gill opening moderately small, slightly smaller than eye diameter.

Head medium sized; snout moderately long; eye moderately large, slightly shorter than snout. Upper and lower jaws with well-developed lips; upper jaw slightly protruding beyond lower jaw. Mouth moderately large, rictus extending to middle of eye.

Lateral line complete, 5–7 pores before pectoral fin base; 7–10 pores before dorsal-fin origin, 43–46 pores before anal-fin origin.

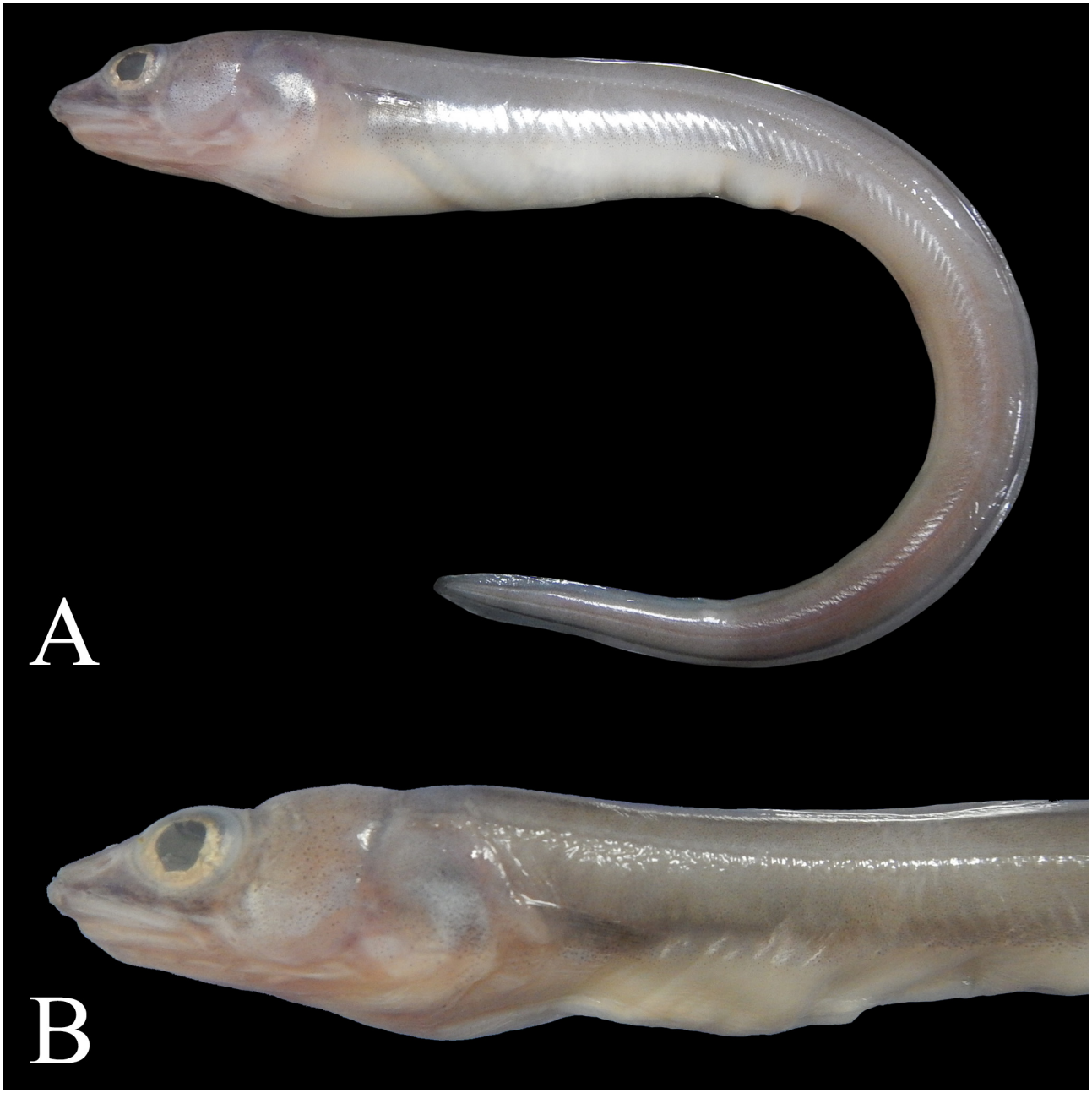


**FIGURE 8.** The fresh specimen of *Congriscus maldivensis*, TOU-AE7668, 241 mm TL. A. Whole body. B. Head anterior body.

Head pores (Fig. 10): supraorbital canal with 6 pores; first and second pores located in front of ansterior nostril, third pore located above ansterior nostril, fourth pore located above posterior nostril, fifth pore located above eye, sixth pore located above posterior margin of eye. Infraorbital canal with 9 pores, 6 below eye and 3 behind eye; first, second, and third pores located between anterior and posterior nostrils, fourth pore located below anterior margin of eye, fifth pore located below middle of eye, sixth pore located below posterior margin of eye, while seventh, eighth, and nineth pores located behind eye. Mandibular canal with 8 pores. Preopercular canal with 3 pores. Supratemporal commissure with 3 pores. No pore on frontal. Predorsal vertebrae 10–13; preanal vertebrae 45–47; precaudal vertebrae 49–52; total vertebrae 141–146.

Teeth conical and blunt (Fig. 11A, B); 2–3 rows of conical teeth on intermaxilla; vomerine teeth conical and forming a short triangular patch, increasing in size posteriorly, 2–4 rows in front and 1–2 rows at rear; maxillary and mandibular teeth in anteriorly in 2–3 rows and wider, posteriorly in 1 row and gradually narrower.


**FIGURE 9.** The preserved specimen of *Congriscus maldivensis*, TOU-AE7668, 241 mm TL. A. Whole body. B. Head anterior body.

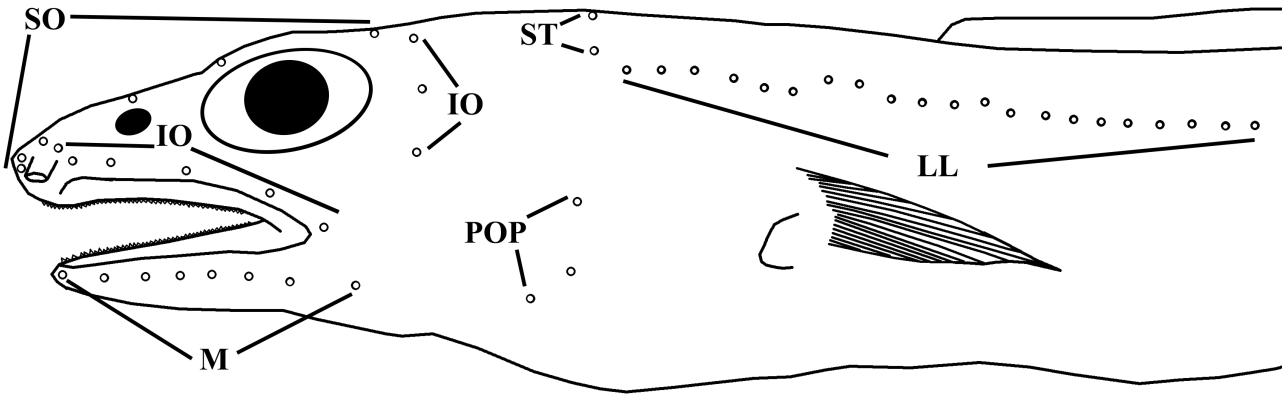


**FIGURE 10.** *Congriscus maldivensis*, TOU-AE7668, 241 mm TL. Lateral view of head showing head pores and partial laterial line pores.

Coloration. When fresh (Fig. 8A, B), body light yellow. Ventral surfaces of head and belly whitish, dorsal surfaces of head and pectoral fin light grayish. Fin rays light grayish. Small black dots on the pectoral fin. Preserved specimens (Fig. 9A, B) with ventral surfaces of head and belly yellowish to paler, dorsal surfaces of head and pectoral fin light grayish.

**Distribution.** Known previously only from the Maldives, Madagascar, Philippines, northwestern Australia, New Caledonia, Vanuatu, Fiji, Wallis, and Futuna and now recorded in Dongsha Island, South China Sea, at depths of 354–700 m.

**TABLE 3.** Morphometric and meristic data of Dongsha Island specimens, compared with the holotype and paratypes of *Congriscus maldivensis* (Norman, 1939). LL=laterial line.

| | TOU-AE | ASIZP | NMMST-P | NMMB-P | Norman, 1939 |
|---|---|---|---|---|---|
| TL (mm) | | | 174–353 (n=30) | | 304–350 (n=3) |
| **%TL** | | | | | |
| Head length | | | 15.1–17.4 | | 17.8–18.1 |
| Tail length | | | 56.6–58.5 | | - |
| Trunk length | | | 24.3–27.0 | | 21.7–25.0 |
| Preanal length | | | 41.5–43.4 | | 39.8–42.8 |
| Predorsal length | | | 17.5–20.2 | | 16.4–17.4 |
| **%HL** | | | | | |
| Depth at gill opening | | | 39.5–56.5 | | - |
| Depth at anus | | | 24.8–42.5 | | - |
| Interorbital width | | | 7.3–12.5 | | 14.8–18.7 |
| Interbranchial width | | | 12.0–36.1 | | 15.5–16.7 |
| Eye diameter | | | 19.2–24.1 | | 22.6–24.6 |
| Snout length | | | 22.9–28.0 | | 19.4–22.2 |
| Pectoral fin length | | | 31.4–38.8 | | - |
| Gill opening length | | | 9.3–17.8 | | - |
| Upper jaw length | | | 33.1–42.6 | | - |
| Lower jaw length | | | 27.7–38.1 | | - |
| **Vertebrae** | | | | | |
| Predorsal | | | 10–13 | | - |
| Preanal | | | 45–47 | | - |
| Precaudal | | | 49–52 | | 47–48 |
| Total | | | 141–146 | | 145–148 |
| **Pores** | | | | | |
| Predorsal LL | | | 7–10 | | 6–9 |
| Prepectoral LL | | | 5–7 | | 7 |
| Preanal LL | | | 43–46 | | 40–42 |
| SO | | | 6 | | 6 |
| IO | | | 6+3 | | 6+3 |
| ST | | | 3 | | 3 |
| M | | | 7 | | 8 |
| POP | | | 3 | | 3 |

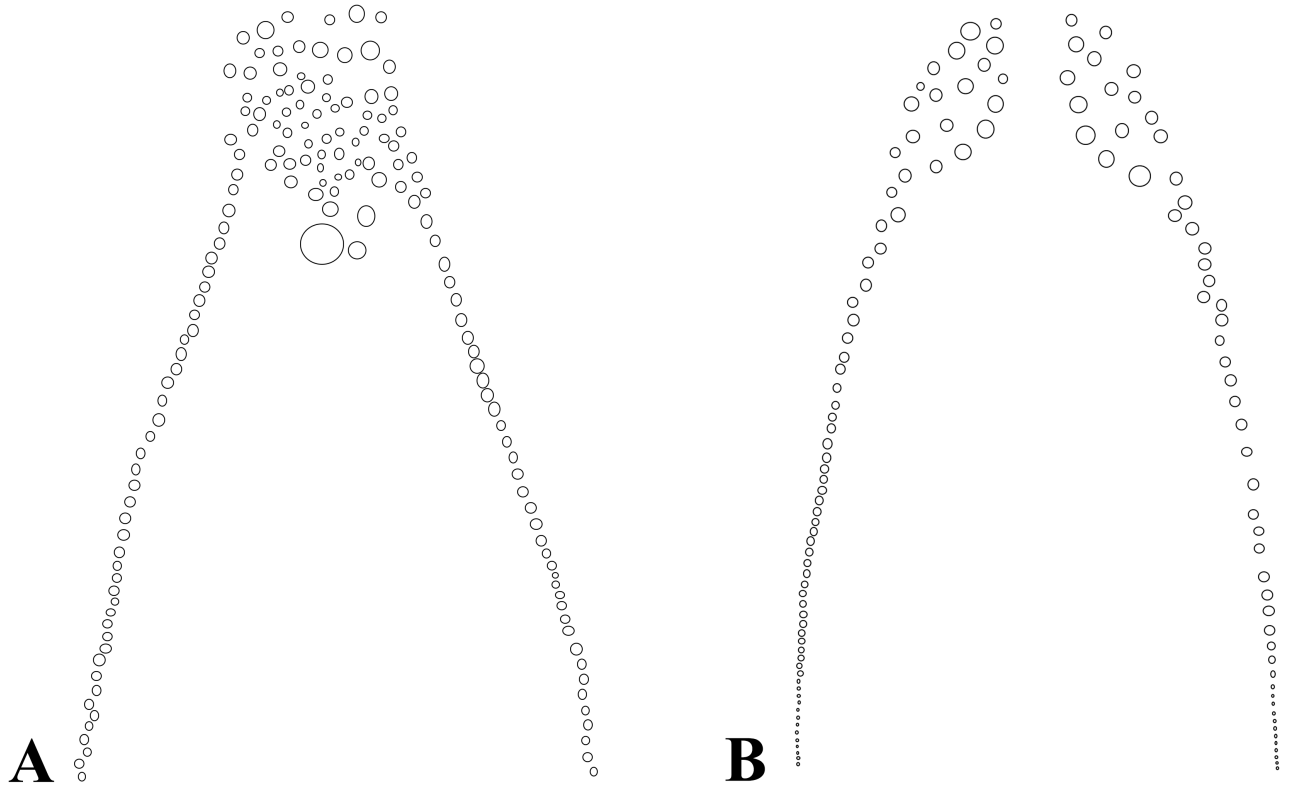


**FIGURE 11.** The jaw teeth of *Congriscus maldivensis*, TOU-AE7668, 241 mm TL. A. Upper jaw. B. Lower jaw.

## Remarks

Karmovskaya (2004) found several morphometric and meristic differences between the southwestern Pacific material and topotypic specimens from the Maldives. The present Dongsha Islands material also has some morphometric and meristic differences from the original description of *Congriscus maldivensis*, such as head length slightly shorter (15.1–17.4 vs. 17.8–18.1% TL), trunk length slightly longer (24.3–27.0 vs. 21.7–25.0% TL), preanal length slightly longer (41.5–43.4 vs. 39.8–42.8% TL), predorsal length slightly longer (17.5–20.2 vs. 16.4–17.4% TL), interorbital width slightly shorter (7.3–12.5 vs. 14.8–18.7% HL), snout length slightly longer (22.9–28.0 vs. 19.4–22.2% HL), greater numbers of precaudal vertebrae (49–52 vs. 47–48), and preanal pores (43–46 vs. 40–42). It still needs to be verified whether the differences between the materials from the Pacific and Indian Oceans represent geographical variations of the same species.

## Acknowledgments

We thank Lee, P.-N. (NMMB-P), Huang, S.-P. (ASIZP), and Wang, S.-C. (NMMST-P) for their curatorial assistance. This study is supported by the National Taiwan Ocean University (NTOU), the National Museum of Marine Biology & Aquarium (NMMBA), the Biodiversity Research Center, Academia Sinica (ASIZ), and the National Museum of Marine Science & Technology (NMMST).

## References

Abe, T., Miki, M. & Asai, M. (1977) Description of a new garden eel from Japan. *UO*, 28, 1–8.

Adam, M.S., Merrett, N.R. & Anderson, R.C. (1998) An annotated checklist of the deep demersal fishes of the Maldive Islands. *Ichthyological Bulletin*, 67, 1–19.

Bleeker, P. (1868) Description de trois espèces inédites de poissons des îles d'Amboine et de Waigiou. *Verslagen en Mededeelingen der Koninklijke Akademie van Wetenschappen*, 2 (2), 331–335, pls. 1.
Böhlke, E.B. (1989) Methods and Terminology. *In*: Böhlke, E.B. (Ed.), Anguilliformes and Saccopharyngiformes. Fishes of the Western North Atlantic. *Memoirs of the Sears Foundation for Marine Research*, 1 (9), pp. 1–7.
Castle, P.H.J. (1968) The congrid eels of the western Indian Ocean and the Red Sea. *Ichthyological Bulletin*, 33, 685–726.
Castle, P.H.J. & Randall, J.E. (1999) Revision of Indo-Pacific garden eels (Congridae: Heterocongrinae), with descriptions of five new species. *Indo-Pacific Fishes*, 30, 25–26.
Fowler, H.W. (1934) Descriptions of new fishes obtained 1907 to 1910, chiefly in the Philippine Islands and adjacent seas. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 85, 233–367.
Ho, H.-C., Smith, D.G. & Shao, K.-T. (2015) Notes on the congrid eel genus *Parabathymyrus* from the western Pacific Ocean, with the description of a new species (Pisces: Anguilliformes: Congridae). *Zootaxa*, 4060 (1), 131–139. https://doi.org/10.11646/zootaxa.4060.1.15
Kamohara, T. (1938) *On the offshore bottom-fishes of Prov. Tosa, Shikoku, Japan*. Maruzen Kobushiki Kaisha, Tokyo, 86 pp.
Karmovskaya, E.S. (2004) Benthopelagic bathyal conger eels of families Congridae and Nettastomatidae from the western tropical Pacific, with descriptions of ten new species. *Journal of Ichthyology*, 44 (1), S1–S32.
Karrer, C. (1982) Anguilliformes du canal de Mozambique (Pisces, Teleostei). *Faune Tropicale*, 23, 1–116.
Klausewitz, W. & Eibl-Eibesfeldt, I. (1959) Neue Röhrenaale von den Maldiven und Nikobaren (Pisces, Apodes, Heterocongridae). *Senckenbergiana Biologica*, 40 (3/4), 135–153.
Norman, J.R. (1939) Fishes. *The John Murray Expedition 1933–34 Scientific Reports*, 7 (1), 1–116.
Shao, K.-T. (1990) Garden eels from Taiwan, with description of a new species. *UO*, 40, 1–16.