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XIV.—THE ECHINODERM FAUNA OF THE ISLAND OF CEYLON. BY F.
JEFFREY BELL, M.A., SEC. R.M.S., PROFESSOR OF COMPARATIVE ANATOMY
AND ZOOLOGY IN KING'S COLLEGE, LONDON; COR. MEM. LINN. SOC., N. S. WALES.

(PLATES XXXIX. AND XL.)

[COMMUNICATED BY PROFESSOR HADDON, JULY, 1887.]



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A FEW years ago we had no exact knowledge of the Echinoderm Fauna of the island of Ceylon; and though it has been a British possession since 1815—and stands, as it were, invitingly in the midst of the Indian Ocean—much still remains to be done before we can hope to have a satisfactory knowledge of its extensive Fauna.

In the year 1882, when only four species of Echinoderms were known from the island, Dr. Ondaatje, a Colonial Surgeon in Ceylon, arrived in England with a collection of no less than nineteen species of the group, many of which were most admirably preserved. These specimens, with others, Dr. Ondaatje was good enough to present to the Trustees of the British Museum, and they formed the subject of a short Paper by myself.* With the possible exception of a single Crinoid, none of the species were new to science, and they led rather to the belief that further investigation would reveal the presence at Ceylon of forms already known from some other part of the Great Ocean, as Mr. Theodore Lyman† calls the Indian Ocean and the warmer part of the Pacific.

This belief has been shown to be well founded; but it does not, on that account, seem to me to diminish the interest which attaches to collections from Ceylon. For a long term of years naturalists have been unceasingly adding to the catalogue of the faunal wealth of the world, and the labour of description has often been found to be so great as to leave no time or opportunity for revision or comparison; it is, to some minds, a relief to turn from the extension to the consolidation of our knowledge, and to prepare the way for comprehensive monographs.

Just before Dr. Ondaatje left Ceylon, Professor Haeckel reached that fertile island; he entrusted the description of his collection of Echinoderms to Dr. Alfred Walter, for some time an assistant in the Zoological Institute at Jena.

* Ann. & Mag., N. H. (5), x., pp. 218-225.

† Preliminary List of Living Ophiuridæ, &c., Cambridge, [U.S.A.], 1880, p. 2.

This collection contained sixteen species, ten or eleven* of which were not found by Dr. Ondaatje.†

Adding to these the species enumerated by earlier writers and by myself, the total number came to the sum of thirty-two species.

On returning to Ceylon, in 1883, Dr. Ondaatje set zealously to work, and especially did he direct his attention to the two groups of Echinoderms, as to which we still remained in almost complete ignorance—the Holothurians and the Crinoids. From time to time consignments have reached me of specimens of these two orders, which have most welcomely been, in very many cases, accompanied by coloured drawings made during life of these creatures, which, when preserved for some time in alcohol, lose both their original colouration and their ordinary form.

It is with the object of making public some of the admirable representations prepared under Dr. Ondaatje's direction that I offer the list, and the remarks that follow, for the consideration of the Society. Coloured drawings such as these awaken an interest in Natural History of a kind which is often keener than that produced by anatomical sketches.

By adding to the species collected by the naturalists just mentioned those found by Mr. E. W. H. Holdsworth, and others, I am able now to give a list of more than fifty species of Echinoderms known from Ceylon.

I have refrained from burdening the text with lengthy references to the literature, but I have given enough to enable the student to extend his researches, and I have in the case of all the groups of Echinoderms made a reference to a work in which the full synonyms will be found cited; Professor Perrier,‡ Mr. Lyman,§ Mr. Alexander Agassiz,|| and Drs. Lampert¶ and Théel** being the authors so quoted.

* There is a species of *Linckia* which Dr. Walter thinks may be identical with *Scytaster nova-caledoniæ*, which was collected by Dr. Ondaatje. Dr. Walter promised to me his kind offices to get me one of the specimens from Jena, but it has never reached me.

† Ceylon Echinodermen. *Jenaische Zeitschrift*, xviii., pp. 365–384.

‡ Révision de la Collection de Stellérides du Muséum d'histoire naturelle de Paris. Paris, 1875 (also in *Archives de Zoologie expérimentale*, vol. v.)

§ Report of the Ophiuroidea, dredged by H. M. S. Challenger, 1882.

|| Agassiz, Alex. Revision of the Echini. Cambridge [U.S.A.], 1872–74.

¶ Lampert K.—Die Seewalzen—Holothurioidea. In *Reisen im Archipel der Philippinen*, II., iv. 3. Wiesbaden, 1885.

** Report on the Holothurioidea dredged by H. M. S. Challenger, Part 2, 1886.

50. HOLOTHURIA ATRA.

Holothuria atra. Jaeger, De Holothur., p. 22; Semper, Holothur., p. 88; Lampert, p. 85; Théel, pp. 181 and 213.

This is one of the most widely distributed of Echinoderms.

51. HOLOTHURIA CÆSAREA (Pl. XXXIX., fig. 2).

Holothuria cæsarea. Ludwig, Arbeit. Zool. Institut, Würzburg, ii., p. 37; Lampert, p. 61; Théel, p. 227.

This must be a particularly fine form when alive. Dr. Théel thinks that this species is synonymous with *Holothuria discrepans* and *H. immobilis* of Semper. So far as any argument can be drawn from geographical distribution, the presence of *H. cæsarea* at Ceylon would support the views of that distinguished naturalist; for, while *H. discrepans* and *H. cæsarea* have only been reported from the Navigator's Islands, *H. immobilis* (under the title of *H. collaris*, Haacke) has been found at Mauritius.

52. HOLOTHURIA CINERASCENS (Pl. XL., fig. 2).

Stichopus cinerascens. Brandt, Prodr. descr. Animal., p. 51.

Holothuria pulchella. Selenka, Zeitschr. f. wiss. Zool., xvii., p. 329; Semper, Holothur., p. 89; Théel, p. 212.

Holothuria cinerascens. Lampert, p. 82.

Dr. Lampert appears to be right in restoring Brandt's specific name for this species; Dr. Théel recognises the synonyms of *H. pulchella* with *H. cinerascens*, but retains the more frequently used specific name.

53. HOLOTHURIA IMPATIENS.

Fistularia impatiens. Förskal, Descr. Animal., p. 121.

Holothuria impatiens. Gmelin, Syst. Nat., p. 3142, pl. xxxix., fig. B; Semper, pp. 82 and 248, pl. xxii.; Lampert, p. 65; Théel, p. 233.

It would have been astonishing, indeed, if this well-known and widely distributed form had not been found on the shores of Ceylon.

54. HOLOTHURIA ONDAATJEI, n. sp. (Pl. XXXIX., fig. 3).

No calcareous spicules in bodywall.

Twenty tentacles; body elongated; suckers confined to trivium, where they are irregularly and rather thickly distributed; integument soft, rather thick; oesophageal ring delicate; Polian vesicle not long; no Cuvierian organs; genital tubes elongated, extending far back.

Colour—chocolate brown bivium, rather lighter on the trivium and tentacles.

The larger specimen is 100 mm. long, and its greatest diameter is 18 mm.

DESCRIPTION OF PLATES XXXIX. AND XL.

[The figures here given are illustrations merely of the external form of certain Holothurians ; but, as these creatures are greatly deformed by preservation in spirit, and speedily become deprived of all, or much of their colour, the drawings taken on the spot, and from living specimens, are of especial interest and value ; they are here reproduced exactly as they left the hands of the Cingalese Artist.]

PLATE XXXIX.

1. *Actinopyga mauritiana*.—One-half the natural size.
2. *Holothuria casarea*. " "
3. *Holothuria ondatjei*.

PLATE XL.

1. *Actinopyga miliaris*.
2. *Holothuria cinerascens*.

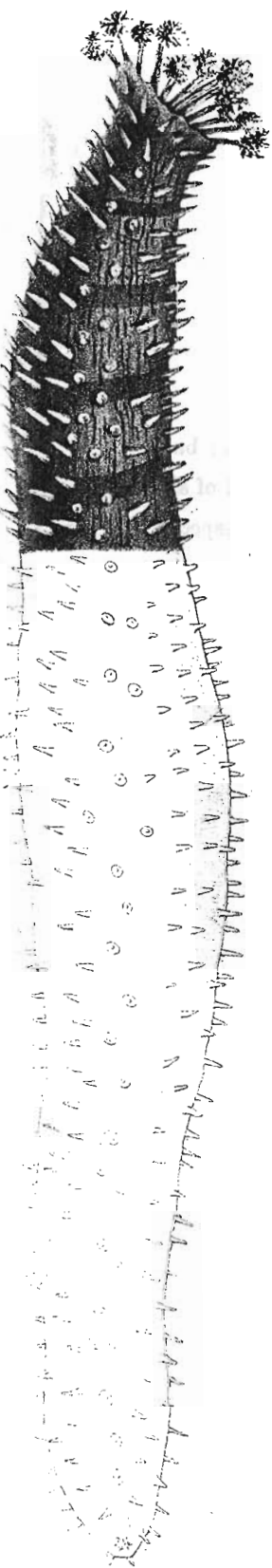


Fig. 3.

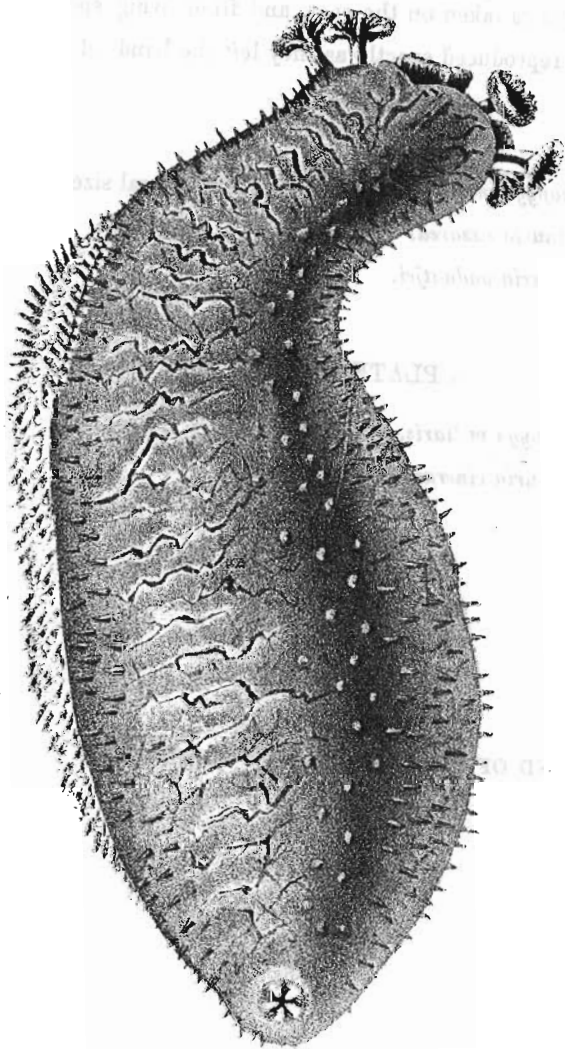


Fig. 1.



Fig. 2.