"Batei kurage"
Hippopodius ungulatus
by Tamiji Kawamura
Dobutz, Z. Tokyo, 22, 468-471, 1910

The bracketed **[..]** and emboldened comments are Totton's marginalia.

"Batei kurage" is the Japanese name for members of the genus *Hippopodius* belonging to the family Polyphyidae of the Calycophorae. This family is readily differentiated from other Calycophorae by having more than three nectophores. However, on closer examination, siphonophores with more than three nectophores are not altogether unknown even in the Diphyidae. Therefore, for the benefit of differentiating this family from the other families of the Suborder Calycophorae its outstanding characters are given below.

Family Polyphyidae

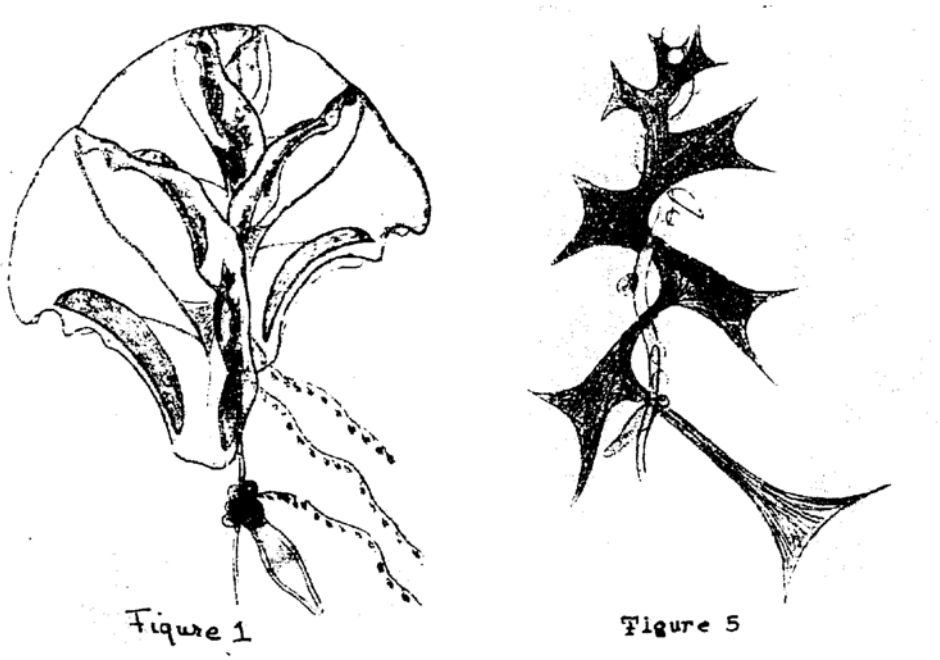
After casting off its primitive nectophore, it grows numerous identically shaped nectophores. The cormidia without bracts and mature attached to the stem [**gonophores swim freely**].

Genus *Hippopodius*

The nectophore is horse-shoe shaped, round and smooth, and without angular edges.

One species *Hippopodius*: *Hippopodius ungulatus* Haeckel

The body consists of numerous nectophores arranged in two rows. It is like a cone pressed slightly from the side. An elongate stem hangs from this. The pressed surfaces of the body correspond to the lateral surface of each nectophore (figure 1).



An individual nectophore is almost horse-shoe shaped when seen directly from the front and if observed from the side is cuneiform with the surface divided into five planes. The lateral surface, that is, the surface which in its natural position faces

upwards on the outside, is somewhat convex and is separated into four smaller surfaces by three parallel ridges. At the lower margin, there are four dull pointed conical processes. The lower surface, that is, the surface facing below toward the outside in it natural position, is horse-shoe shaped and deeply concave. In the centre of the latter is situated the nectosac opening. Surrounding this opening, in addition too the four processes previously described and adjacent to the upper part, there are two very inconspicuous processes on each side and two rather large conspicuous processes on the lower side. Both lateral surfaces of the nectophore are nearly flat, and irregularly quadrilateral in shape. The longest side is on the inner part of the structure while the shortest is the lower part. The upper surface and that which corresponds to the ventral one, that is, the surface that faces inward in its natural position, are saddle-like as they are longitudinally convex and are laterally concave. The sides take a wing-like shape by extending longitudinally, although remaining flat. Several nectophores collected here are actually those on the upper part of the structure, clasped by the opposite side of the wing. At slightly below the middle of this structure, a triangular, muscular, membranous stalk is attached in an arc along the median line of the stem. The nectosac of the nectophore is wide and shallow, almost like a dish. Although its outer rim is rounded, its lower side is concave; therefore, the shape is more like a kidney. Its wide opening faces outwardly below and has a somewhat wide velum.

Figure 2

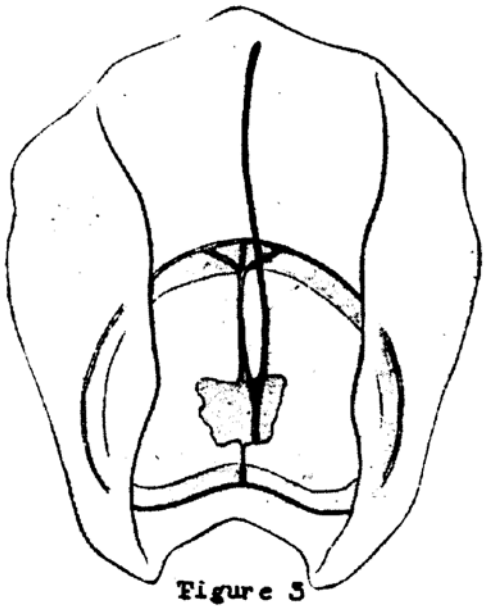


Figure 3

The cavity canal from the stem enters the gelatinous part of the nectophore slightly below the middle of the ventral median line of the nectophore.

At this point the canal immediately branches to form a second canal running close to the surface of the nectophore along the median line and ending blindly near the upper end. The main canal which runs straight through the gelatinous part, branches into a dorsal and ventral canal at the apex of the nectosac. The dorsal canal is half the length of the ventral canal and branching off from it are a pair of lateral canals. Half way along the ventral canal, there is an inflated part like a truncheon.

Since the four canals (dorsal, ventral, and two laterals) correspond to the four radial canals of the nectosac, which has slightly shifted their positions, they connect with the circular canal at the base of the velum.

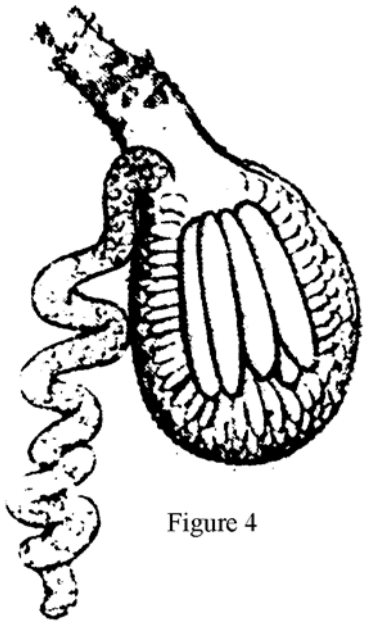


Figure 4

The long, thin canal-like stem has numerous cormidia attached near the top, and each of these cormidia consists of siphons, tentacles, and male and female gonophores.

The siphon consists of a stalk, a basal part, and a large spindle-shaped stomach. The proboscis expands and contracts freely. The upper half of the stomach is a beautiful vermilion colour.

The tentacles are small and long, developing from the stalk. On it are found lateral branches spaced at equal (distances). Each of these consists of three parts - the stalk, the nematocyst cluster, and the terminal filament. The stalk is columnar, and covered with cilia. The nematocyst cluster consists of five extremely large nematocysts and a countless number of smaller nematocyst which are arranged in an orderly manner. Cilia are also present on the outside. The long columnar terminal filament is small and has numerous minute nematocysts.

The gonophores are attached close to the stalk of the siphon and ordinarily one female gonophore is found above it and one or two male gonophores below.

In general, in the siphonophores, the closer the nectophore is situated to the cormidia, the more mature it is but in this genus the situation is reversed. The reason for this is that the attachment of the nectophore bends and elongates as it grows from the apex of the stem. However, the stem is twisted like a rope around the stalk to which the nectophore is attached as shown in figure 5.

Hippopodius ungulatus has been recorded by a number of investigators over a period of many years. Consequently, there are now more than ten accepted synonyms. The two specimens caught by the author were, in both cases, caught off the Misaki Laboratory during August 1907 - one with three nectophores and the other with five nectophores. The author, however, very much regrets that it was not possible to make a detailed study of the cormidia as these specimens were comparatively young and the lower half of their stems had been lost. At any rate, with the larger specimen, the largest nectophores measured 10 mm in length and 8 mm in width.

Supplement

The author wishes at this time to request that, if any investigator ever observes or hears of the occurrence of this species or any other siphonophores, he be good enough to make a detailed report of such finding. Heretofore, as far as our species of siphonophores are concerned, only a small number of specimens have been taken in the vicinity of Misaki, Izu Island, Boshu, Suraga Bay, and Shima. However, the author feels that many siphonophores very possibly occur in our coastal waters, particularly in localities exposed to oceanic conditions. Undoubtedly, the siphonophores are a group which have an extremely large number of individual variations. For this reason the author sincerely hopes for opportunities to study as many specimens as possible.

第一圖　包嚢中にある幼ヂストマ　百倍廓大
第二圖　包嚢中より取り出したる幼ヂストマを腹面より見たる圖　百倍廓大
第三圖　猫の體中に入りて十二日を經たる肝臟ヂストマを腹面より見たる圖　三十倍廓大
第四圖　猫の體中に入りて二十六日を經たる肝臟ヂストマを背面より見たる圖　三十倍廓大

a. S.	前吸盤
p. S.	後吸盤
Phar.	咽頭
Oes.	食道
Int.	腸
V. ex.	泌尿器嚢狀部
P. Gen.	生殖孔
V. sem.	貯精嚢
C. ex.	泌尿器管狀部
Ut.	子宮
Sh. Gl.	卵殻腺
Ov.	卵巢
L. C.	ラウレル氏管
R. sem.	受精嚢
a. T.	前睾丸
p. T.	後睾丸
Vit.	卵黄腺

バテイクラゲ

理學士　川村多實二

(明治四十三年九月二十三日受領)

バテイクラゲとは Hippopodius 屬管水母の爲めに用ゐんとする和名なり、此屬は管水母類(Calycophorae)亞目多鐘科(Polyphyidae)に屬するものにして、此科は其泳鐘の三個以上なるにより他の Calycophorae より區別せられ易きものなり。然れども嚴密に云へば二鐘科(Diphyidae)に入れらるゝものにも三個以上の泳鐘を有するものなきに非ず、依て左に多鐘科の特徴を擧ぐ可し。

○多鐘科(Polyphyidae)

原始泳鐘脫離して、多數同形なる泳鐘生ず、幹群は保護葉なく、幹より分離せずして成熟す。

○バテイクラゲ屬(Hippopodius)

泳鐘は馬蹄形、圓滑にして稜角なし。

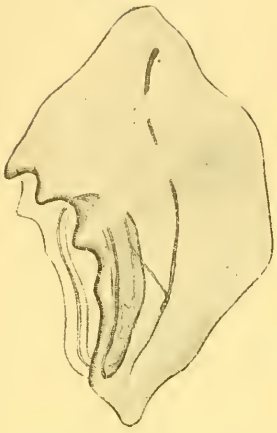
バテイクラゲの一種
Hippopodius ungulatus Haeckel

體は多數の泳鐘の二列に並列して成せるものにして、少しく横に壓せられたる圓錐形と云ふ可く、下に細長き

幹を懸垂す。(第一圖)而して體の壓せられたる面は各個泳鐘の側面に當れり。

第一圖
バティクラゲ(五倍大)

第二圖

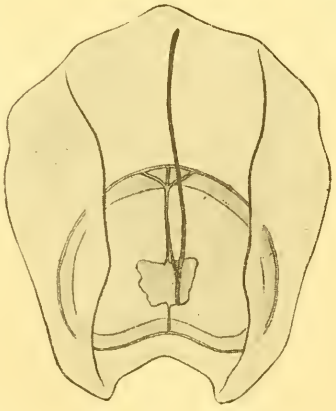


バティクラゲの泳鐘側面

個々の泳鐘は其概形正面より見れば蹄鐵狀、側面より見れば楔形を爲す、之れに五個の面を區別し得可し。背面即ち自然の位置に於て上外方に面せる面は、稍凸形をなし、著明ならざる三本の平行せる稜により四個の小面に區別せらる。下緣には四個の鈍き圓錐形の突起あり下面即ち自然の位置に於て外下方に面せる面は蹄鐵形にして中央部深く凹入し、此處に廣き泳囊の開口あり、周圍には先きに述べたる四個の突起の上方を境せる外、二個の甚だ不著明なる突起兩側に、稍大にして著るしき二個の突起側下方に位置せり。泳鐘の兩側面は殆扁平、不規則なる四邊形をなす、其最長邊は內方に、最短邊は下方に位置す。泳鐘の上面と腹面とに相當する面即ち自然の位置に於て內方に面せる面は鞍狀にして、縱に凸形橫に凹形なり。其兩側は縱に扁平に延びて翼狀をなす、數個の泳鐘の集るは、實に此翼狀部を以て、各其反對側上方に當れる他の泳鐘を擁するに依るなり。此面の中央部稍下方に於て、三角形の筋肉に富める膜狀の拇正中線に沿ふて弧形に接着す。

泳鐘の泳囊は廣くして淺く、殆皿狀をなす、其外廓は圓形なるも下側凹入せるを以て、腎臟形と云ふ方可なる可し。廣き開口は下外方に向ひ稍廣き緣膜を備ふ。

幹より來る腔管は、泳鐘の腹面正中線中央よりも稍下



第三圖
バティクラゲの泳鐘腹面

方に於て泳鐘の寒天質に入る。而して其所に於て直ちに一管を分岐す、此管は正中線に沿ふて表面に接して上方に走り、殆上端に達して盲狀に終る。寒天質を貫きて直線に走る主管は、泳囊の頂に達して背腹の二管分岐す、背管は其長さ腹管の半分位、其中途より左右側に一對の側管を出す。腹管は其中途に於て軍扇形の膨大部を有す。此膨大部の存することは管水母中他に類を見ざる所とす。右に擧げたる背腹左右側の四管は泳囊の四放射管に相當するものが、少しく其位置を變じてかく成りたるものに外ならざれば、其末端は絲膜の基部に存する一個の環管によりて連結せらる。

細くして長き管狀の幹は其上に數多の幹群を附く、一個の幹群を形づくれるものは營養體、觸手及び雌雄生殖體より成る。

營養體は短き柄部と基部、及び大にして紡錘狀をなせる胃部あり、吻部は自由に擴張收縮せらる。胃部の上半は美麗なる朱赤色を呈せり。

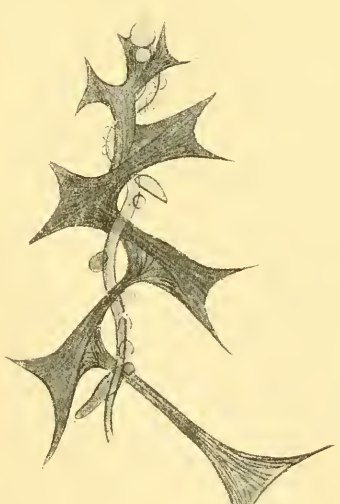
觸手は營養體の柄部より起り細くして長く其上に等距離に配置せられたる側枝あり、側枝は柄部、刺胞叢及び絲絛の三部よりなる。柄部は圓柱狀にして纖毛を以て被はる。刺胞叢は球形にして五個の甚大なる刺胞と、無數の規則正しく配列せられたる刺胞とを備へ。外に纖毛あり。絲絛は細長くして圓柱狀、無數の甚小なる刺胞を含めり。

第四圖

生殖體は營養體の柄部に接して存し、通常上に一個の雌生殖體、下に一個乃至二個の雄生殖體あり。

通常の管水母に於ては、泳鐘は幹群に近きもの程老成せるものなるが、此屬の管水母に於ては之れに反せり。其故は此屬の管水母にありては、泳鐘の附着せる部分が幹の頂より折れ曲りて、逆に懸垂せるを以てなり。而して幹は此泳鐘の附着せる柄部と繩の如くに絆れて存せり其狀第五圖に示せるが如し。

バテイクラゲは早くより、人々の記載したる屬種にして、今日異名と認めらるゝ學名十數個の多きに上れり。余が得たるバテイクラゲの標品は二個、共に明治四十



第五圖

年八月中三崎臨海實驗所に得たるものにして、一は三個他は五個の泳鐘を有し居たり。此標品は比較的若きものにして、且幹の下半は切斷せられ居たるを以て幹群に就て精密なる觀察を遂げ得ざりしを憾む。大なる標品に於て、最大泳鐘は長徑(上下の)十ミメ、横幅八ミメなりき。

附記　本種及び其他の管水母の種類に就て見聞せられたる人あらば、何卒其詳細を御報下されんこと希ふ、邦産管水母は從來三崎、伊豆七島、房州、駿河灣及び志摩に於て僅少の標本の得られたるあるのみ、想ふに我國沿岸各地殊に外洋に突出せる地方に於ては、多數の管水母を見得可きことならん、云ふ迄もなく管水母類は其個體變異の甚多なる動物なれば、成る可き丈け多數の標品に接せんこと余の最も希望する所なり。

●箕作博士の名を負へる魚(補遺)

理學士　田中茂穗

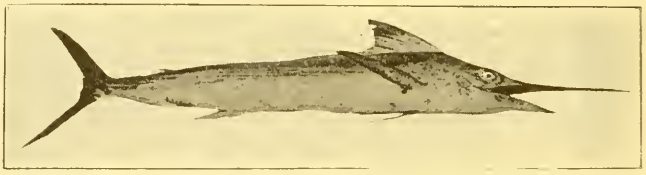
(明治四十三年九月二十七日受領)

本年二月發行の「箕作博士記念號」に箕作博士の名を負へる魚十種を掲げたるが、尚ほ一種を脫漏したり、遲れ乍ら爰に之を掲ぐることゝす。

マカジキ(相州三崎)

バイセン、カジキマグロ

Tetrapturus mitsukurii Jordan & Snyder.



Tetrapturus mitsukurii Jordan & Snyder, Jour. Coll. Sci. Imp. Univ. Tokyo, Japan, vol. XV, pt. II, May 20, 1901, p. 304, pl. XVI, fig. 5. Misaki, Sagami.

本種はマカジキ科にして、上顎頗る延長し、メカジキと異なるは、腹鰭の存在することゝなり、マザアラ(*T. mazara* Jordan & Snyder)と異なるは、胸鰭の普通の長さを有することゝなり、マザアラにありては、胸鰭頗る長く、下顎の先端より測りたる頭長より僅に短きのみ。

正確なる記載によれば、相州三崎、東京市場、横濱、仙臺、松島灣、箱舘、小樽等にて本種の捕獲せらるゝを知る。

上顎の突出部を除き、全長凡そ一丈に達す。

●ウミテング及び近似の屬「ソレノストムス」屬に就て一二三の注意すべき點

教授　ヘクトル、ユングルセン述
理學士　田中茂穗譯

(明治四十三年九月二十七日受領)

本編は余に宛て送られたる、本年二月十二日丁抹コペ