

## 北部湾蛇尾两新种\*

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**翅棘真蛇尾(新种) *Ophiura pteracantha* sp. nov.** (图1; 图版 I:1—3)

**描述** 盘径6—8毫米,腕长为盘径的4—5倍。盘平、圆形,盖大小不等,稍作覆瓦状排列的鳞片;中背板、辐板和间辐板都很明显,并排成一个美丽的玫板。中辐线有一行两个鳞片分隔各对辐楯。两辐楯间的间辐部有两行鳞片,还有一横行5个长方形鳞片和各生殖板外端相连。盘的周围有一行5个板,其中央板最大,呈横的半圆形。

辐楯适度大、三角形,长大于宽,临近角尖锐,远端边凸出。每对辐楯外被起首两背腕板、内被上述两鳞片所分隔。

腕栉很发达,从上面可以看到8—9个细而分隔开的栉棘(papillae)。下面腕间部盖有许多鳞片,愈近盘缘的鳞片愈大。生殖裂口长,明显。

口楯长、宽相等,外端钝圆,内端尖锐,侧缘在生殖裂口末端显著内凹。侧口板细长,长为宽的3—4倍,彼此相会于内端。口棘每边3个,很少有4个,彼此隔开,内侧两口棘细尖,外侧一棘稍宽。

临近部背腕板为圆六边形,以后增长,而且分开,内角尖锐,外缘凸出。第一腹腕板大、菱形或三角形,宽大于长,外缘稍突出。以后的腹腕板小,彼此隔开,宽比长大得多,外缘稍弯曲,内缘有一小尖锋。起首的两腹腕板之间有一明显的凹陷。

侧腕板大而明显,表面有明显横纹,下面相接,而且接面很宽,上面过基部6—7节以外也相接。每板带三个细而钝的腕棘,通常迭在腕侧,长度不超过一个腕节。腕基部三个腕棘以中央一个最长,下面一个最短;但在腕远端则是中央一个最短,下面一个最长。其最特殊的特征是腕远端最上腕棘变得很扁平,而且呈翅状(图1:4)。

触手鳞薄,稍带圆形。口触手孔大,每边有4或5个触手鳞;第二和第三触手孔每对有3或4个触手鳞;第四触手孔每边有1个触手鳞;以后的触手孔都只有1个大而圆的触手鳞。

**酒精标本颜色** 盘上夹杂有带黄的褐色,下面完全为白色。

**分类位置** 属真蛇尾科(Ophiuridae)。

**正模标本** (IOAS-EOO956) 采自北部湾,北纬18°30'、东经108°,水深71米,粉沙质泥,1960年2月12日。

**副模标本** 58个(IOAS-EOO957)采自海南岛新盈,水深10米,1958年5月4日。

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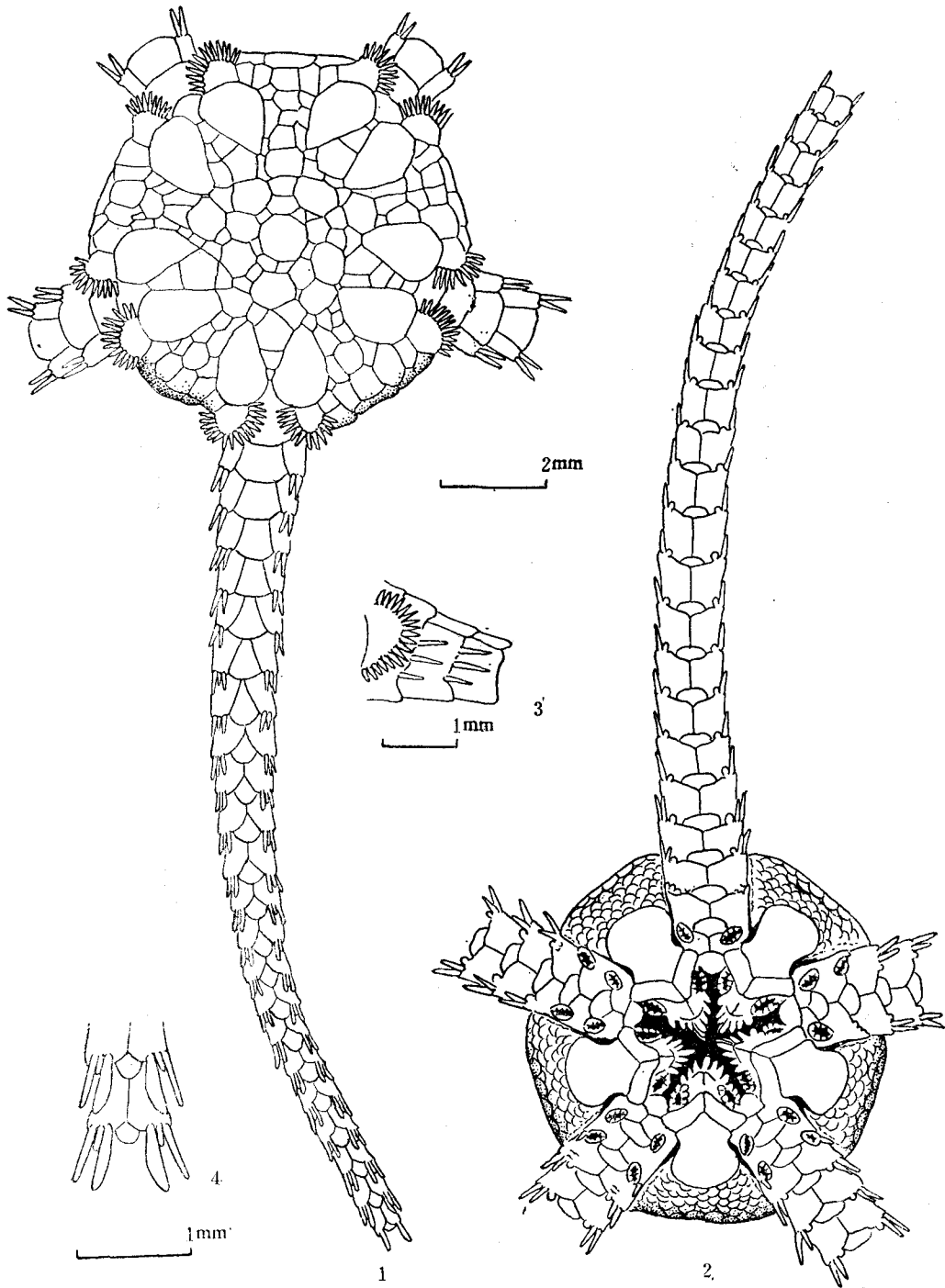


图1 翅棘真蛇尾(新种) *Ophiura pteracantha* sp. nov.

1. 背面观, Dorsal view; 2. 腹面观, Ventral view; 3. 盘附近两腕节的侧面观, Side view of two arm joints near disk; 4. 腕远端两腕节, 示最上腕棘, Distal two arm joints, showing the uppermost arm spines.

**讨论** 这是北部湾最普通的一种蛇尾,广泛分布整个湾内。我们从水深 10 米到 93 米的 90 个站共采到 3856 个标本。本种外表很象金氏真蛇尾 *Ophiura kinbergi* (Ljungman), 在野外很容易错认。在研究了大量标本后,确认它是一个新种。其腕远端的最上腕

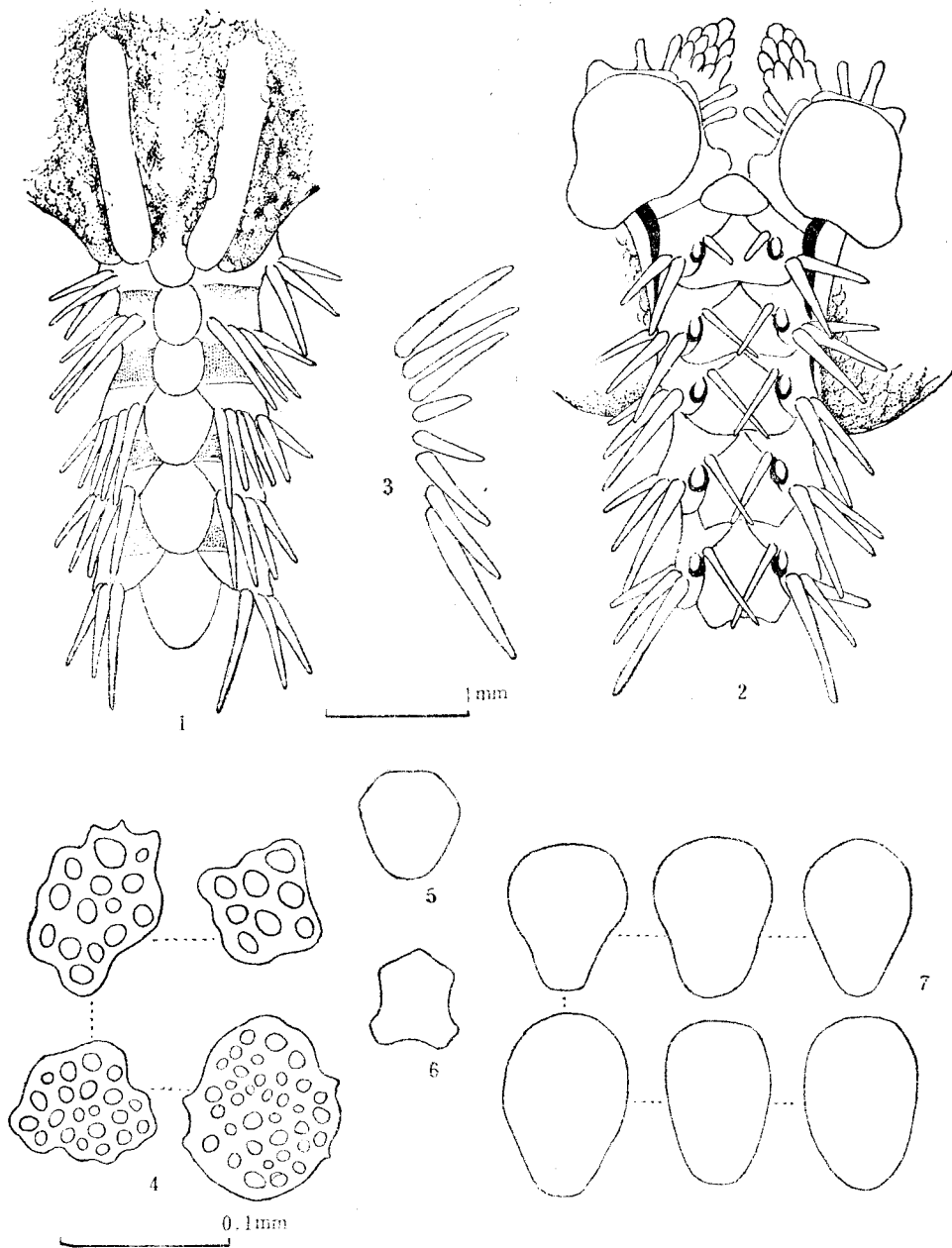


图2 脆棒鳞蛇尾(新种) *Ophiopsila abscissa* sp. nov.

1.背面观, Dorsal view; 2.腹面观, Ventral view; 3.盘附近腕棘侧面观, Side view of arm spines near disk; 4.盘皮内鳞片 Scales from skin of disk; 5.背腕板(第20节), Dorsal arm plate (20th segment); 6.腹腕板(第20节) Ventral arm plate (20th segment); 7.各种形状的口楯, Various shapes of oral shields. (图4比例尺为0.1毫米,其余比例尺均为1毫米)

棘和宽的口楯与金氏真蛇尾很不同。本新种和矛棘真蛇尾 *Ophiura lanceolata* H. L. Clark 也有些相似,但矛棘真蛇尾的腕棘要比翅棘真蛇尾长得多。

**脆棒鳞蛇尾(新种) *Ophiopsila abscissa* sp. nov.** (图 2; 图版 I: 4—5)

**描述** 盘径 6—10 毫米; 盘的背面大部分都脱落; 腕顶端几乎都折断。但据断腕判断,其长约为盘径的 8 倍。

盘五角形,间辐部向内凹,盖有稍皱的薄皮,皮内包含有很细的鳞片,显微镜下观察为穿孔板骨片(图 2: 4)。辐楯肋骨状,非常狭长,长为宽的 6 倍,为盘半径的三分之二,彼此分隔。下面腕间部盖薄皮,皮内埋有小的穿孔板骨片。生殖裂口宽而明显。

口楯大,形状变化亦大(图 2: 7),多数长而呈拖鞋状,具有很钝圆的内角和小的远端角,侧缘稍弯进。口楯总是长比宽大得多(绝不长宽相等或宽大于长)。侧口板不明显,隐藏在口楯之下,其形状只有在除去口楯后才能看清。侧口板仅以很狭的内边在间辐部中线相接,沿口楯边缘弯曲,把口楯和第一侧腕板分开。口板很小,不明显。口棘每边 3 个,外侧 1 个发育不全,内侧 2 个长而钝尖。在较高水平有一个长而呈棘状的口触手鳞。齿棘数 8—10 个。

起首两个背腕板小、半圆形;以后的背腕板多数带菱形,长略大于宽或等于宽,临近角截形,远端角圆,两临近边短于两远端边,侧角稍圆(图 2: 5)。背腕板彼此稍相接。其轮廓因盖薄膜而不很清晰,只有干标本才看得清。

第一腹腕板小,宽大于长。以后的两或三个腹腕板近五角形,长与宽相等,内角钝,侧缘由于触手孔而弯进,外缘稍凹进,并向两侧延伸。再远的腹腕板八角形,长等于宽,外缘稍凹进(图 2: 6)。腹腕板彼此稍相接。侧腕板狭而高,上、下均不相接,侧面被一空间所分隔。椎骨常有一脊起把侧腕板和空间分开。

腕棘每节有 8 或 9 个,有时 10 个。腕棘细而扁平、钝尖,其中以最后一个为最长,长相当于两腕节,中央一个为最短,长度略小于一腕节,最上一棘稍短于最下一棘。所有腕棘表面光滑,不带任何细刺(图 2: 3)。触手鳞两个,远辐的一个小而平,近辐的一个呈矛形,顶端钝尖,其长度起首略短于一腕节,以后长于一腕节。

**酒精标本颜色** 盘带黄色,夹杂有褐色斑点或斑块,腕有间隔很宽的褐色横带,下面黄或白色。

**分类位置** 属带蛇尾科(Ophiocomidae)。

**正模标本** (IOAS-EOO958) 采自北部湾,北纬 19°00', 东经 108°30', 水深 68 米,泥底,1962 年 1 月 13 日。

**副模标本** 45 个 (IOAS-EOO962), 采集地和正模同。

**讨论** 这是一个群居种,在某些适宜的环境里发现数量很多,一次拖网中曾获 1872 个标本。我们曾在水深 60 米的泥底采到一个样品,栖息密度每平方米 230 个。其辐楯狭长,口楯长大,侧口板隐蔽,很容易和印度-西太平洋的相近种——豹棒鳞蛇尾 *Ophiopsila pantherina* Koehler、多棘棒鳞蛇尾 *O. polyacantha* H. L. Clark 和多鳞棒鳞蛇尾 *O. squamifera* Murakami 相区别。

## 参 考 文 献

[1] Clark, A. M. & F. W. E. Rowe, 1971. Monograph of Shallow-water Indo-West Pacific Echino-

- derms. *Trustees British Museum (Nat. Hist.) London*, vii+238, 100 figs., 31 pl.
- [ 2 ] Clark, H. L., 1911. North Pacific ophiurans in the collection of United States National Museum. *Bull. U. S. Natn. Mus.* 75: 1—302, 144 fig.
- [ 3 ] ———, 1915. Catalogue of recent ophiurans. *Mem. Mus. Comp. Zool. Harv.*, 25: 165—376, 20 pl.
- [ 4 ] ———, 1939. Ophiuroidea. *Scient. Rep. J. Murray Exped.* 6: 29—136, 62 figs.
- [ 5 ] ———, 1946. The Echinoderm fauna of Australia. *Publ. Carnegie Instn.*, 566: 1—567.
- [ 6 ] Guille, A. & M. Jangoux, 1978. Asterides et Ophiurides littorales de la region d'Amoioine (Indonésie), *Ann. Inst. Oceanogr., Paris* 54(1): 47—74.
- [ 7 ] Koehler, R., 1898. Echinodermes recueillies par l'Investigator dans l'Océan Indien. II. Les Ophiures littorales. *Bull. Scient. Fr. Belg.* 31: 55—124, pls. 2—5.
- [ 8 ] ———, 1905. Ophiures littorales, *Siboga Exped.* 45b: 1—142, 18 pl.
- [ 9 ] ———, 1922. Ophiurans of the Philippine Seas. *Bull. U. S. Natn. Mus.* 100(5): x+486, 103 pl.
- [ 10 ] ———, 1930. Ophiures recueillies par le Docteur Th. Mortensen dans les mers d'Australie et dans l'archipel Malais. *Vidensk. Meddr. dansk naturh. Foren.*, 89: 1—295, 22pl.
- [ 11 ] Lyman, T., 1882. Ophiuroidea. *Challenger Rep. Zool.* 5: 1—386, 46 pl.
- [ 12 ] Matsumoto, H., 1917. A monograph of Japanese Ophiuroidea arranged according to a new classification. *J. Coll. Sci. Imp. Univ. Tokyo.* 35: 1—408, 100 figs., 7 pl.
- [ 13 ] Murakami, S., 1963. On some ophiurans from Kii and vicinities. with description of a new species. *Publ. Seto Mar. Biol. Lab.*, 11 (2): 171—184, fig. 1.

## TWO NEW OPHIURANS FROM THE GULF OF BEIBUWAN\*

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### ABSTRACT

*Ophiura pteracantha* sp. nov. (Fig. 1; Pl. I: 1—3)

**Description** Diameter of disk 6—8 mm., length of arms 4—5 times the diameter of the disk. Disk flat, rounded, covered with unequal and slightly imbricated scales, among which the central dorsal, radial and interradial plates are distinct, and forming a pretty rosette. In the median radial line there is a row of two scales separating the two radial shields of each pair. In the interradia there are two rows of scales between the radial shield, and a transverse series of five rectangular scales, connected with the outer end of the genital plates. Toward the periphery of disk there is a series of about five plates, among which the middle one is the largest and transversely semi-circular.

Radial shields moderate, triangular, longer than broad, with a sharp proximal angle and a convex distal border, separated outwardly by the first two dorsal arm plates and inwardly by a row of two scales mentioned above.

Arm combs well developed, consisting of eight to ten fine, well-spaced papillae as seen from above. Interradial spaces below covered by numerous scales, of which those

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situated in the margin are largest. Genital slits long, conspicuous.

Oral shields about as long as broad, rounded distally but pointed at inner end, with a strong notch in lateral margins at the end of genital slits. Adoral plates long and slender, three or four times as long as wide, meeting with each other within. Oral papillae three, rarely four, on each side, well-spaced, the inner two are narrow and pointed, outer one somewhat widened.

Dorsal arm plates rounded, hexagonal in the proximal part of arms, gradually becoming longer and separated, pointed proximally, with the distal border convex. First ventral arm plates large, rhombic or triangular, broader than long, with somewhat convex distal border; following plates very small and widely separated, much broader than long, with slightly curved distal border and a small peak within. There is a depression between the first two ventral arm plates.

Lateral arm plates distinct and very large, with distinct transversely stripes on their surface, broadly in contact below and beyond the basal six to seven segments above; each carries three slender and blunt arm spines, which are usually appressed against the lateral surface of the arms. Their length does not exceed the length of segment; basally the middle spine is little longer than the others, the lowest is shortest, but distally the middle the shortest, the lowest the longest. The most characteristic feature is the uppermost arm spines in distal part of arms being transformed into very flat and wing-like in shape (Fig. 1:4).

Tentacle scales thin, somewhat rounded; oral tentacle pores large, with four or five scales on each side; on the second and third pores, three or four on each side; fourth pores, one on each side; those beyond have usually one large scale.

Colour in alcohol: Mottled yellowish-brown above, creamy whitish below.

Systematic position: Ophiuridae

**Holotype** (IOAS-E00956) Gulf of Beibuwan, 18°30' N, 108° E, 71 meters, silty mud, February 12, 1960.

**Paratypes** (IOAS-E00957), 58 specimens, Xinying, Hainan Island, 10 meters, May 4, 1958.

**Remarks** This is one of the commonest brittle star in the Gulf of Beibuwan at a depth of from 10 to 93 meters. A total of 3856 specimens collected from 90 stations. This species appears to be very wide-spread throughout the whole region. It looks superficially like *Ophiura kinbergi* (Ljungman) and may usually be misidentified as the latter species in the field. The study of enormously numerous specimens available to us has led to the conclusion that it represents a new species. This species differs from *O. kinbergi* in the uppermost arm spines of distal part of arms and in the broader oral shields. It is also related to the *O. lanceolata* H. L. Clark, but their arm spines are quite different. The arm spines are much longer in *O. lanceolata* than in *O. pteracantha*.

***Ophiopsila abscissa*** sp. nov. (Fig. 2; Pl. I: 4—5)

**Description** A large number of specimens are at my disposal, ranging from 6 to 10 mm in disk diameter. The dorsal surface of disk are mostly torn off; the arms are

almost always broken near the tip; but judging from the fragments, they are about eight times as long as the disk diameter.

Disk pentagonal, concave in the interradial spaces, covered by a slightly wrinkled integument, which contains very fine scales, when examined under microscope, these scales are spicules of perforated plates (Fig. 2:4). Radial shields very long and narrow, rib-like, about two-third of disk radius in length, and six times as long as broad. They are well separated from each other. Interradial spaces below covered by a thin skin, in which small spicules of perforated plates were embedded. Genital slits broad and very evident.

Oral shields rather large, variable in shape (Fig. 2:7), mostly elongated as to be slipper-shaped, with a very obtuse and rounded proximal angle, and a small distal angle, sides slightly excavated. They are always much longer than broad, and never as long as broad or broader than long. Adoral plates indistinct, sheltered under the oral shield, their exact shape can only be seen after the oral shield has been torn. They are in contact with the narrow border in the median interradial line, curved along the margin of oral shield and separating the first side arm plates from the oral shield. Oral plates rather small and indistinct. Three oral papillae on each side, the outer one is rudimentary, the inner two are long and bluntly pointed. There is an oral tentacle scale at higher level, which is elongated and spiniform. Tooth-papillae from eight to ten in number.

First two dorsal arm plates small, semicircular in shape; succeeding plates mostly somewhat rhombic, a little longer than broad or as long as broad, with proximal angle truncated and distal angle rounded; two proximal border are shorter than two distal border. The lateral angles are slightly rounded. They are slightly in contact with each other. Their outlines are more or less obscured by membrane and only can be made out in dried specimens.

First ventral arm plates small and broader than long. Two or three following somewhat pentagonal, as long as broad, with an obtuse proximal angle, the sides are excavated by the tentacle pores, the distal border slightly concave and extended laterally. Farther out they are octagonal, as long as broad, with slight concavity in the distal border. They are slightly in contact with each other. Side arm plates tall and narrow, not meeting above or below, laterally separated by a narrow spaces. Sometimes there is a ridge of vertebral ossicles separating the side arm plates from the space.

Eight or nine, sometimes ten arm spines on each joint. They are slender and flat, bluntly pointed, among which the lowest is longest, about twice as long as a joint, the middle one is shortest, less than a joint, the uppermost is a little shorter than the lowest. The surface of all arm spines is smooth without showing any asperities. Tentacle scales two for each pore, the abradial one is small and flat, the adradial one is lanceolate and bluntly pointed at the tip; their length is at first less than a joint, soon it becomes longer than a joint.

Colour in alcohol: Disk yellowish, mottled with brown spots and blotches, arms with widely spaced dark brown bands; yellowish or white below.

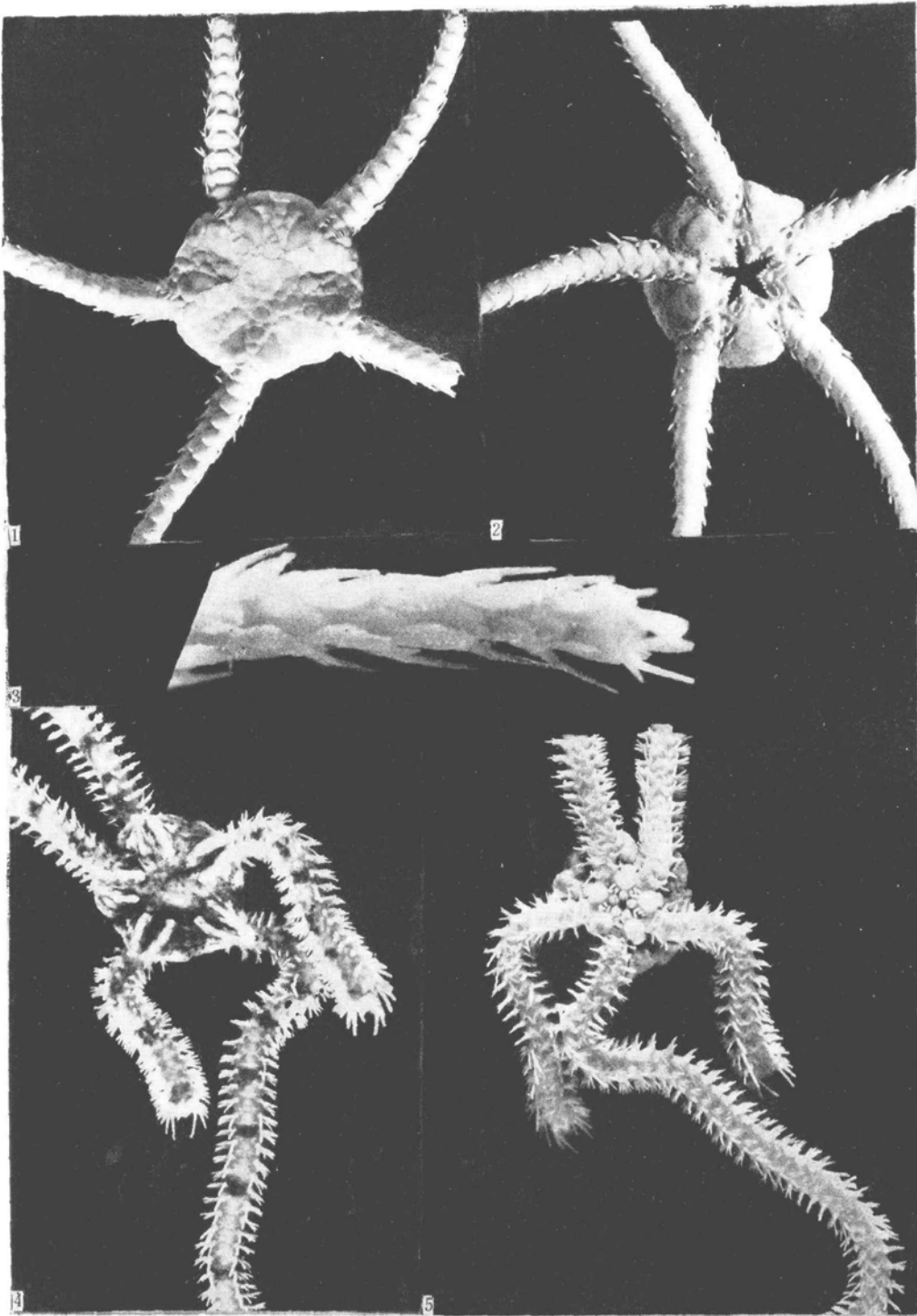
Systematic position: Ophiocomidae

**Holotype** IOAS-E00958, Gulf of Beibuwan, 19°N, 108°30'E, 68 meters, muddy bottom, January 13, 1962.

**Paratypes** IOAS-E00962, 45 specimens, locality same as Holotype.

**Remarks** This is a gregarious species and occurs in great numbers in some favourable localities, once in a haul 1872 specimens were dredged. We obtained a sample from muddy bottom at a depth about 60 meters reaching a density of 230 individuals per square meter. It may be distinguished at once from its Indo-Pacific relatives—*O. pantherina* Koehler, *O. polyacantha* H. L. Clark and *O. squamifera* Murakami, by its long and narrow radial shields, its large and long oral shields, and its sheltered adoral plates.





1. 翅棘真蛇尾(新种)背面观 *Ophiura pteracantha* sp. nov. dorsal view,  $\times 4$ ;
2. 同1,腹面观, The same, ventral view,  $\times 4$ ;
3. 同1,远端腕一段,示最上腕棘, The same, a distal arm, showing the uppermost arm spines,  $\times 30$ ;
4. 脆棒棘蛇尾(新种)背面观, *Ophiopsila abscissa* sp. nov. dorsal view,  $\times 3$ ;
5. 同4,腹面观, The same, ventral view,  $\times 3$ .