

Two Sponges from the Southwestern Region of the Japan Sea

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The sponges described in this paper were obtained by Mr. KATSUCHIYO ITO of the Kasumi Branch of the Japan Sea Regional Fisheries Research Laboratory using a trawl-net from the crab-fishing grounds at the depth of about 200 meters, 10 miles off Kasumi, Hyogo Prefecture.

As nothing had been known on the Demosponges from the southwestern part of the Japan Sea, this report is the first record of Demosponges from these waters.

The sponges are as follows :

Class Demospongiae

Order Poecilosclerina

Family Raspailiidae

1) *Raspailia kasumiensis*, n. sp.

Order Hadromerina

Family Suberitidae

2) *Suberites virgultosa* (JOHNSTON)

Here the writer wishes to express his hearty thanks to Mr. KATSUCHIYO ITO for his kindness.

Raspailia kasumiensis, n. sp.

(Japanese Name : — Kasumi-yasurikaimen)

(Figs. 1 and 2)

The single specimen (Fig. 1) upon which this new species was established, is erect, arborescent, composed of a number of subcylindrical branches, not lying in one plane. The branches vary greatly in length, some being very short while others are long. The main branch is somewhat flattened and measures about 10 mm in breadth and 8.5 mm in thickness. The total height of the specimen is about 120 mm. The surface of the sponge is granular and coarsely hispid to the naked eye; oscula and pores not apparent. The colour is dirty pale brown in preserved state and the texture is tough and resilient.

The skeleton consists of a network of stout horny fibers, cored by several rows of smooth styles and echinated by spined styles. From the axial portion more slender spicular fibers run outwards to the surface, where they terminate in feebly developed tuft of similar styles, associated with a few, very slender styles or raphides. The outwardly directed fibers are connected together to form a network by short secondary fibers of similar structure.

Spicules (Fig. 2) : — 1) Styles (a) smooth, slightly sharply pointed at one end, measuring $350 \sim 420 \times 12 \sim 18\mu$. 2) Slender styles or raphides of the dermal brushes, smooth, straight, often of hair-like dimensions, about $300 \sim 520$ by $2 \sim 4\mu$. 3) Echinating styles (b) straight, spined sparsely, measuring $100 \sim 115 \times 5 \sim 7\mu$.

Remarks : — This species is closely resembles *Raspailia ramosa* (MONTAGU) in

external form, but differs from the latter in the skeleton which is composed of styles only and in the dimensions of the spicules. In the spiculation, this species resembles *R. villosa* THIELE. The present species differs, however, from THIELE's species in the external form and in the presence of acanthostyles instead of trachystyles.

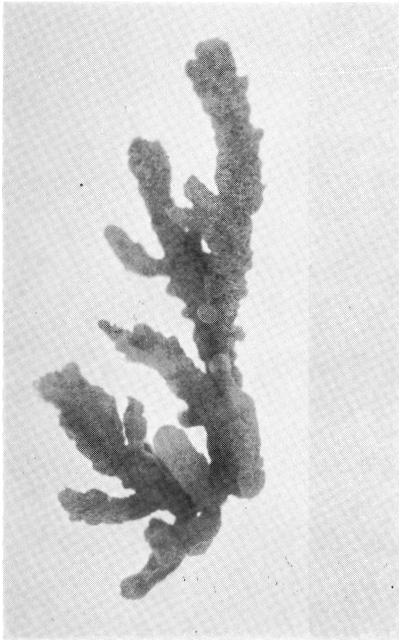


Fig. 1. *Raspallia kasumiensis*,
n. sp. $\times 1/2$.

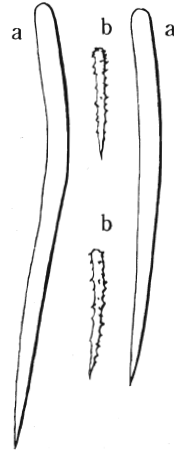


Fig. 2.
Spicules of *Raspallia kasumiensis*, n. sp. a, styles; b, echinating styles; all $\times 120$.

Suberites virgultosa (JOHNSTON)

(Japanese Name : — Takuwan-kaimen)

(Figs. 3 and 4)

Halichondria virgultosa, JOHNSTON (1842), p. 137, pl. 15, figs. 1-3.

Hymeniacidon virgultosa, BOWERBANK (1866), p. 193 ; (1874), p. 89, pl. 35, figs. 1-5.

Suberites virgultosa, VOSMAER (1882), p. 32.

Suberites ficus, HARTMAN (1958), p. 3, pl. 1, fig. 5, text-fig. 1.

This species is represented by two excellent specimens. Each of them is erect, long club- or bat-shaped, somewhat laterally compressed, more or less twisted, broadest at the top of the body and tapers gradually to the base. At the top of the body, there is a large elliptical osculum which leads to the interior of the sponge to more than two thirds of the body-length. The surface is smooth to the naked eye, but more or less uneven, rugose under a hand lens. The colour is gray in preserved state and the texture flesh-like and flexible.

One specimen (Fig. 3) measures 278 mm in height, 37 mm in breadth, and 18 mm in thickness with an osculum of 17×3 mm. The wall of this sponge is 9 mm thick in the middle part of the body. The other measures $266 \times 43 \times 23$ mm with an osculum of 20×4 mm.

The skeleton of the sponge is composed of densely aggregated tylostyles, including styles, and centrotylote microstrongyles and microxeas. The dermal membrane is thin and uniformly perforated by small pores, crowded with microscleres which are thickly matted together. The megascleres found near the dermis are thicker and shorter than those found in the interior of the body.



Fig. 3. *Suberites virgultosa*
(JOHNSTON) $\times 1/2$.

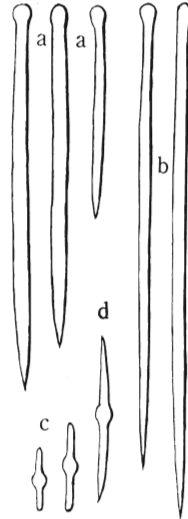


Fig. 4.
Spicules of *Suberites virgultosa* (JOHNSTON).
a, ectosomal tylostyles, $\times 85$; b, endosomal tylostyles, $\times 85$; c, microstrongyles, $\times 360$; d, microxea, $\times 360$.

Spicules (Fig. 4): — Megascleres: 1) Tylostyles of ectosome (a) smooth, straight, varying in length from 500 to 550 μ and in thickness from 17 to 20 μ . 2) Spicules of endosome (b) tylostyles or styles, nearly the same as those of the ectosome in shape except for the dimensions, measuring 800 ~ 900 \times 8 ~ 10 μ . Microscleres: 3) Microstrongyles (c) centrotylote, measure 20 ~ 35 \times 3 μ , scattered densely on the dermal surface, but also sparsely scattered in the choanosome. 4) Microxea (d) 50 \times 3 ~ 4 μ ; small in number.

Remarks: — This species was originally described and figured by JOHNSTON in his "History of British Sponges". Since then, this species has been recorded by BOWERBANK and VOSMAER.

In 1959, HARTMAN has treated this species as a synonym of *Suberites ficus* (JOHNSTON) mainly on the bases of the spiculation. Morphological differences between this species and *S. ficus* are very slight except for the external appearance and the spicule sizes. The most common external form of *S. ficus* seems to be a flattened, sometimes lobose shape, although it is highly variable, and the tylostyles of *S. ficus* are shorter and thinner than those of this specimen.

According to Mr. KATSUCHIYO ITO, this sponge is very common (765 specimens were obtained from one station) on the fishing grounds off Kasumi, Hyogo Prefecture, and all the specimens obtained by a crab-net (a kind of trawl-net) are nearly the same in shape. The external appearance of this sponge is very characteristic, and it appeared, judging from the two specimens at hand and from the letter of the collector, to be very constant. The writer proposes, therefore, to hold separate the two species, *S. virgultosa* and *S. ficus*, as originally reported, instead of incorporating the former in the latter.

The external form of this sponge very closely resembles "Takuwan", a kind of Japanese pickles, which gives the sponge its Japanese name.

Literatures

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日本海西南海域の海綿 2 種

谷 田 専 治

ここに報告する海綿は、資源部第3研究室の伊藤勝千代技官がズワイガニ調査の際、カニ網に入つた底棲生物の中から採取し、送付をうけたものである。採取地点は兵庫県香住沖10哩、水深約200米の地点である。

これまで日本海西南海域からは尋常海綿の報告が全くないので、本報告は同海域の尋常海綿に関する最初の記載である。

採取された海綿は次の2種であるが、その1は新種である。

1. *Raspailia kasumiensis*, n. sp.

多骨海綿目・ヤスリカイメン科に属するもので、樹枝状を呈し、骨格は針状体を含む海綿質繊維の網目より成り、その繊維から有棘針状体が直角に突出している。和名……カスミヤスリカイメン (新称)。

2. *Suberites virgultosa* (JOHNSTON)

硬海綿目・コルクカイメン科に属し、先端に一つの口をもつ棍棒状を呈し、外観はタクワン漬を想わせる。この海域ではきわめて普通のもので、同一地点から700個以上も採取されている。HARTMANはこれを *S. ficus* (ツミイレカイメン) の synonym としているが、特異な外形その他の特徴から、著者は原記載の通り *S. virgultosa* とした。和名……タクワンカイメン (新称)。