

ON SOME FRESHWATER SPONGES FROM GUJARAT (INDIA)

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(With 6 Text-figures.)

INTRODUCTION

In the course of a faunistic survey of some freshwater bodies of Gujarat, a few specimens of sponges were collected from Bhavnagar and Rajkot. On examination, the collection was found to comprise four species, three belonging to known and the fourth showing sufficiently significant variations to warrant erection of a new species.

The paper also includes some salient limnological features of these water bodies.

***Corvospongilla bhavnagarensis* sp. nov.**

(Text-figs. 1-3)

Material : Preserved specimen and slides Z.S.I. Regd. No. P 3135/1 ;

Locality—embankment about 4 metres away from Gorishankar Lake, Bhavnagar, Gujarat. Coll. *T. D. Soota*, 24.viii.1982.

Description : Sponge forming over a large area on the surface of an embankment thick blackish encrustation showing rough and irregular surface with fragile consistency.

Megascleres : rather short, not very thick, slightly curved, amphitrygla, inflated at extremities, entirely smooth, length range .190-.205 mm., width range .016-.018 mm.

Microscleres : represented by microbirotulates with smooth shaft, slightly curved, and terminally with 4 recurved hooks ; length of shaft varying from .041-.042 mm., diameter of rotules .008-.009 mm.

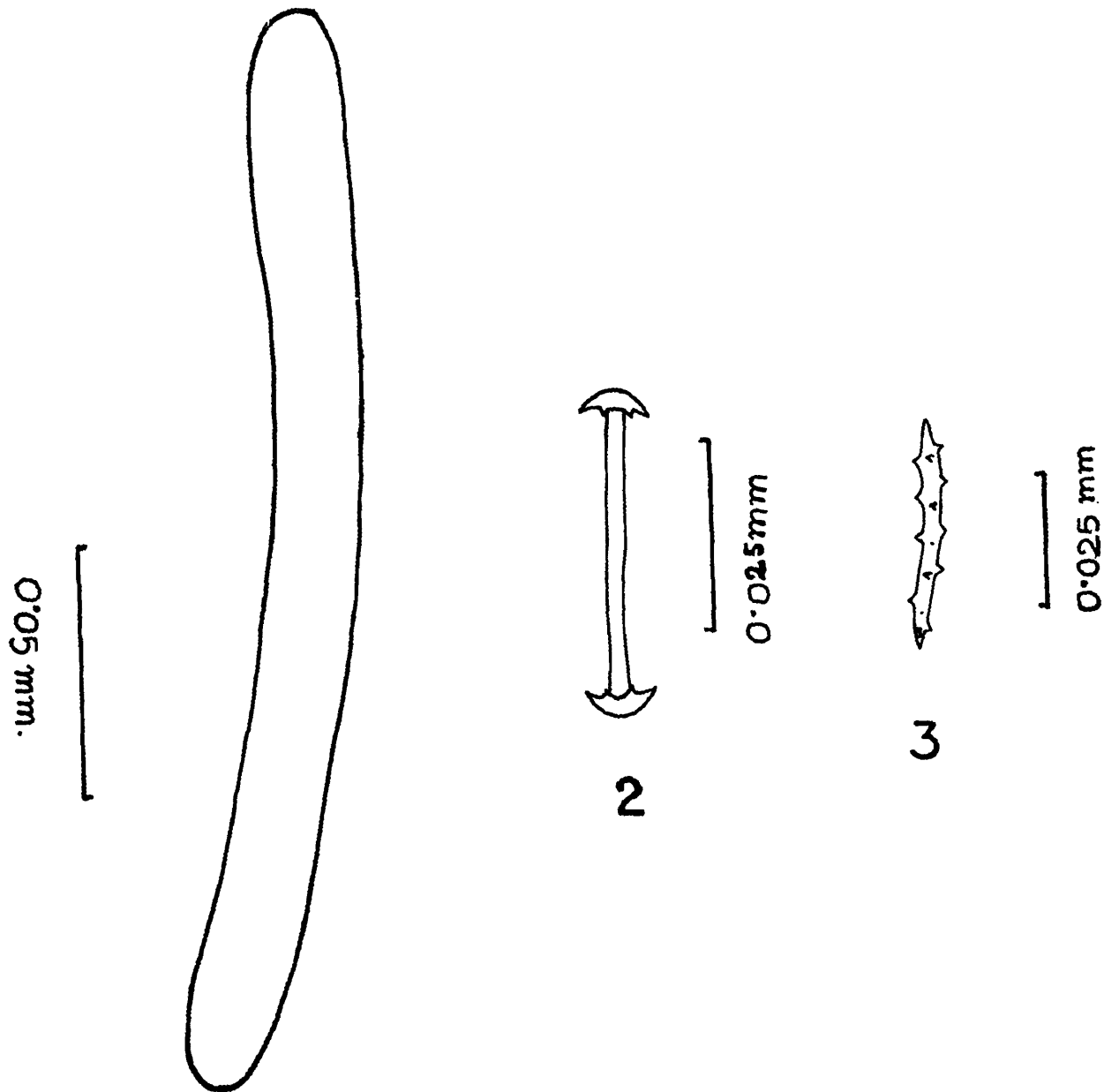
Gemmoscleres : strongly pointed amphioxea, slightly curved and covered with short acute spines ; length range .043-.045 mm., width range .0042-0048 mm.

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Gemmules : spherical, smooth, loosely adhering to sponge surface, diameter .005-.006 mm., foramen not exactly tubular but as a conical projection.

Colour : Black in dry specimen.

Remarks : The species comes close to *Corvospongilla loricata*—*lapidosa* group in having smooth amphistrongyla megascleres and



Text-figs. 1—3. *Corvospongilla bhavnagarensis* sp. nov.

microhirotulate microscleres, but differs from all the members of the group only in shape of porus tube of gemmule which is not exactly tubular but a conical extension, and in structure of gemmoscleres which are amphioxea instead of amphistrongyla. Unfortunately, the taxonomic position of the members of the group is at present unresolved (vide Penney & Racek, 1968, pp. 53 & 55). Hence, to remove this most undesirable taxonomic complexity, work involving examination

of a series of fresh specimens has already been initiated to ultimately lead to the final revision of the group when all its members will be soundly established.

***Corvospongilla caunteri* Annandale, 1911**

Material : One lot ; Z. S. I. Regd. No. P 3136/1 ; Locality—under surface of a stone Gorishankar Lake, Bhavnagar, Gujarat. Coll. *T. D. Soota*, 24. viii. 1982. One lot ; Z. S. I. Regd. No. P 3137/1 ; Locality—under surface of a stone Kodiyar Lake, Bhavnagar, Gujarat. Coll. *T. D. Soota* ; 24. viii. 1982.

Description : Crusts thin, with smooth surface.

Megascleres : amphioxea, smooth, slightly curved, bluntly or sharply pointed at their tips ; length range .172-.258 mm., width range .0085-.0175 mm.

Microscleres : microbirotulates, shaft smooth, straight to feebly curved, terminal spines not strongly incurved ; length of shaft of rotules .0215-.043 mm., diameter of rotule .0086-.0095 mm.

Gemmoscleres : amphistrongyla, slightly curved, irregularly spiny throughout the body ; occasionally appearing like amphioxea due to presence of spines at tips ; length range .0301-.0473 mm., width range .0043-.0086 mm.

Gemmules : moderate to abundant, present freely in inner symplasm, spherical, forming a depression beneath ; diameter of gemmule .4-.45 mm ; foramen slightly elevated forming a somewhat bent tube.

Remarks : The species is recorded for the first time from Gujarat.

***Corvospongilla lapidosa* (Annandale, 1908)**

Material : One lot ; Z. S. I. Regd. No. P 3138/1 ; Locality—under surface of a stone Aji Dam, Rajkot, Gujarat. Coll. *T. D. Soota*, 24. viii. 1982.

Description : Crusts flat, thin and with rough, hard, brittle surface, practically entirely covered with gemmules.

Megascleres : amphistrongyla, feebly curved, stout and entirely smooth ; length range .175-.28 mm., width range .0172-.0236 mm.

Microscleres : microbirotulates, shaft smooth, terminally with 6-7 recurved hooks, length range .032-.035 mm., diameter of rotules .009-.01 mm.

Gemmoscleres : amphistrongyla, stout, slightly curved, covered with blunt spines ; length range .0344-.086 mm., width range .0086-.0215 mm.

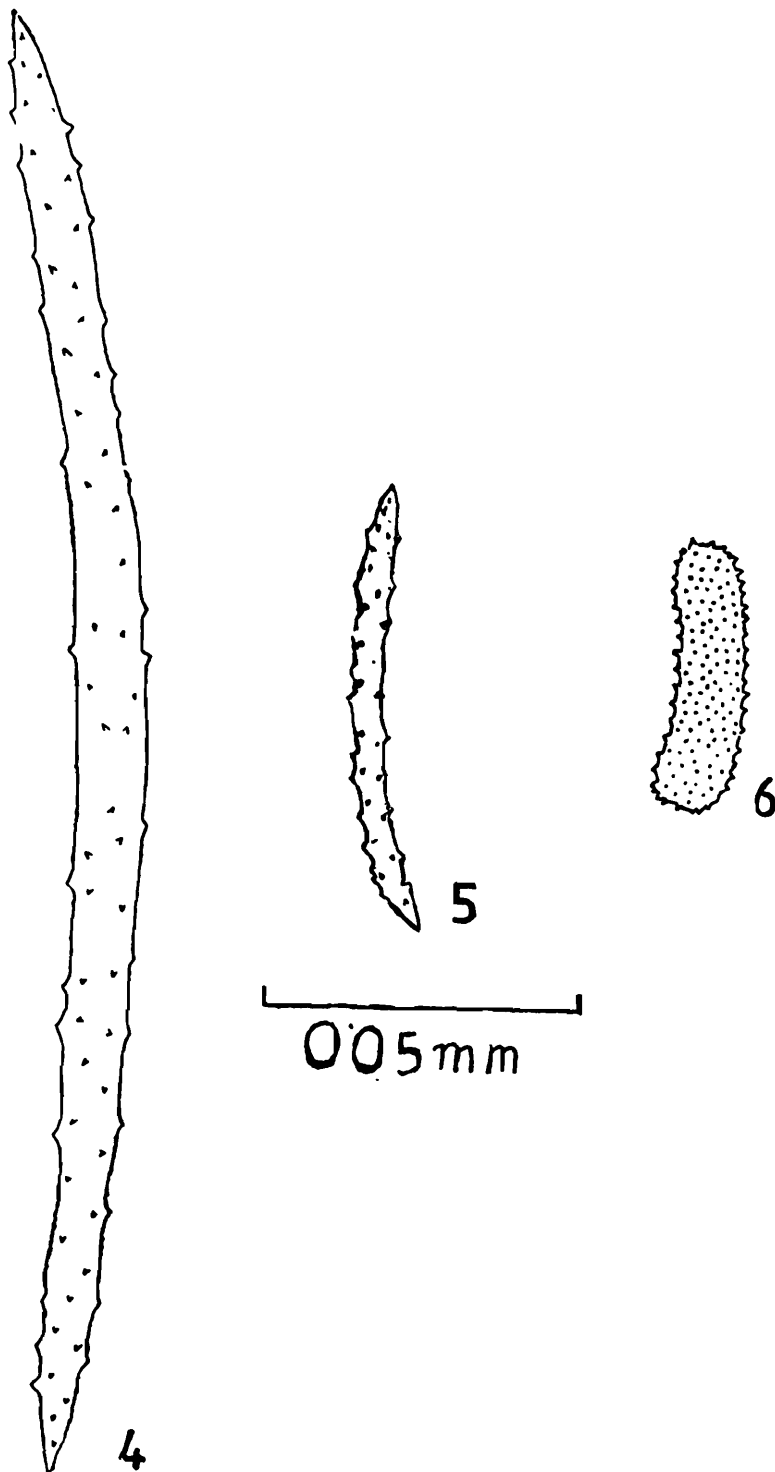
Gemmules : subspherical, abundant, very densely covering sponge surface ; diameter .7-.8 mm., foramen extended forming an elongated tube.

Remarks : The species is recorded for the first time from Gujarat.

***Stratospongilla bombayensis* (Carter, 1882)**

(Text-figs. 4-6)

Material : One lot ; Z. S. I. Regd. No. P. 3139/1 ; Locality—under surface of a stone Azi Lake, Rajkot, Gujarat. Coll. *T. D. Soota*, 24.viii. 1982.



Text-figs. 4—6. *Stratospongilla bombayensis* (Carter, 1882)

Description : Crusts thin, with smooth surface.

Megascleres : slightly curved, slender, amphioxea, covered with an irregular arrangement of small spines ; length range .1935-.2666 mm., width range .0065-.0107 mm.

Microscleres : slightly curved, slender and short, sharply pointed amphioxea, microspined throughout the body ; length range .0845-.086 mm., width range .0035-.0045 mm.

Gemmoscleres : slightly curved, amphistrongyla, entirely microspined ; length range .0387-.0473 mm., width range .0096-.0129 mm.

Gemmules : spherical, pneumatic layer thick, diameter range .45-.6 mm., foramen short, tubular.

Remarks : The species is recorded for the first time from Gujarat.

DATA ON CERTAIN HYDROLOGICAL FACTORS OF WATER BODIES

	Gorishankar Lake Bhavnagar	Kodiyar Lake, Bhavnagar	Azi Lake, Rajkot
Transparency (m)	0.25	0.30	0.25
pH	8.8	9.5	8.9
Dissolved O ₂ (ml/l)	4.5	4.2	3.6
Free CO ₂ (ppm)	Nil	Nil	Nil
CO ₃ ⁻ (ppm)	41	59	43
HCO ₃ ⁻ (ppm)	127	102	113

SUMMARY

The paper deals with four species of freshwater sponges, one of which, *Corvospongilla bhavnagarensis*, is described as new. Some salient limnological features of the water bodies concerned have also been included.

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