Twenty New Records of Stomiiformes Fishes (Pisces: Stomiiformes) from Taiwanese Waters

Yun-Chih Liao, Chun-Hsin Chang and Kwang-Tsao Shao

二十種台灣新紀錄之巨口魚目魚類

廖運志・張君欣・邵廣昭

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Twenty New Records of Stomiiformes Fishes (Pisces: Stomiiformes) from Taiwanese Waters

Yun-Chih Liao¹,², Chun-Hsin Chang¹,³ and Kwang-Tsao Shao¹*

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ABSTRACT

Twenty newly recorded species and eight newly recorded genera of the mesopelagic or bathypelagic deep-sea fishes, Stomiiformes, around Taiwanese waters were collected in this report. Among them, Diplophos orientalis Matsubara, 1940 in Diplophidae; Pollichthys mauli (Poll, 1953), and Polymetme elongata (Matsubara,1938) in Phosichthyidae; Argyriopus pharos Harold & Lancaster, 2003, Argyroplectus affinis Garman, 1899, Argyroplectus gigas Norman, 1930, Polyipnus dana Harold, 1990, Polyipnus fraseri Fowler, 1934, Polyipnus spinifer Borodulina, 1979, Sternoptyx diaphana Hermann, 1781, Sternoptyx obscura Garman, 1899, Sternoptyx pseudobscura Baird, 1971, Maurolicus japonicus Ishikawa, 1915, and Valencienniulus tripunctatus (Esmark, 1871) in Stomiophtyidae; Bathiphilus kingi Giglioli, 1882, Chaullidus macouni Bean, 1890, Echiostoma barbatum (Lowe, 1843), Malaco aestes niger Ayres, 1848, Melanostomias sevisdiviae Brauer, 1902, and Leptostomias multifilis Imai, 1941 in Stomiidae are new record species. Pollichthys, Polymetme, Argyriopus, Sternoptyx, Maurolicus, Valencienniulus, Echiostoma, and Malaco aestes are newly recorded genera. There are totally now 55 species in 33 genera of 5 families in Taiwan. Diagnostic characters, specimen records, distribution, color photographs, and sampling information are provided for newly recorded species. A key to species of Taiwan is given.

Key words: Stomiiformes, New Record, Deep-Sea Fishes, Taiwan.

INTRODUCTION

Stomiiformes fishes, including light fishes (Phosichthyidae), bristlemouth fishes (Gonostomatidae), marine hachetfishes (Stenomathyidae), dragon fishes (Stomiidae), viperfishes (Stomiidae, Stomiinae, Chaullidontini), snaggletooths (Stomiidae, Astronethiniae), and loosejaws (Stomiidae, Malacosteinae), are mesopelagic and bathypelagic in most temperate and tropical seas. Because of their widely various body shapes, interrelationships between families and within the largest family, Stomiidae, are still not clear (Fink and Weitzman, 1982; Fink 1985, Harold and Weitzman, 1996; Liao and Shao, 2006). Recently, Nelson proposed another new family, Diplophidae, that including species of genera Diplophos and Trioplos in this family. However, he also mentioned that the status is provisional. There are about 391 valid species of the order Stomiiformes (Nelson, 2006).

In Taiwan, after the deep-sea research project was granted by National Science Council (NSC) since 2001. Intensive deep-sea collections were conducted by the RV Ocean Researcher I, III and the Fishery Research Institute I. Some new species and new records of Taiwan which have been published include rattails (Macouridae), deep-sea anglerfish (Ceratoidei), astro-
nesthids fishes, and other deep-sea fishes (Chiou et al., 2004 a, b; Ho and Shao, 2004, 2007a, b; Liao et al., 2006a, b; Wang and Shao, 2006; Yeh et al., 2005, 2006a, b, c). After an intensive historical review of Stomiformes fishes of Taiwan’s adjacent waters, we add 20 new record species of Stomiformes, there are 55 species of 33 genera in 5 families. Besides, another 5 species recorded previously, including Diplodus pacificus in Diplodidae, Polypinus spinosus, P. tridentifer, and P. unispinus in Sternoptychidae, and Leptostomias longibabia in Stomiidae, were excluded out from Stomiformes of Taiwan because of its invalidity or no voucher specimen was deposited. In this paper, Diagnostic characters, specimen records, distributions, photographs, and sampling information were provided. Key to all valid 55 species of the order, Stomiformes, of Taiwan is given.

MATERIALS AND METHODS

Specimens were collected mainly by the Laboratory of Fish Ecology and Evolution in the Biodiversity Research Center, Academia Sinica (BRCAS) from the deep-sea expeditions by the research vessel, Ocean Research I and III, Fishery Research Institute, and commercial fishing boats. Specimens were photographed in fresh before treatment of 95% ethanol for further molecular analysis and permanent preservation, or fixed in 10% formalin then transfer to 70% ethanol for preservation. Vertebral counts of specimens were taken by using X-ray films. Most specimens examined were deposited at the Biodiversity Research Museum, Academia Sinica, Taipei, Taiwan (also ASIZP, fish collections of the formerly Institute of Zoology, Academia Sinica). Images of specimens of ASIZP were digitized and integrated into a curatorial database in the Fish Database of Taiwan (http://fishdb.sinica.edu.tw) for public enquiry (Shao et al. 2002). Abbreviations are as follows: standard length, SL; head length, HL; photophores follow Aizawa in Nakabo (2002) and Harold (1999) as in Figure 1 and Figure 2.

RESULTS

Systematic Accounts

Twenty new record species of Stomiformes of Taiwan

Diplophidae Nelson, 2006

Diplophos Günther, 1873

Diplophos orientalis Matsubara, 1940

(Fig. 3)


Specimens: ASIZP0064158, 6(60-132 mm SL), 24 Jun 2003, Tungkang, SW Taiwan, depth about 200-400 m, commercial bottom trawl.

Diagnosis: Dorsal fin rays 13; anal fin rays 58-62; pectoral fin rays 9-10; pelvic fin rays 8; gill raker 4+1+9=14; vertebral counts 79. Photophores: SO 2; BR 12-13; IP 12-13; PV 19; VAV 11-12; AC 41-43; OA 52-53; LLP ca. 53. Eye diameter larger than interorbital width.

Distribution: mesopelagic, only distributed in north-western Pacific around Japan previously now extends its geological range to southward.

Remarks: This is a new record species of Taiwan. Specimens in Taiwan have more gill rakers (14 rather than 12); less lateral photophores (including IP, PV, VAV, OA, and LLP) and vertebral counts as in Matsubara (1940).

Phosichthyidae 光魚科

Pollichthys Grey, 1959

Pollichthys mauli (Poll, 1953) 莫氏光魚

(Figs. 3, 8)

Pollichthys mauli (Poll, 1953): 59, type locality: southwest of Pointe-Noire, Congo, South Atlantic, 5°15'S, 11°29'E.

Pollichthys mauli (Poll, 1953); Fujii in
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Remarks: references cited from A indicated Chen, 1969; B: Chen & Yu, 1984; C: Shen, 1984; D: Shen et al., 1993; E: Yu, 1996; F: Liao et al., 2006a, b; G: in this paper.
Fig. 1. Photophores of Stomiiformes fishes: A. lateral photophores B. ventral head. IC, entire ventral row of photophores from the anterior end of the isthmus to posterior of the caudal peduncle (IC = IP + PV + VAV + AC); IP, ventral row of photophores from anterior of the isthmus to a ventral line at the pectoral fin origin (IP = l + a); PV, ventral row of photophores between vertical lines at the origins of the pectoral and pelvic fins; VAV, ventral row of photophores between a vertical line at the origins of the pelvic and anal fins; AC, posterior part of the IC series, from posterior of the VAV series to the posterior part of the caudal peduncle; OA, all large photophores of the lateral series. BR, branchiostegal photophores; ORB, orbital photophores; SO, located near the anterior end or the symphysis of the lower jaw; PO, preorbital photophores; SUO, suborbital photophores; PTO, postorbital photophores. (After Aizawa in Nakabo, 2002 and Harold, 1999).


Diagnosis: Dorsal fin rays 10-12; anal fin rays 22-30; pectoral fin rays 7-8; pelvic
Fig. 2. Photophores of Sternoptychidae. IP, ventral row of photophores from anterior of the isthmus to a ventral line at the pectoral fin origin; PV, ventral row of photophores between vertical lines at the origins of the pectoral and pelvic fins; VAV, ventral row of photophores between a vertical line at the origins of the pelvic and anal fins; AC, posterior part of the IC series, from posterior of the VAV series to the posterior part of the caudal peduncle; OA, all large photophores of the lateral series. BR, branchiostegal photophores; ORB, orbital photophores; OP, opercular photophores.

fin rays 6-7. Gill rakers: 5+11-12 = 16-17; vertebral counts: 43-44. Photophores: SO 1; BR 8; IP 7 + 2 = 9; PV 14; VAV 9; AC 21; IC 53; OV 13; VAL 11; OA 24. Body elongated, anal fin base about two times dorsal fin base. Body color silvery and whitish, lateral body silvery.

Distribution: mesopelagic, widely distributed in tropical to temperate waters of all oceans. Depth range is about 200-400 meters in Taiwan.

Remarks: This is a new genus and new record species of Taiwan.

*Polymetme* McCulloch, 1926

*Polymetme elongata* (Matsubara, 1938)長刀光魚

(Figs. 3, 9)

Yarella blackfordi elongata Matsubara, 1938: 45, type locality: Kumano-Nada to Kii Peninsula, Japan.


*Polymetme elongatus* (Matsubara 1938); Shinohara et al., 1996: 162.

Specimens: ASZIP0059936, 4(143-145 mm SL), 20 Mar 1998, Tashi, NE Taiwan,
commercial bottom trawl; ASIZP0060160, 4(113-133 mm SL), 21 Nov 1997, Nanfangao, NE Taiwan, commercial bottom trawl; ASIZP0062995, 116 mm SL, 27 Mar 2005, off Tashi, 200-400 m depth, commercial bottom trawl; FRIP03044, 4(161-180 mm SL), 23 Sep 1995, South China Sea, bottom trawl, R/V Fishery Research Institute I.

Diagnosis: dorsal fin rays 11-13; anal fin rays 29-30; pectoral fin rays 9-10; pelvic fin rays 7. Gill raker 7+11 = 18. Photophores: SO 1; BR 9; IP 9 + 2 = 11; PV 10; VAV 8; AC 23; IC 52; OA 18. Body elongated; head small, about 1/5 body length. The 2nd AC photophores higher than others.
Distribution: mesopelagic, distributed in tropical and subtropical Indo-West Pacific. In Taiwan, depth ranges about 200 to 400 meters.

Remarks: This is a new record species and genus of Taiwan.

*Sternopychidae Weitzman, 1974* 橢胸魚科

*Argyripnus Gilbert & Gramer, 1897* 銀光魚屬

*Argyripnus pharos* Harold & Lancaster, 2003 塔銀光魚
(Fig. 10)


Specimens: ASIZP0063001, 3(61.6-65.8 mm SL), 18 Apr 1995, 21°02.1'N, 116°27.8'E, South China Sea, 320 m depth, French type beam trawl, R/V Fishery Research Institute I.

Diagnosis: Dorsal fin rays 10-11; anal fin rays 23-25; pectoral fin rays 11-16, usual 16; pelvic fin rays 6. Gill rakers 4+12; vertebral counts 43-45. Photophores: BR 6; IP 6; PV 10; VAV+ACA = 1+15-17; ACB 5; ACC 11-12; OA 7.

Distribution: Mesopelagic. From South China Sea, eastward to Philippines, Indonesia, Australian in West Pacific, and western Indian Ocean off Africa.

Remarks: *Argyripnus pharos* is similar to *A. brocki* that differs only in morphometric ratio, but the latter is restricting distributed in Hawaii, central Pacific Ocean (Harold and Lancaster, 2003). It is a new record species of Taiwan.

*Argyropelecus* Cocco, 1829 銀斧魚屬

*Argyropelecus affinis* Garman, 1899 長銀斧魚
(Figs. 4, 11)


Specimens: ASIZP0063008, 37 mm SL, 22 Apr 1996, 19°29.8'N, 114°07.8'E, South China Sea, 767 m depth, IKMT, R/V Fishery Research Institute I; ASIZP0065009, 50 mm SL, 20 Feb 2004, Tungkang, SW Taiwan, commercial bottom trawl.

Diagnosis: dorsal fin rays 9; anal fin rays 13; pectoral fin rays 10-11; pelvic fin rays 6. Gill raker 19; vertebral counts 37-39. Photophores: BR 6; IP 6; PV 12; VAV 4; AC 6+4; OA 2+6. Dorsal blade low, less than 1/3 length; sphenotic spine absent; two postabdominal spines; OA, VAV and AC photophores almost arranged in line, ACC separated.

Distribution: mesopelagic, widely distributed in tropical and subtropical waters in Pacific, Indian, and Atlantic Oceans. In Taiwan, it is distributed in South West Taiwan and South China Sea.

Remarks: It is a new record species of Taiwan.

*Argyropelecus gigas* Norman, 1930 巨銀斧魚
(Figs. 4, 12)


Specimens: ASIZP0057146, 73 mm SL, 26 Mar 1992, Tungsha, South China Sea, commercial bottom trawl; ASIZP0063009, 43.5 mm SL, 26 Apr 1996, 21°09.4'N, 119°23.9'E, South China Sea, 3000 m depth, IKMT, 2800 m wire out, R/V Fishery Research Institute I; ASIZP0063010, 3(17-42 mm SL), 27 Apr 1996, 22°18'N, 119°42'E, South China Sea, 1000 m depth, IKMT, R/V Fishery Research I; ASIZP0063011, 53 mm SL, 22 Nov 2001, CD136, 22°13'N, 120°02'E, South China Sea, 988-1211 m depth, otter trawl, R/V Ocean Research I; ASIZP0063012, 2(53.8-61.7 mm SL), 24 Nov 2001, CD141, 22°02'N, 119°99'E, South China Sea, 985-1110 m depth, otter trawl, R/V Ocean Research I.

Diagnosis: dorsal fin rays 8-9; anal fin rays 12-13; pectoral fin rays 10-11; pelvic fin rays 6. Gill raker 19; vertebral counts 37-38. Photophores: BR 6; IP 6; PV 12; VAV 4; AC 6; OA 2+6. Dorsal blade high, longer
Fig. 4. Samples from five stomiiform fishes from Taiwan. Start, *Argyropelecus affinis*; square, *A. gigas*; Triangular, *A. hemingymnus*; circle, *Polyipnus danae*; up-side down triangular, *P. fraseri*.

than 1/3 length; dorsal margin pigmentation raised prominently under the 3rd to 4th dorsal blade spine. Prominent sphenotic spine near dorsal posterior orbit. Ventral photophores of OA, VAV, and AC almost arranged in line; ACC separated.

Distribution: mesopelagic, widely distributed in tropical and subtropical Pacific, Indian, and Atlantic Oceans. In Taiwan, it was recorded in South China Sea, depth ranges from 985 to 1211 m.

Remarks: This new record species of Taiwan. *Argyropelecus affinis* similar to *A. gigas*, but differs in dorsal blade low, dorsal
pigmentation not raised under dorsal blade, and sphenotic spine absent.

Argyroplecus hemigymnus CoCco, 1829

(Fig. 4, 13)


Specimens: ASIZP0063013, 2(15.5-20.3 mm SL), 27 Apr 1996, 22.18°N, 119.42°E, South China Sea, 1000 m depth, IKMT, R/V Fishery Research Institute I; ASIZP0063014, 7(9.8-22.8 mm SL), 27 Apr 1996, 21.1°N, 119.91°E, South China Sea, 1010 m depth, IKMT, R/V Fishery Research Institute I; ASIZP0063015, 12.8 mm SL, 27 Apr 1996, 22.14°N, 120.42°E, South China Sea, 316 m depth, IKMT, R/V Fishery Research Institute I; ASIZP0063016, 4(10.2-14.1 mm SL), 29 Apr 1996, 22.2°N, 120.96°E, South Taiwan, 500 m depth, IKMT, R/V Fishery Research Institute I; ASIZP0067732, ASIZP0067683, 2(15 mm SL), 25 Aug 2002, IK181, 22.35°N, 119.61°E, South China Sea, 819-904 m depth, IKMT, 1500 m wire out, R/V Ocean Research I.

Diagnosis: small in size; dorsal fin rays 8; anal fin rays 9-12; pectoral fin rays 9-10; pelvic fin rays 5-6. Gill raker 18-19; vertebral counts 36-38; postabdominal spine with serrated margin. Photophores: BR 6; IP 6; PV 12; VAV 4; ACB 6; ACC 4. Middle line of lateral body and caudal peduncle with black pigmentation.

Distribution: mesopelagic, widely distributed in tropical to temperate seas of all oceans.

Remarks: It is a new record species of Taiwan.

Polyipnus Günther, 1887

Polyipnus danae Harold, 1990 (Figs. 4, 14)


Specimens: ASIZP0063018, 3(27.6-29.4 mm SL), 27 Apr 1996, 22°05.7′N, 119°54.7′E, South China Sea, 1010 m depth, IKMT, R/V Fishery Research Institute I; ASIZP0063019, 26.3 mm SL, 26 Aug 2002, CP185, 22°09′N, 119°46′E, South China Sea, 2539-2543 m depth, French type beam trawl, R/V Ocean Research I.

Diagnosis: Dorsal fin rays 12-15; anal fin rays 15-17; pectoral fin rays 11-13; pelvic fin rays 4-5. Gill raker 11-12; vertebral count 36. Photophores: BR 6; IP 6; PV 10; VAV 5; ACB 11-13; ACC 4; OVA 3; OVB 3. Posttemporal spines long (9.41-12.63% in SL) and singular; ventral margins of photophores scales smooth, without denticles; lack of external anal fin pterygiophore spines. Dorsal lateral pigment not prominent, two convex areas before dorsal fin. Subcaudal photophores 4 separated; OVA liner like; 1st and 2nd ACA photophores prominent higher than others (ACB and ACC).

Distribution: mesopelagic, only in South China Sea. Depth ranges from surface to 2543 m.

Remarks: P. danae similar to P. unispinus and P. aquavitus, but differs in lack of external anal fin pterygiophore spines. Two other similar species, P. omphus and P. lateratus, differ in more gill rakers counts follow by 17-21 and 16-22, respectively, rather than 11-12, 11-12, and 13-15, in three species mentioned above. This is a new record species of Taiwan.

Polyipnus fraseri Fowler, 1934

(Fig. 4)


Specimens: ASIZP0065004, 3(42.2-47.5 mm SL), 14 May 2004, Nangfangao, NE Taiwan, commercial bottom trawl.

Diagnosis: pectoral fin rays 14; pelvic fin rays 6-7; dorsal fin rays 9-12; anal fin rays 11-12. Gill rakers 6+13. Photophores: BR 6; IP 6; PV 10; VAV 1+4; ACB 4; ACC 4; OA 3+4. Two preopercular spines, one toward posterior; eye large; ACA photophores absent, only four ACC in cluster.

Distribution: mesopelagic or bathype-
Polypinus spinifer Borodulina, 1979


Specimens: ASIZP0063020, 39.8 mm SL, 16 Apr 1995, 21.57°N, 117.63°E, South China Sea, 502 m depth, Beam Trawl, R/V Fishery Research Institute I; ASIZP0063021, 30 mm SL, 19 Apr 1996, 21.58°N, 115.12°E, South China Sea, 441 m depth, Beam Trawl, R/V Fishery Research Institute I; ASIZP0063022, 26 Aug 2001, Tungkang, SW Taiwan, commercial bottom trawl; ASIZP0067709, 21 Mar 2002, off Tashi, NE Taiwan, commercial bottom trawl.

Diagnosis: Dorsal fin rays 11-14; anal fin rays 15; pectoral fin rays 12-13; pelvic fin rays 5-6. Gill raker 6-7+13-15 = 19-22; vertebral counts 33-35. Photophores: ORB 1, OP 3, OVA 3, OVB 3, BR 6, IP 6, PV 10, VAV 5, AC 14-15+4 = 18-19. Outer margin of ventral photophores, PV to AC, spiny; subcaudal photophores separated from each other. Predorsal dark pigment of lateral body short, triangular, acute, not expanded downward to lateral line.

Distribution: mesopelagic, Western Pacific Ocean, including Suruga Bay, Japan, East Sea, South China Sea, and Sulu Sea. It distributed in North Eastern and South Western Taiwan. Depth range is from 300 to 502 m.

Remarks: Polypinus spinifer is similar to P. inermis, P. parini, P. soelae, P. spinosus, P. stereoper, and P. tridentifer in all species having trifurcations posttemporal spines. Only P. spinifer, P. soelae, and P. tridentifer have spiny subcaudal in outer margin, but P. spinifer differs from later two species in outer margin of anal photophores spiny. It is a new record species of Taiwan.

Sternopyx Hermann, 1781

Sternopyx diaphana Hermann, 1781

Specimens: ASIZP0063035, 35.6 mm SL, 21 Apr 1995, 19°36.8’N, 114°12.9’E, South China Sea, 603 m depth, Beam Trawl, R/V Fishery Research Institute I; ASIZP0063037, 3(28.7-32.2 mm SL), 23 Apr 1995, 19°36.8’N, 114°12.9’E, South China Sea, 1012 m depth, Beam Trawl, R/V Fishery Research Institute I; ASIZP0063038, 34.5 mm SL, 23 Apr 1995, 19°36.3’N, 114°15.2’E, South China Sea, 843 m depth, R/V Fishery Research Institute I; ASIZP0063044, 31.2 mm SL, 23 Nov 2001, CD138, 22.22°N, 119.47°E, South China Sea, 441-789 m depth, Otter Trawl, R/V Ocean Research I; ASIZP0063045, 14.6 mm SL, 21 Nov 2001, CD132, 22.35°N, 120.11°E, South China Sea, 690-700 m depth, Otter Trawl, R/V Ocean Research I; ASIZP0063055, 2(21-34 mm SL), 26 Aug 2002, CP184, 21.85°N, 119.47°E, South China Sea, 2514-2522 m depth, Beam Trawl, R/V Ocean Research I; ASIZP.67685, 5(22.2-27.6 mm SL), 25 Aug 2002, IK181, 22.35°N, 119.61°E, 819-904 m depth, IKMT, 1500 m wire out, R/V Ocean Research I; ASIZP.0067687, 24 mm SL, IK186, 21.85°N, 119.47°E, South China Sea,
Fig. 5. Samples from five stomiiform fishes from Taiwan. Start, *Polyipnus spinifer*; square, *Stenoptyx diaphana*; Triangular, *S. obscura*; circle, *S. pseudobscura*; up-side down triangular, *Maulicus japonicus*.

695-715 m depth, IKMT, 1600 m wire out, R/V Ocean Research I.

Diagnosis: Dorsal fin rays 10; anal fin rays 10-14; pectoral fin rays 10; pelvic fin rays 5. Gill rakers 7; vertebral counts 29-30. Photophores: BR 3; IP 5; PV 10; VAV 3; ACA 1, ACB 3, ACC 4; OV 3. Posterior margin of anal photophores close to anal fin base, and the ventral margin of anal fin base forming deep convex V shape after the last ACB photophore.

Distribution: mesopelagic, widely distributed in waters of Pacific, Indian, and Atlantic Oceans.
Remarks: This is a new record species of Taiwan.

*Sternoptyx obscura* Garman, 1899

(Figs. 5, 17)


Specimens: ASIZP0063040, 26.4 mm SL, 27 Apr 1996, 22.18°N, 119.42°E, South China Sea, 1000 m depth, IKMT, R/V Fishery Research Institute I; ASIZP0063046, 28.5 mm SL, 23 Apr 1995, 19.56°N, 114.21°E, South China Sea, 767 m depth, Beam Trawl, R/V Fishery Research Institute I; ASIZP0063047, 26 mm SL, 23 Apr 1995, 19.61°N, 114.22°E, South China Sea, 1012 m depth, Beam Trawl, R/V Fishery Research Institute I; ASIZP0063048, 28 mm SL, 26 Apr 1996, 21.16°N, 119.4°, South China Sea, 3000 m depth, IKMT, 2800 m wire out, R/V Fishery Research Institute I; ASIZP0063049, 5(17.7-29.5 mm SL), 27 Apr 1996, 22.18°N, 119.42°E, South China Sea, 3000 m depth, IKMT, 2800 m wire out, R/V Fishery Research Institute I; ASIZP0063050, 5(15.3 mm SL), 27 Apr 1996, 22.10°N, 119.9E°, South China Sea, 3000 m depth, IKMT, R/V Fishery Research Institute I; ASIZP0063051, 4(23.9-32.6 mm SL), 26 Aug 2002, 22.09°N, 119.47°E, South China Sea, 2539-2543 m depth, Beam Trawl, R/V Fishery Research Institute I; ASIZP0063052, 28.5 mm SL, 19 May 2002, IK02, 22.25°N, 120.23°E, SW Taiwan, 1131-1225 m depth, IKMT, R/V Ocean Research III. Others: 25.30°N, 121.56°E, Tashi, NE Taiwan; ASIZP0067705, 15.3 mm SL, 6 Jul 2003; ASIZP0067706, 26.1 mm SL, date unknown; ASIZP0067716, 2(27.2-27.7 mm SL), date unknown.

Diagnosis: Small in size, less than 40 mm SL. Dorsal fin rays 10-11; anal fin rays 13-14; pectoral fin rays 10; pelvic fin rays 4-6. Gill rakers 8; vertebral counts 28-30. Photophores: BR 3; IP 5; PV 10; VAV 3; ACA 1, ACB 3, ACC 4; OV 3. Posterior margin of anal photophores not close to anal fin base, and the ventral margin of anal fin base forming broad convex shape after the last ACB photophore. Body color dark, with pigmentation in all body parts. Body depth between origin of dorsal fin and postabdominal-spine base less than 85% standard length.

Distribution: mesopelagic, widely distributed in Indian and Pacific Oceans, but except in Atlantic Oceans. In Taiwan, it distributed around North-Eastern, South-Western Taiwan, and in South China Sea.

Remarks: It is a new record species of Taiwan.

*Sternoptyx pseudobscura* Baird, 1971

(Figs. 5, 18)


Specimens: ASIZP0063054, 40.6 m SL, 1 Aug 2001, CD 123, 24.83°N, 122.02°E, Eastern Taiwan, 1175-1255 m depth, Otter Trawl, R/V Ocean Research I; ASIZP0067714, 33.2 mm SL, 27 Apr 1996, 22.18°N, 119.42°E, South China Sea, IKMT, R/V Fishery Research Institute I; ASIZP0067725, 50.6 mm SL, CP178, 22.34°N, 119.92°E, South China Sea, 1067-1062 m depth, Beam Trawl, R/V Ocean Research I; others: Tashi, NE Taiwan, commercial bottom trawl; ASIZP0059785, 4(41.2-56 mm SL), 13 Oct 1998, 500-800 m depth; ASIZP60047, 6(18.7-57 mm SL), 30 Dec 1998; ASIZP0063053, 4(40.8-54.6 mm SL), 24 Sep 2002; ASIZP0065007, 2(51.1-64.4 mm SL), ASIZP0065008, 2(44.9-49.2 mm SL), 4 Jan 2004; ASIZP0067697, 2(32.2-47.5 mm SL); ASIZP0067699, 35 mm SL, 2 Feb 2002; ASIZP0067700, 30 mm SL, 28 Feb 2003; ASIZP0067701, 31 mm SL, 4 May 2002; ASIZP0067702, 35.5 mm SL, date unknown; ASIZP0067703, 4(34.5-57.2 mm SL), 12 Mar 2003; ASIZP0067704, 49.8 mm SL, 6 Jul 2003; ASIZP0067717, 50.3 mm SL, date unknown; ASIZP0067726, 49.7 mm SL.
Diagnosis: dorsal fin rays 10-11; anal fin rays 12-14; pectoral fin rays 10; pelvic fin rays 5-7. Gill rakers 6; vertebral counts 29. Photophores: BR 3; IP 5; PV 10; VAV 3; ACA 1, ACB 3, ACC 4; OV 3. Posterior margin of anal photophores not close to anal fin base, and the ventral margin of anal fin base forming broad convex shape after the last ACB photophore. Body color silvery to dark. Body depth between origin of dorsal fin and postabdominal-spine base more than 85% standard length.

Distribution: mesopelagic, tropical to subtropical waters of Pacific and Atlantic Oceans.

Remarks: This is a new record species of Taiwan.

**Maurolicus Cocco, 1838**

**Maurolicus japonicus Ishikawa, 1915**

(Fig. 5)


**Maulius muelleri**, Fujii in Masuda et al, 1984: 47.

Specimens: ASIZP0062367, 2(42.8-43 mm SL), 1 May 2001, 200-400 m depth, commercial bottom trawl, Tungkang, SW Taiwan; ASIZP0067729, 8(26.1-30 mm SL), 24 Jul 2004, IK240, 25.18°N, 122.57°E, NE Taiwan, 955-997 m depth, IKMT, 800 m wire out, R/V Ocean Research I.

Diagnosis: Dorsal fin rays 10; anal fin rays 21-24; Pectoral fin rays 17-19; pelvic fin rays 6-7. Gill rakers 5+2+15 = 22; vertebral counts 32. Photophores: SO 1; BR 6; IP 6; PV 12; VAV 6; ACA 1, ACB 14, ACC 8-9; OA 2+7. Stomach slightly pigmented.

Distribution: mesopelagic, depth is about 50-300 m. Distribute from Japan, Taiwan, and off Hawaii. It is also a newly added species in South China Sea.

Remarks: This is a new recorded species of Taiwan. There are 15 valid species (Parin & Kobyliansky, 1996). They have the same photophores pattern, but differ in morphometric characters, stomach and intestine pigmentation, and distributions.

**Valenciennellus Jordan & Evermann, 1896**

**Valenciennellus tripunctatus** (Esmark, 1871)

(Figs. 6, 19)

**Maurolicus tripunctatus** Esmark, 1871: 489, type locality Madagascar.


Specimens: ASIZP0067731, 3(16.3-25.8 mm SL), 4 Oct 2005, IK330, 22°18.27N, 120°09.63E, SW Taiwan, 737 m depth, IKMT, 500 m wire out, R/V Ocean Research III; ASIZP0067734, 22 mm SL, 28 Aug 2003, IK218, 24.35°N, 122.05°E, E Taiwan, 919-981 m depth, IKMT, 500 m wire out, R/V Ocean Research I.

Diagnosis: dorsal fin rays 7-9; anal fin rays 24-25; pectoral fin rays 10-13; pelvic fin rays 6-7. Gill raker 15. Photophores: BR 6; IP 3+4 = 7; PV 15-18; VAV 5; AC 3+3+3+2+4 = 15; OV 2+1+1+1+1 = 5.

Distribution: mesopelagic, widely distributed in all tropical and subtropical oceans.

Remarks: It is a new record species of Taiwan. Grey (1964) recorded one post larva, 11 mm SL, from Atlantic without any AC photophores. However, one small specimen, 16.3 mm SL, ASIZP0067731, from Taiwan had AC photophores as 3+3+3+0+3. It means that the formation of AC photophores must begin between 11 to 16 mm in standard length.

**Stomiidae** 巨口魚科

**Bathophylus Giglioli, 1882**

**Bathophylus kingi** Barnett & Gibbs, 1968

(Fig. 6)

**Bathophylus kingi** Barnett & Gibbs, 1968: 830, type locality: Pacific, 1°34'S, 133°27.5'W to 1°44.9'S, 133°44'W; Aizawa in Nakabo, 2002: 332.

Specimen: ASIZP0064177, 1(76 mm SL), 2 Apr 2002, Suao, NE Taiwan, about...
200-400 m depth, commercial bottom trawl.


Distribution: mesopelagic, widely distributed in tropical waters of Pacific Ocean. In Taiwan, depth range range is about 200-400 meters.
Remarks: It is a new record species of Taiwan.

Chauliodus Bloch, 1801膨魚屬
Chauliodus macouni Bean, 1890馬康氏膨魚（Fig. 6）


Specimen: ASIZP 0059940, 190 mm SL, off Tashi, NE Taiwan, 20 Mar 1998, commercial bottom trawl.

Diagnosis: Dorsal fin rays 17; anal fin rays 12; pectoral fin rays 12; pelvic fin rays 7. Photophores counts: IP (9-12); PV 16; VAV 27; AC 11; IC (64-69); OA 52. The 3rd premaxillary tooth longer than 4th; suborbital photophore triangular, in infra-posterior of eye.

Distribution: mesopelagic, widely distributed in Pacific Ocean.

Remarks: This is a new record species of Taiwan, but the specimen is not in good condition. The diagnostic character is the premaxillary tooth length and position of suborbital photophore.

Echiostoma Lowe, 1843膨口魚屬
Echiostoma barbatum (Lowe 1843)單鬚膨口魚（Figs. 6, 20）


Diagnosis: Dorsal fin rays: 13; anal fin rays: 15; pectoral fin rays: 1 (free) +3; pelvic fin rays: 8. Photophores: IP 7-2, PV 26, VAV 17, AC 11, C 63, OA 41-42. Pectoral fin with one free ray, terminal of free ray without photophore or luminous tissue; chin barbel short and thick, about half of basal stem blackish, terminal bulb of chin barbel prominent and whitish with two filaments at tip.

Distribution: mesopelagic, widely distributed in Pacific, Indian, and Atlantic Oceans. In Taiwan, depth is about 200-400 meters.

Remarks: This is a new record species of Taiwan. Ontological variation of chin barbel present; the only one specimen belongs to the premature type in Morrow and Gibbs (1964). It is also a newly added species in South China Sea.

Malacosteus Ayres, 1848柔骨魚屬
Malacosteus niger Ayres, 1848柔骨魚（Fig. 7）


Malacosteus danae Regan & Trewavas, 1930: 143.

Malacosteus indicus Regan & Trewavas, 1930: 143.

Specimens: 4 individuals. ASIZP-0059788, 2(163-187 mm SL), 13 Oct 1998, NE Taiwan, commercial bottom trawl; ASIZP0063814, 141 mm SL, 17 Apr 2002, NE Taiwan, depth about 200-400 m, commercial bottom trawl; ASIZP0063820, 79.8 mm SL, 23 Jan 2003, NE Taiwan, depth about 200-400 m, commercial bottom trawl.

Diagnosis: dorsal fin rays 16-21; anal fin rays 21-23. Both dorsal and anal fins in posterior part of body, fin membrane covered with skin. Pectoral fin rays 2-4; pelvic fin rays 6, start about middle part of body. Chin barbel absent; snout short. Caudal peduncle short, bifurcation. Lateral and ventral photophores along body absent. Color: body black; suborbital photophore red in fresh, other photophores whitish; dorsal and anal fins membrane black.

Distribution: mesopelagic, widely distributed in tropical and subtropical areas in Indo-Pacific and Atlantic Oceans. In Taiwan,
Fig. 7. Samples from three stomiiform fishes from Taiwan. Triangular, *Malacosteus niger*; square, *Melanostomias valdiviae*; dark square, *Leptostomias multifilis*.

depth range is about 200-400 m.

Remarks: This is a new record species and genus of Taiwan.

*Melanostomias* Brauer, 1902 黑巨口魚屬
*Melanostomias valdiviae* Brauer, 1902 瓦氏黑巨口魚
(Fig. 7)


Specimens: ASIZP0066965, 123 mm SL, 20 Apr 2004, off Tashi, NE Taiwan
commercial bottom trawl; ASIZP0062967, 2(24-32 mm SL), 28 May 2003, IK202, cruise 683, South China Sea, from 22°04' N, 120°27.77' E to 22°04' N, 120°24' E, IKMT, 1000 m wire out, R/V Ocean Research I.

Diagnosis: dorsal fin rays 12; anal fin rays 17; pectoral fin rays 5; pelvic fin rays 7. Photophores: IP 8+2, PV 24, VAV 12, AC 13, IC 59, OA 24=12=36. Chin barbel length about head length; posterior orbital photophore large, about eye diameter. Color: body dark; chin barbel stem black, terminal bulb whitish with 3 ovoid bodies. Posterior orbital photophore was pink-orange when in fresh.

Distribution: mesopelagic, widely distributed in Pacific, Indian, and Atlantic Oceans. In Taiwan, it was collected in North East Taiwan, depth about 200-400 meters.

Remarks: It is a new record species of Taiwan. It is also a newly added species in South China Sea.

Leptostomias Gilbert, 1905 纤口鱼属
Leptostomias multifilis Imai, 1941 多纹纤口鱼
(Fig. 7)


Specimens: ASIZP0064176, 136 mm SL, 20 Feb 2004, off Tungkang, Southern Taiwan, commercial bottom trawl.

Diagnosis: dorsal fin rays 9-21; anal fin rays 24-27; pectoral fin rays 8-10; pelvic fin rays 7. Photophores: IP 8 + 2-3 = 10-11; PV 41-44; VAV 19-21; AC 12-14; OV 41-43; VAL 19-21; OA 61-64. Basal part of barbel stem blackish, terminal bulb of chin barbel prominent with many filaments.

Distribution: mesopelagic, only distributed in western Pacific Ocean.

Remarks: It is a new record species of Taiwan. It is also a newly added species in South China Sea.

Key to families of StomiforMES of Taiwan
1A. True gill rakers well developed; jaws teeth small, about equal in size; serial photophores with lumen or duct..................2
1B. True gill rakers absent or spiny-like; jaws teeth moderate to large in size; serial photophores lumen or duct absent..................3

2A. Radius of pectoral fin with 4 (except species in Cyclothone fuse to 1)........2
2B. Radius of pectoral fin with 3..................4

3A. Two or more photophores clustered in group in caudal peduncle, covered with silver-white or black pigments; branchiostegals rays 6-10..................3
3B. Photophores not clustered in group in caudal peduncle; branchiostegals rays 12-16..................4

4A. Anal fin rays 36-69..................5
4B. Anal fin rays 16-31..................6

Key to species of the Diplophidae of Taiwan
1A. Pseudo gill present; ventral photophores VAV 12-17..................2
1B. Pseudo gill absent; ventral photophores VAV 5-7..................7

7A. Eye large; eye diameter longer than interorbital width; anal fin rays 53-63..................8
7B. Eye small; eye diameter shorter than or equal to interorbital width; anal fin rays 61-72..................9

8A. Anal fin base long, more than 2 times dorsal fin base..................2
8B. Anal fin base short, less than 2 times dorsal fin base..................4

9A. Dorsal adipose fin present..................10
9B. Dorsal adipose fin absent..................3

10A. Other dorsal photophores present..................11
10B. Other dorsal photophores absent..................12

11A. Body whitish to grayish brown, ventral part of belly dark..................13
11B. Body black to black-brown..................14

12A. Body whitish to grayish brown, ventral part of belly dark..................13
12B. Body black to black-brown..................14

Key to species of the family Phosichthyidae of Taiwan
1A. One orbital photophore..................
Fig. 8. *Pollichthys mauli* 莫氏軸光魚, ASIZP0064189, 60 mm SL

Fig. 9. *Polymetme elongata*, 長刀光魚, FRIP03044, 161 mm SL

Fig. 10. *Argyripnus pharos* 塔銀光魚, ASIZP0063001, mm SL
Fig. 11. Argyroplecus affinis 長銀斧魚, ASIZP0063008, 37 mm SL

Fig. 12. Argyroplecus gigas 巨銀斧魚, ASIZP0063010, 42 mm SL

Fig. 13. Argyroplecus hemigymus 半裸銀斧魚, ASIZP0063014, 22.8 mm SL
Fig. 14. *Polyipnus danae* 達納氏燭光魚, ASIZP0063018, 29.4 mm SL

Fig. 15. *Polyipnus spinifer* 頭棘燭光魚, ASIZP0063022, 49 mm SL

Polymetmy elongata

1B. Two orbital photophores

2A. Anal fin base start before posterior part of dorsal fin base

2B. Anal fin base start after posterior part of dorsal fin base. *Ichthyococcus elongatum*

3A. Anal fin base long, about 2 times dorsal fin base length. *Pollicithys mauli*

3B. Anal fin base short, about equal to dorsal fin base length. *Vinciguerria nimbaria*

Key to species of the family Stenoptychidae

of Taiwan

1A. Body low, elongated; spine or bony plate in front of dorsal fin absent; ventral margin without bony or fleshy keel

1B. Body prominently deep, strongly compressed; with spine or bony plate in front of dorsal fin; ventral margin with bony or fleshy keel

2A. Ventral photophores VAV and ACA connected; *Argyripnus pharos*

2B. Ventral photophores VAV and ACA separated

...
Fig. 16. *Stemoptyx diaphana* 褶胸魚, ASIZP0067694, 25 mm SL

Fig. 17. *Stemoptyx obscura* 低褶胸魚, ASIZP0063049, 29 mm SL
3A. Ventral photophores SO present, AC continuous not clustered in groups..........
..........................................................*Maurolicus japonicus*
3B. Ventral photophores SO absent, AC separated in groups in 2-4 photophores...
..........................................................*Valenciennellus tripunctulatus*
4A. Anal fin base with transparent membrane region; supraabdominal photophores absent........................................5
4B. Anal fin base without transparent region; supraabdominal photophores present...7
5A. Posterior margin of anal photophores close to anal fin base; ventral margin of anal fin base forming deep convex V
shape after the last ACB photophore.............. \textit{Stemoptyx diaphana} \\
5B. Posterior margin of anal photophores not close to anal fin base; ventral margin of anal fin base forming broad convex shape after the last ACB photophore........6 \\
6A. Body depth between origin of dorsal fin and postabdominal spine base less than 82\% standard length................. \textit{Stemoptyx obscura} \\
6B. Body depth between origin of dorsal fin and postabdominal spine base more than 82\% standard length.................... \textit{Stemoptyx pseudobscura} \\
7A. Ventral PV photophores 10, supraabdominal photophores 3...............8 \\
7B. Ventral PV photophores 12, supraabdominal photophores 6.............11 \\
8A. Posttemporal spine trifurcations; ventral keel serrated..............9 \\
8B. Posttemporal spine singular; ventral keel not serrated...............10 \\
9A. Caudal ACB photophores scales with spines; dorsal posttemporal spine length about half of distance between temporal spine base to dorsal bland base........ \textit{Polyipnus stercrope} \\
9B. Caudal ACB photophores scale spine absent; dorsal posttemporal spine length about distance between temporal spine base to dorsal bland base, terminal end almost attend to dorsal bland........ \textit{Polyipnus spinifer} \\
10A. Posttemporal spine long; ventral OVB photophores arranged in line........... \textit{Polyipnus dana} \\
10B. Posttemporal spine short; ventral OVB photophores not arranged in line......... \textit{Polyipnus triphanos} \\
11A. Ventral photophores OVB, VAV, and AC arranged in continuous line; caudal photophores separated, inter space between photophores prominent........12 \\
11B. Ventral photophores OVB, VAV, and AC separated, not arranged in line or continuous; caudal photophores in cluster..................13 \\
12A. Dorsal band low, high less than 1/3 base length; sphenotic spine present posterior of eye........... \textit{Argyropheleus gigas} \\
12B. Dorsal band high, longer than 1/3 base length; sphenotic spine absent posterior of eye............... \textit{Argyropheleus affinis} \\
13A. One postabdominal spine with serrated margin; area after anal fin base naked, not covered with silver skin........................................ \textit{Argyropheleus hemigynus} \\
13B. Two postabdominal spines with smooth margin; area after anal fin base covered with silver skin........................................ \textit{Argyropheleus aculeatus} \\

Key to species of the family Stomiidae of Taiwan \\
1A. Entire body with scale-like hexagonal area............................2 \\
1B. Entire body without scale-like hexagonal area..........................4
2A. Dorsal fin start in anterior part of body, close to head, 1st dorsal ray elongated; chin barbel shorter than eye diameter..............3
2B. Dorsal fin start in posterior part of body, close to caudal fin, 1st dorsal fin ray not elongated; chin barbel longer than eye diameter..................5
3A. The 3rd premaxilla tooth shorter than the 4th..........................Chauliodus sloani
3B. The 3rd premaxilla tooth longer than the 4th..........................Chauliodus macouni
4A. Both dorsal and anal fins in posterior part of body, close to caudal fin; dorsal adipose fin absent..................6
4B. Dorsal fin in front of anal fin start, not close to caudal fin; with dorsal fin adipose fin (except Rhadinesthes)...........19
5A. Biggest canine-like tooth on lower jaw; ventral photophores series IC 75-81..............................Stomias affinis
5B. Biggest canine-like tooth on upper jaw; ventral photophores series IC 69-71............................Stomias nebulosus
6A. Dorsal fin base longer than anal fin base, with one pair of spines in anterior part of both fins..................Idiachinus fasciola
6B. Dorsal fin base equal of slightly shorter than anal fin base, anterior spine absent..............................................7
7A. Hyoid and lower jaws symphysis connected only by single muscular cord; opercle oblique..............................8
7B. Hyoid and lower jaws connected by membrane; opercle not oblique..............................9
8A. Pectoral fin absent; dorsal and anal fins membrane not covered by skin.............................................Phtostomias guernei
8B. Pectoral fin present; dorsal and anal fins membrane covered by skin.............................................Malacosteus niger
9A. Dorsal fin start after anal fin base..................10
9B. Dorsal fin start about equal to anal fin base..............11
10A. Pectoral fin rays filament-like..................................Thysanactis dentex
10B. Pectoral fin rays not filament-like..............................Eustomias bifilis
11A. Suborbital photophores present..............................Pachystomias microdon
11B. Suborbital photophore absent..............................12
12A. Lower jaw curved upward; pectoral fin a
 deficient..........................Photonectes albipennis
12B. Lower jaw not curved upward; pectoral fin present..............................................................13
13A. Pectoral fin base mid-lateral..............................14
13B. Pectoral fin base mid-ventral..................................15
14A. Pectoral fin rays more than 30; ventral fin rays 18-26..........................Bathophilus nigerimus
14B. Pectoral fin rays 4; ventral fin rays 6-7..........................Bathophilus kingi
15A. Pectoral fin with one free ray..................................Echiostomias barbatum
15B. Pectoral fin without free ray..............................16
16A. Chin barbel base and terminal bulb of chin barbel with filaments..............................17
16B. Chin barbel base and terminal bulb of chin barbel filament absent..................................18
17A. Chin barbel stem whitish, only basal part black; terminal bulb of chin barbel with one ovoid body.................................................................Melenostomias melanops
17B. Chin barbel stem black; terminal bulb of chin barbel with 3 ovoid bodies......................................................Melenostomias validiae
18A. Terminal bulb of chin barbel with 1-3 filaments; terminal bulb length about 1/4 chin barbel..........................Leptostomias robusta
18B. Terminal bulb of chin barbel with many filaments; terminal bulb length about 1/10 chin barbel..........................Leptostomias multifilis
19A. PV photophores (ventral row between vertical lines at origins of pectoral and pelvic fins) arranged in groups of 2-5..........................Heterophotus ophistoma
19B. PV photophores arranged in regular intervals..............................................................20
20A. Maxillary teeth canine-like, distinctly separated, not slanting backward..........................21
20B. Maxillary teeth comb-like, closely separated and slanting backward..........................23
21A. Dorsal adipose fin absent; body relatively shallow, < 10% SL..................................................Rhadinesthes decimus
21B. Dorsal adipose fin present; body relatively deep, > 10% SL..................................................22
22A. Body black or dark brown; chin barbel slender, terminal bulb of barbel without filament; last 2 or 3 OA photophores not higher than others; AC photophores continuous, middle arched behind anal base..................................Borostomias elucens
22B. Body silvery;chin barbel with prominent
swollen or rounded, luminous tissue on opercle extending to level of posterior maxilla...............Astronesthes formosana

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二十種台灣新紀錄之巨口魚目魚類

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本報告採集與調查台灣海域之深海中屬性巨口魚(Stomiiformes)，共採獲到8個新紀錄屬、20個新紀錄種。新紀錄種包含雙光魚科(Diplophidae)之\textit{Diplophos orientalis} Matsubara, 1940東方雙光魚；光魚科(Phosichthyidae)之\textit{Pollichthys mauli} (Poll, 1953)莫氏軸光魚、\textit{Polymetme elongata} (Matsubara,1938)長刀光魚；褶胸魚科(Sternoptychidae)之\textit{Argyripnus pharos} Harold & Lancaster, 2003塔銀光魚、\textit{Argyropelecus affinis} Garman, 1899長銀斧魚、\textit{Argyropelecus gigas} Norman, 1930巨銀斧魚、\textit{Polyipnus danae} Harold, 1990達納氏鍾光魚、\textit{Polyipnus fraseri} Fowler, 1934弗氏鍾光魚、\textit{Polyipnus spinifer} Borodulina, 1979頭棘鍾光魚、\textit{Sternoptyx diaphana} Hermann, 1781褶胸魚、\textit{Sternoptyx obscura} Garman, 1899低褶胸魚、\textit{Sternoptyx pseudobscura} Baird, 1971似低褶胸魚、\textit{Maurolicus japonicus} Ishikawa, 1915日本穆氏鍾魚、\textit{Valenciennellus tripunctatulus}(Esmark, 1871)叢光魚，及巨口魚科(Stomiidae)之\textit{Bathophilus kingii} Giglioli, 1882四絲深巨口魚、\textit{Chauliodus macouni} Bean, 1890馬康氏蠟魚、\textit{Echiostoma barbatum}(Lowe, 1843)單鬚刺巨口魚、\textit{Malacosteus niger} Ayres, 1848黑柔骨魚、\textit{Melanostomias valdiviae} Brauer, 1902瓦氏黑巨口魚、\textit{Leptostomias multifilis} Imai, 1941多紋纖巨口魚。以上之軸光魚屬(\textit{Pollichthys})、刀光魚屬(\textit{Polymetme})、銀光魚屬(\textit{Argyrripnus})、褶胸魚屬(\textit{Sternoptyx})、莫氏光魚屬(\textit{Maurolicus})、叢光魚屬(\textit{Valenciennellus})、刺巨口魚屬(\textit{Echiostoma})及柔骨魚屬(\textit{Malacosteus})為新紀錄屬。目前台灣海域巨口魚目共記錄有5科33屬55種。本篇報告提供此20種新紀錄種之形態特徵、標本紀錄、地理分布、彩色標本樣及標本採樣資料，同時提供台灣產巨口魚目之新檢索表。

關鍵詞：巨口魚目，新紀錄，深海魚，台灣。

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