

东海大陆架掌苔虫属一新种*

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掌苔虫属 (Genus *Kinetoskias* Danielsen, 1868) 隶于唇口目、无囊亚目、双胞科 (Cheilostomata, Anasca, Bicellariellidae), 除南极海域、地中海、加勒比海未见报道外, 各地都有记录, 但多数种类在北极海域分布较广 (Kluge, 1953)。掌苔虫系深海类型, 有的种能栖息在水深 4670 米的深海海底。掌苔虫的个虫系草苔虫型 (*Bugula*-type), 与草苔虫不同处是个虫始端不分叉。掌苔虫和茎苔虫 (*Caulibugula* Verrill, 1900) 的群体都由一根长柄和分枝部分构成, 但掌苔虫的长柄为膜质, 无任何钙质沉淀, 仅由一空个虫 (keno zooid) 构成, 而茎苔虫的长柄分节, 由许多空个虫构成, 往往有钙质加厚, 因而两属极易区分。掌苔虫群体分枝的分歧方式属于 Harmer 的模式 7 (见 Harmer 1923:326, pl.16, fig.7), 即双列分枝在分歧时, 两个内个虫 (inner zooids) F 和 G 分别由轴个虫 (axillary zooid) E 相连接, 轴个虫产个虫 F 和 G, 它伸到与个虫 A 对应一侧分枝的始端, 个虫 B 不参与个虫数目的复分 (图 2)。

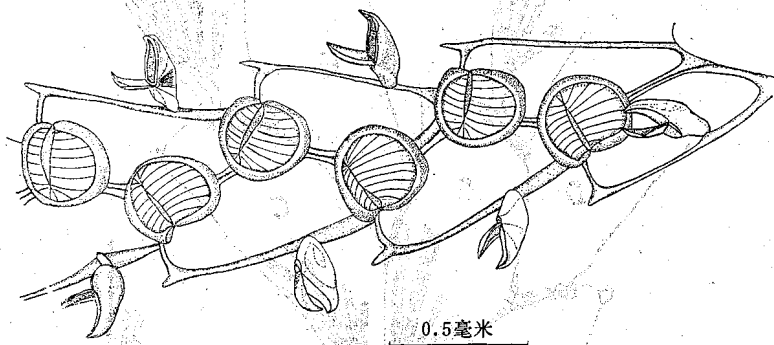


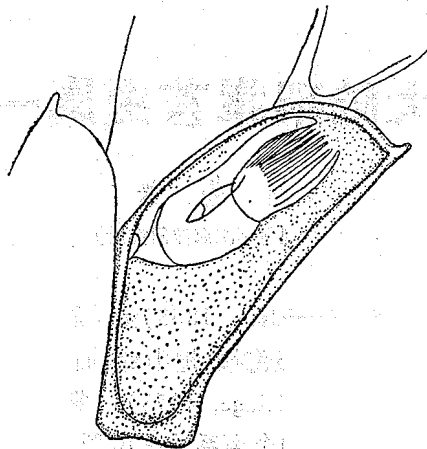
图1 正模标本前面观, 示个虫、刺、鸟头体和卵胞

掌苔虫虽系深海类型, 但有的种深度分布范围很广, 如 *Kinetoskias arborescens* 栖息在水深 19—1229 米, *K. smitti* 分布在水深 65—1210 米, *S. mitsukurii* 则分布在水深 20—3400 米 (Kluge 1953, 1962; Mènzies 1963)。

掌苔虫的群体借助于膜质长柄插入海底淤泥, 由长柄始端分出的微细附根附着在砂粒等基质上。个虫由于特殊的个虫牵引肌 (flexor-zooidal muscles) 的伸缩彼此间能活动。鸟头体皆侧位, 都长在个虫自由缘上, 或位于个虫中点 (mid-point), 或位于中点以上 (cephalad of the mid-point), 或位于中点以下 (caudad to the mid-point); 有的种鸟头体长在特殊阶梯状突起 (step-like process) 上, 但有些种类无此阶梯状突起。

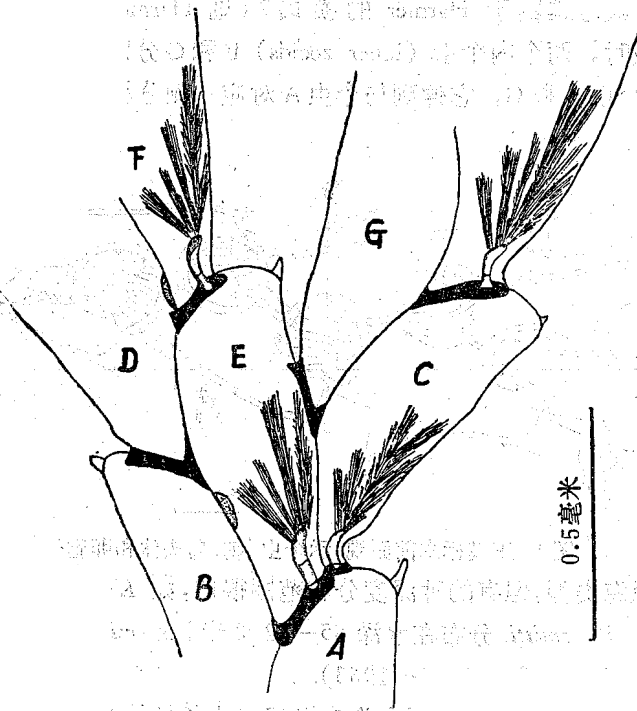
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0.5毫米

图2 正模标本前面观,示一虫体



0.5毫米

图3 正模标本背面观,示分枝方式、侧玫瑰板和虫体收缩

迄今为止,掌苔虫属共有以下九种:

1. 树形掌苔虫 *Kinetoskias arborescens* Daniellsen, 1868
2. 斯氏掌苔虫 *Kinetoskias smitti* Koren & Daniellsen, 1877
3. 杯形掌苔虫 *Kinetoskias cyathus* (W. Thompson), 1877
4. 碗形掌苔虫 *Kinetoskias pocillus* Busk, 1881
5. 箕氏掌苔虫 *Kinetoskias mitsukurii* Yanagi & Okada, 1918
6. 细长掌苔虫 *Kinetoskias elongata* Harmer, 1926

7. 白令海掌苔虫 *Kinetoskias beringi* Kluge, 1953

8. 维马掌苔虫 *Kinetoskias vema* Menzies, 1963

9. 华丽掌苔虫 *Kinetoskias elegans* Menzies, 1963

作者在东海大陆架区采得两号标本,与 Harmer (1926) 报道的细长茎苔虫 *K. elongata* Harmer, 1926 相近似,但两者区别明显,经研究确认是一新种。新种的模式标本保存在中国科学院海洋研究所。现将新种描述如下:

椭圆掌苔虫(新种) *Kinetoskias oblongata* sp. nov. (图 1—6)

正模标本 76BBE004, 1976 年 7 月 25 日采于东海大陆架, $32^{\circ}45'N$, $125^{\circ}00'E$, 底质为软泥,水深 70 米,与裸茎苔虫 *Caulibugula inermis* Harmer 丛生在一起,一个群体。

副模标本 76BBE005, 1976 年 8 月 27 日采于东海大陆架, $27^{\circ}30'N$, $122^{\circ}00'E$, 底质为软泥,水深 80 米,与水螅生活在一起。一个群体。

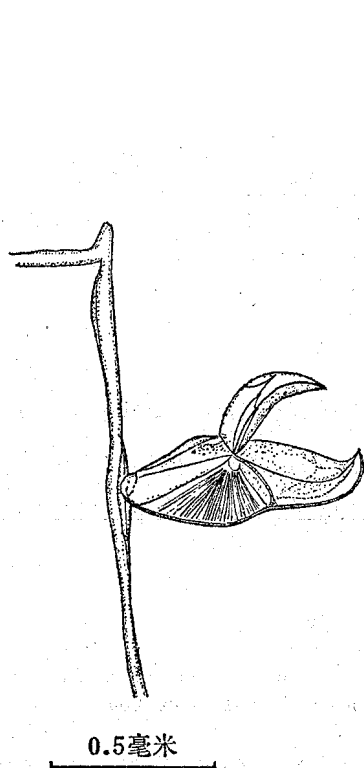


图 4 正模标本前面观,示一鸟头体

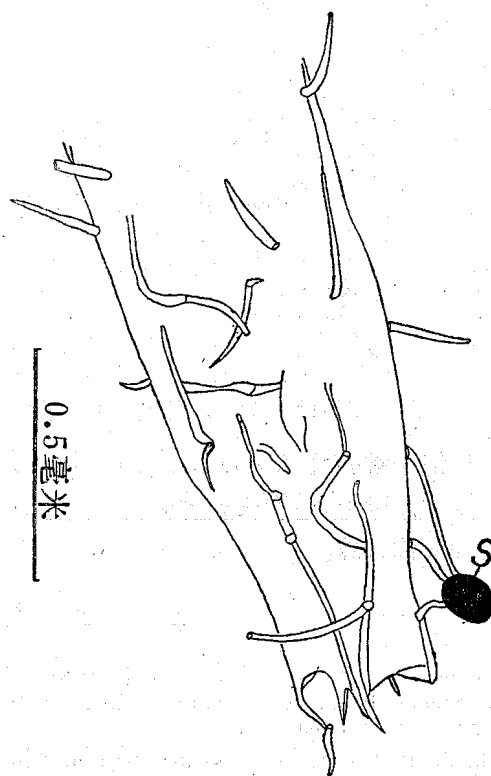


图 5 正模标本前面观,示膜质管状柄的始端部分及附根 (S——砂粒)

群体由一根长达 8 毫米的长柄和掌状分枝构成。分枝由两列交互排列的个虫组成,枝端弯曲。长柄的基部较宽,分出微细的附根(图 5),中部以上宽度均匀。在柄的末端接近分枝始端第一个虫处,柄腔扩大成膜孔状,膜孔部分的顶端前翘,而在背面,柄壁弯曲成弓形。在此弓形区上面一个大的梨状构造,其附着面的曲率与柄壁相同;梨状构造的基部较宽,末端较狭,借一几丁质关节与分枝始端的第一交互个虫的始端相连接。第二交互个虫的始端也由一几丁质关节与上述弓形区背顶端长出的锥形构造相连接。分枝始端交

互排列至第5个虫才参与分枝的分歧。

个虫椭圆形,始端较狭,末端稍向外倾斜,通常在外顶角有一基部无关节的小刺(有时无刺),内顶缘圆形(图1),背面凸而光滑。在每一虫体的始端外侧都有一小柱形突起,其顶端着生肌肉,肌纤维较强,插入虫体的侧壁和背壁(图3)。虫体较大,占个虫前半部或大半部。触手冠较小,触手较少,约24根(图2)。鸟头体较小,附着在个虫下半部中央侧面,属细长型,鸟头基部较狭,顶缘和吻几乎处于同一直线,吻短,吻钩不明显,颧骨三角形(图1,4)。许多鸟头体常伸到个虫前表面。卵胞大,宽大于长,固着在个虫内顶角,斜盖在相邻个虫上。外卵室和内卵室之间由一空隙隔开;内卵室前表面饰有一条与胞口垂直的纵线或纵裂以及以此为基线发出的、和胞口方向平行的若干线纹(图1)。

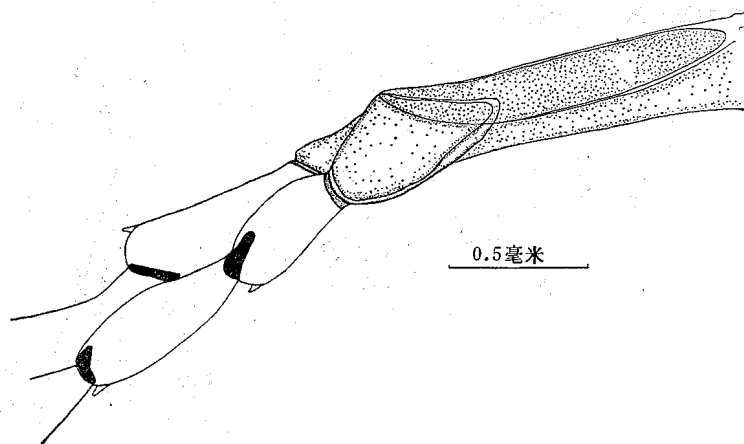


图6 正模标本背面观,示膜质管状柄的末端部分和掌状分枝的始端个虫

新种和细长掌苔虫 *Kinetoskias elongata* Harmer, 1926 相似,但后者个虫细长,鸟头体位于个虫中点以上,卵胞仅具放射线;新种的个虫呈椭圆形,鸟头体位于个虫中点以下,卵胞前表面纹饰特殊。

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A NEW SPECIES OF THE GENUS *KINETOSKIAS* DANIELLSEN COLLECTED FROM THE CONTINENTAL SHELF OF THE EAST CHINA SEA*

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ABSTRACT

Kinestoskias oblongata sp. nov. (text-figs. 1—6)

Colony consists of a tubular stalk and a typical palm-like branch whose end is not curved. The branch consists of two rows of alternative zooids. The tubular stalk is 80 mm. long, and is a kenozooid with thin membranous wall, uniformly wide throughout the portion above the proximal end. From the base of the stalk are given off minute rootlets. At the distal end of the stalk, near the primary zooid of the proximal end of the branch, the stalk lumen is expanded into membranous aperture, a portion of the distal end of which is raised toward the frontal surface, on the dorsal surface, the wall of the stalk is arched. It is to this arc-like area that a large pyriform structure is attached. The attachment plane of this structure has the same curvature as that of the tubular wall. The structure is broader basally than distally and is connected

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with the proximal end of the primary alternative zooid of the palm-like branch by a chitinous joint. By another such joint the proximal end of the second alternative zooid in the proximal end of the branch is also connected with a small conical structure attached on the disto-dorsal edge of the above-mentioned arc-like area. The fifth alternatively arranged zooid distal to the stalk takes part in the bifurcation. Zooids are oblong, narrower proximally, their distal end sloping slightly and obliquely toward outer distal corner, usually with or occasionally without a small spine (not jointed at the base), inner distal margin round; their dorsal surface is convex and smooth. The outer proximal side of each polypide has a columella-like process, to which tip are attached the muscles; muscle fibres are rather strong, penetrating into the lateral and dorsal wall of the polypide which is large and occupying about the anterior or more than half the length of the zooid. The lophophore is small, tentacles about 24 in number. Avicularia are small, attached to the outer side of the middle of the proximal half in a zooid. They are of the elongated type, their base is narrow, their profile is nearly straight, their rostrum is short and inconspicuously hooked, their mandible is simple and triangular. Usually most of the avicularia extend to the frontal surface of the zooids. Ovicells are broader than long, attached to inner distal corner, obliquely covering the surface of the neighbouring zooids. The ectooecium is separated from the entooecium by a space. The entozooecium is marked by a longitudinal line or slit perpendicular to the oopore, and by many stripes parallel with the oopore.

This new species bears a resemblance to *Kinetoskias elongata* Harmer 1926. In the latter species the zooids are elongated, the avicularia are located cephalad of the mid-point of a zooid, the ovicells are marked only by the radiating lines. In this new species the zooids are oblong, the avicularia are located caudad to the mid-point of a zooid, and the ovicells have peculiar stripes.