

台湾海峡南部水螅水母纲两新种形态特征

黄加祺¹, 许振祖¹, 郭东晖^{1,2}

(1. 厦门大学海洋与环境学院, 福建 厦门 361005; 2. 厦门大学近海海洋环境科学国家重点实验室, 福建 厦门 361005)

摘要: 2005 年 7 月在台湾海峡南部发现花水母亚纲 (Anthomedusae Haeckel, 1879) 筒螅水母科 (Tubulariidae Fleming, 1828) 刺泳水母属 (*Plotocnide* Wagner, 1885) 1 个新种——台湾刺泳水母 (*Plotocnide taiwanensis* sp. nov.) 和软水母亚纲 (Leptomedusae Haeckel, 1866) 和平水母科 (Eirenidae Haeckel, 1879) 伊能水母属 (*Irenium* Haeckel, 1879) 1 个新种——多手伊能水母 (*Irenium polynenum* sp. nov.)。

关键词: 海洋生物学; 水螅水母纲; 分类; 新种; 台湾海峡

DOI 10.3969/j.issn.1000-8160.2010.01.001

中图分类号: P 735

文献标识码: A

文章编号: 1000-8160(2010)01-0001-04

本文材料系“延平 2 号”调查船于 2005 年 7 月在台湾海峡南部水域 (21°40' ~ 23°38' N, 116°47' ~ 118°56' E) 采集的。通过 75 份水母类样品分析, 发现水螅水母纲 (Hydromedusae)、花水母亚纲 (Anthomedusae Haeckel, 1879)、筒螅水母科 (Tubulariidae Fleming, 1828)、刺泳水母属 (*Plotocnide* Wagner, 1885) 1 个新种——台湾刺泳水母 (*Plotocnide taiwanensis* sp. nov.)、软水母亚纲 (Leptomedusae Haeckel, 1866)、和平水母科 (Eirenidae Haeckel, 1879)、伊能水母属 (*Irenium* Haeckel, 1879) 1 个新种——多手伊能水母。值得提起的是, 此次发现这 2 个属——刺泳水母属和伊能水母属均是我国海域首次记录。本文对这 2 个新种的形态特征均进行绘图和详细描述, 为今后海洋调查和编写水螅水母动物志提供参考。模式标本保存于厦门大学海洋与环境学院。

1 台湾刺泳水母, 新种 *Plotocnide taiwanensis* sp. nov. (图 1)

鉴别特征: 伞近球形, 外伞有分散刺胞; 胃大, 几乎占满内伞腔, 口小, 圆形; 生殖腺围绕在胃壁上, 在胃上半部分布有泡状细胞; 4 条宽的辐管, 辐管内分布许多颗粒状物质, 1 条环管; 4 条实心主辐位的缘触手, 较短, 触手末端有球状刺胞球。

描述: 伞高 1.0 mm, 宽 0.8 mm, 伞球形, 伞壁较薄, 外伞上有分散的刺细胞; 胃大, 梨形, 几乎占满整个内伞腔, 无顶室, 胃上半部分布有泡状细胞; 生殖腺环绕在胃的下半部; 4 条宽的辐管, 辐管内部分布许多颗粒状物质, 1 条环管; 4 条主辐位实心的缘触手, 较短, 基部呈三角形, 触手上有许多环状刺胞, 末端具有一个球状刺胞球; 缘膜中等宽。

正模: (AOB-HL 260) 台湾海峡南部 B9 站 (22°09' N, 118°26' E), 水深 100 m, 2005 年 7 月 11 日郭东晖采集 (厦门大学)。

分布: 中国台湾海峡南部海域。

词源: 新种以拉丁词 *taiwanensis* 为种名, 是根据模式标本的采集地: 中国台湾海域而命名的。

讨论: 本新种外伞上有分散刺细胞; 生殖腺环绕在胃壁上; 4 条实心的缘触手, 触手末端具刺胞球, 因此, 本新种隶属于筒螅水母科 (Tubulariidae Fleming, 1828) 刺泳水母属 [*Plotocnide* (Wagner, 1885)]^[1]。该属至今报道 2 种——北方刺泳水母 [*P. borealis* (Wagner, 1885)] 和不定刺泳水母 [*P. incerta* (Lanko, 1900)]。由于不定刺泳水母有胃柄, 缘触手无末端刺胞球, 因此不能放在刺泳水母属中^[1-2], 故有效种仅北方刺泳水母一种。北方刺泳水母个体较大, 伞高和伞宽达 3.0 mm, 伞胶质较厚, 胃上方有帽状的顶室 (apical chamber), 其内部

收稿日期: 2009-04-22

基金项目: 国家自然科学基金重点资助项目 (40331004)

作者简介: 黄加祺 (1941 ~), 男, 教授; E-mail: huangjq@xmu.edu.cn

有大的泡状内胚层细胞,4条细的辐管;4条实心的缘触手,触手细长,末端为膨大的刺胞球,该种主要分布在北极和亚北极海域,是寒带种^[3].

本新种个体较小,伞高 1.0mm,伞胶质薄;胃大,胃的上半部有泡状组织分布;辐管较粗,其内部有许多颗粒状物质;4条较粗短的缘触手,实心,基部呈三角形,触手上分布环状刺胞,末端有发达刺胞球,其形态特征不同于北方刺泳水母.

2 多手伊能水母,新种 *Irenium polynemum* sp. nov. (图 2)

鉴别特征:伞薄,扁于半球形;有发达的胃柄;生殖腺线状,分布在整条辐管上;缘触手小,数量多,具有侧丝;缘疣和平衡囊数目也多.

描述:伞宽 10.0mm,胶质十分薄,伞扁于半球形;胃柄发达,其基部较窄,长度约为伞径 1/3;胃柱形,末端有 4个皱褶的口唇;生殖腺线状,从伞缘一直分布到胃的基部;伞缘有 88条大小不等的小触手,具排泄乳突,各有一对侧丝,还有 50多个不具侧丝的缘疣,每个缘疣也具有排泄乳突;每两条触手间有 1个平衡囊,每个平衡囊具 1~2个平衡石;4条辐管,1条环管;缘膜中等宽.

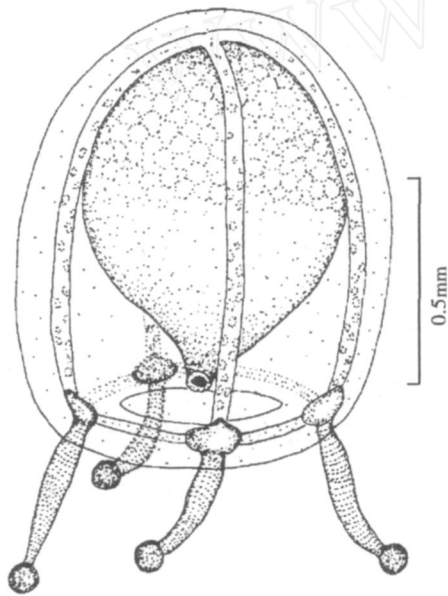


图 1 台湾刺泳水母新种 *Plotoconide taiwanensis* sp. nov.
Fig.1 *Plotoconide taiwanensis* sp. nov.

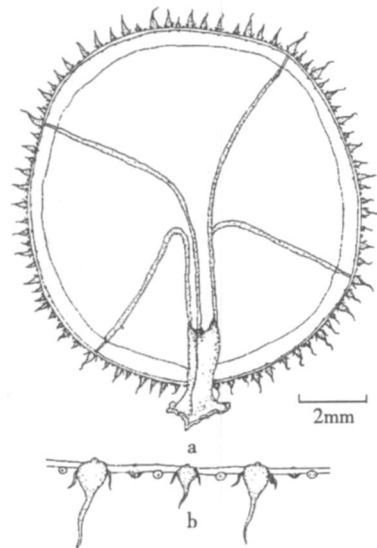


图 2 多手伊能水母新种 *Irenium polynemum* sp. nov.
Fig.2 *Irenium polynemum* sp. nov.
a:口面观, b:伞缘部分放大

正模:(AOB-HL 261)台湾海峡南部 A3站 (23°23'N, 118°06'E),水深 45m,2005年 7月 14日郭东晖采集 (厦门大学).

分布:中国台湾海峡南部海域.

词源:新种以拉丁词 *polynemum* 为种名,表示该种水母伞缘有许多触手而命名.

讨论:该水母有胃柄,4条辐管,生殖腺分布在整条辐管上,缘触手有侧丝,具有多个缘疣和平衡囊,故属于和平水母科 [Eirenidae (Haeckel, 1879)]伊能水母属 [*Irenium* (Haeckel, 1879)].该属为我国首次记录,它与侧丝水母属 [*Helgicirra* (Hartlaub, 1909)]的主要区别在于它的生殖腺分布在整条辐管上;而侧丝水母属虽在部分或所有触手基部有侧丝,但其生殖腺仅局限在下伞部分的辐管上.到目前为止,已知伊能水母属有 3个有效种,即四手伊能水母 [*I. quadrigatum* (Haeckel, 1879)],异手伊能水母 [*I. teuscheri* (Haeckel, 1879)]和丰唇伊能水母 [*I. labiatum* (Zamponi, Suarez-Morales and Gasca, 1999)]^[1-2,4].

四手伊能水母:胶质十分厚,胃柄短,基部宽;4条大而长的主辐触手;30~40个缘疣,有排泄乳突;120~160条侧丝;60~80个平衡囊.

异手伊能水母:伞为半球形,伞顶胶质厚;胃柄塔形,长约等于伞径;8个大触手和40个小触手;60~80个缘疣,在缘疣间有60~80条螺旋状侧丝;70~80个平衡囊。

丰唇伊能水母:伞胶质厚,为球形或低钟形;胃柄柱形,长为伞径1/2;触手19条,缘疣多,达190~200个,平衡囊少,仅有10个。

多手伊能水母,新种:伞胶质薄,扁于半球形;触手小而多(88条),缘疣较触手少,侧丝仅分布在触手两侧。这些特征与上述3种显然不同,特征比较详见表1。

表1 伊能水母属(*Irenium*)3种水母和新种的主要特征比较

Tab 1 A comparison of 3 species with new species of *Irenium*

特征	四手伊能水母	异手伊能水母	丰唇伊能水母	多手伊能水母
伞径/mm	15.0	40.0	20.0	10.0
伞形	半球形	半球形	球形或低钟形	伞扁于半球形
胶质	厚	伞顶厚	厚	薄
胃柄	短,基部宽	塔形,长等于伞径	柱形,长为伞径1/2	柱形,长为伞径1/3
触手数	4	48	19	88
缘疣数	30~40	60~80	190~200	53
平衡囊	60~80	70~80	10	88
平衡石	4~6	2~4	5~8	1~2
侧丝数	120~160	60~80	24	176

参考文献:

- [1] Bouillon J, Boero F. Phylogeny and classification of Hydroidomedusae [J]. *Thalassia Salentina*, 2000, 24: 1-296
- [2] Kramp P L. The Hydromedusae of the Atlantic Ocean and adjacent waters [J]. *Dana Rep*, 1959, 46: 1-283
- [3] 张金标, 林茂. 楚科奇海的水螅水母类及其分布 [J]. *极地研究*, 2000, 12(3): 169-182
- [4] Zamponin O, Suarez-Morales E, Gasca R. Dos especies nuevas de *Irenium* (Cnidaria, Hydrozoa, Leptomedusae) en una bahia del Caribe mexicano [J]. *Rev Biol Trop*, 1999, 47: 209-216

Specific characteristic of two new species of Hydromedusae in the south of Taiwan Strait

HUANG Jia-qi¹, XU Zhen-zu¹, GUO Dong-hui^{1,2}

(1. College of Oceanography and Environmental Science, Xiamen University, Xiamen 361005, Chi na;

2. State Key Laboratory of Marine Environmental Science, Xiamen University, Xiamen 361005, Chi na)

Abstract: In this paper, two samples of Hydromedusae were collected by the boat "Yanping II" in the south of Taiwan Strait (21°40' ~ 23°38' N, 116°47' ~ 118°56' E) in July 2005. On the analysis of 75 Hydromedusae samples, two new species i.e. *Plotocnide taiwanensis* sp. nov. and *Irenium polynanum* sp. nov. are described. All type specimens are deposited in the College of Oceanography and Environmental Science, Xiamen University.

Plotocnide taiwanensis sp. nov. (Fig 1) without pointed apical projection; with scattered nematocysts on exumbrella; without a gastric peduncle; with 4 equally developed, solid tentacles; each with a large terminal knob of nematocysts. Placing this medusa in the genus *Plotocnide* Wagner, 1885^[1].

Presently, only one valid species in the *Plotocnide* Wagner, 1885 i.e. *P. borealis* Wagner, 1885 is known^[1-2].

P. borealis, rather thick umbrella wall, with a broad, dome-shaped apical chamber lined by large, vacuolated endoderm cells, with 4 thin radial canals. This species distributes in arctic or subarctic seas. New species with thin umbrella wall; without apical chamber; manubrium very large, with vacuolated endoderm cells scattered in upper part of manubrium; with 4 rather rough radial canals of granular materials; with 4 rather short marginal tentacles with circular cnidocysts and each with a large terminal knob of nematocysts. So it differs from *P. borealis* Wagner, 1885.

Irenium polynanum sp. nov. (Fig 2) has numerous statocysts; with numerous marginal warts; marginal tentacles with lateral cirri; mature gonads along entire radial canals. So the new species belongs to genus *Irenium* Haeckel, 1879.

At present time, only 3 valid species in the *Irenium* Haeckel, 1879 are known, i.e. *I. quadrigatum* Haeckel, 1879, *I. teuscheri* (Haeckel, 1879) and *I. labiatum* Zamponi, Suarez-Morales et Gasca, 1999^[1-2,4].

I. quadrigatum jelly very thick; peduncle short with very broad base; 4 very long periradial tentacles; 30 ~ 40 marginal warts with excretory papillae. *I. teuscheri* rather large in 40.0mm wide, thick at apex; peduncle as long as bell diameter; 8 large and 40 small tentacles; 60 ~ 80 marginal warts. *I. labiatum* jelly very thick; with 19 medium-sized tentacles, between them 190 ~ 200 warts with lateral cirri and 10 marginal vesicles. The new species is a rather small medusa, 10mm wide, umbrella flatter than a hemisphere, jelly thin; peduncle 1/3 as long as bell diameter; 88 small marginal tentacles and less marginal warts (53); one statocyst between tentacles, each statocyst with 1 ~ 2 concretions. So the new species differs from the other species (see Table 1).

Tab 1 A comparison of 3 species with new species of *Irenium*

Characteristics	<i>I. quadrigatum</i>	<i>I. teuscheri</i>	<i>I. labiatum</i>	<i>I. polynanum</i> sp. nov.
Umbrella wide/mm	15.0	40.0	20.0	10.0
Umbrella shape	hemispherical, thick	hemispherical, thick at apex	spheric-shaped, thick	flat, thin
Peduncle	short with very broad base	pyramidal as long as bell diameter	about 1/2 as long as bell diameter	about 1/3 as long as bell diameter
Number of tentacles	4	48	19	88
Number of marginal warts	30 ~ 40	60 ~ 80	190 ~ 200	53
Number of statocysts	60 ~ 80	70 ~ 80	10	88
Number of concretions	4 ~ 6	2 ~ 4	5 ~ 8	1 ~ 2
Number of lateral cirri	120 ~ 160	60 ~ 80	24	176

Key words: marine biology; Hydromedusae; taxonomy; new species; Taiwan Strait

DOI 10.3969/J. ISSN. 1000-8160. 2010. 01. 001

(责任编辑:杜俊民)