PROCEEDINGS

OF THE

ASIATIC SOCIETY OF BENGAL.

EDITED BY

THE HONORARY SECRETARIES.

JANUARY TO DECEMBER,

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FOR MAY, 1885.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 6th May, 1885, at 9.15 P. M.

D. WALDIE, Esq., F. C. S. in the Chair.

The minutes of the last meeting were read and confirmed.

Seventeen presentations were announced, as mentioned in the appended Library List.

The following gentlemen, proposed and seconded at the last meeting, were balloted for and elected Ordinary Members :

1. Monsieur Ivan Verdeau.
2. Hon. Kumar Baikuntanath Dé.

The following gentleman is a candidate for election at the next meeting :—

Mahomed Naemullah, Deputy Magistrate of Bulundshahr, proposed by Major J. Waterhouse, seconded by Dr. R. L. Mitra.

The following gentlemen have intimated their wish to withdraw from the Society :

1. Mr. E. V. Westmacott.
2. Mr. W. R. H. Merk.
3. Maulavi Fateh Ali.

The following letters were read :

1. From Mr. J. W. Chambers forwarding two volumes of Storm Pamphlets collected by the late Henry Piddington, and requesting the Society's acceptance of them for the Library.

2. From Secretary to Government, N. W. Provinces and Oudh, forwarding a parcel containing 204 coins found in the Fatehgarh district.

The PHILOLOGICAL SECRETARY reported that these were all coins of Maizz-ud-din Muhammad ben Sam, who conquered India, and that they were all struck in India. *Obverse :* Horseman with an indistinct Persian inscription, probably ٥٩٥ Mahommad. *Reverse :* Bull with a Hindi inscription श्रीमहमद साम Shri Muhammad Sami. Their date is about 1192 A. D. They are described by Thomas in his Pathan kings of Delhi, p. 16. They are very common and of no particular value. The Society is amply provided and the coins are available for purchase.

The PRESIDENT reported that the Council had sanctioned the publication of the following works in the Bibliotheca Indica, *viz.* :—

1. Jnata Dharma Sutra.
2. Upasaka Dasa Sutra.
3. Bipaka Sutra.
4. Saddharma Pundarika.

} to be edited by Dr. Hoernle.

5. Ashtasahasrika, to be edited by Dr. Mitra.
6. Kurma Purana, to be edited by Pundit Nilmony Mukerji.
7. Varaha Purana, by Pundit Hrishikes Sastri.

The PRESIDENT further reported that Major Waterhouse had been appointed General Secretary temporarily during the absence of Mr. Pargiter; and that Mr. J. Beames had been elected a Member of Council, and had consented to act as Philological Secretary during the absence of Dr. Hoernle.

Also that Mr. E. F. T. Atkinson had been appointed Auditor for the Annual Accounts of 1884, in place of Mr. Westland.

The NATURAL HISTORY SECRETARY (Mr. WOOD-MASON) exhibited specimens of two species of *Nephropsis*, a blind genus of Macrurous Crustacea belonging to the family *Homaridae*, and made the following remarks :—

The members of the Society will be glad to hear that the Government has commenced to fulfil its promise, made to this Society many years ago, to carry out a systematic exploration of the depths of the Indian Seas in connexion with a contemplated survey of the Coasts, and that during the past season some deep-sea dredging has been done on board H. M.'s Indian Marine Survey Steamer 'Investigator.' During the earlier part of the season, dredging was carried out at two stations on opposite sides of the Bay of Bengal—off Kyouk Phyoo in 272

fathoms, and off False Point in 202 fathoms, and from these moderate depths interesting collections of objects, consisting chiefly of Fishes and Crustaceans, were brought up in the trawl. These collections were made over to me in March last by Dr. Giles, the Naturalist to the Survey, for determination and description. They include several characteristic genera of deep sea animals, *e. g.*, *Macrurus*, amongst Fishes, and *Nephropsis*, *Rhacocaris*, *Orophorhynchus*, *Munidopsis*, etc., amongst Crustaceans, and several novelties, notably three remarkable fishes belonging to the Eels. Later in the season, after the vessel had been refitted at Calcutta, "the Swatch of no ground" was explored, and, from depths ranging from 285 to 409 fathoms, most interesting collections of animals were brought up consisting of similar types of Fishes and Crustaceans, with the addition of a few Mollusks, amongst which may be mentioned a very large *Nucula* marked with close-set V-shaped ridges as in the Japanese *Nucula mirabilis*, and more novelties. The physical characters of the sea-bed, which is described by Dr. Giles as a green ooze with dead pteropod shells abundantly disseminated through it, the temperature of the water at the greatest depth reached by the dredge, which is stated to have been 47° Fahr., and the occurrence of a characteristic deep sea fauna, in the depths of the Swatch prove that this depression of the sea-bed, which is chiefly remarkable on account of its close proximity to the shoals at the mouths of the Ganges and Brahmaputra, is, as was long ago suggested by Sir Charles Lyell, a part of the original basin of the Bay of Bengal.

I exhibit specimens of the *Nephropsis* obtained at the three stations above-mentioned; from Station No. 1, Lat. 20° 17′ 30″ N., Long. 88° 50′ E., off False Point, a large series of both sexes was obtained in 202 fathoms with a bottom temp. of 52° F.; from Station No. 2 in Lat. 19° 35′ N., Long. 92° 24′ E., off Kyouk Phyoo, on the opposite side of the Bay, a single one was fished up from 272 fathoms with a bottom temperature of 50° Fahr.; and from Station No. 3, in the Swatch, in Lat. 20° 49′ N., Long. 89° 8′ E., one male from 409 fathoms with a temperature of 47° Fahr.

All the specimens from Stations 1 and 2 are of the same species; they differ in colour (which is old ivory-white with orange red markings), in the consistence of the integument of the branchiostegal portions of the carapace in the female (which are soft and papery), in the form and proportions of the rostrum (which is shorter and lanceolate at the extremity), and in other respects from the one obtained at Station No. 3, which is without doubt the male of the species (*N. Stewarti*) dredged by me at about the same depth in the Andaman Sea in 1872, agreeing therewith in the firmly chitinized integument of the carapace in both sexes, in the form of the cervical

suture, of the median thoracic portion of the cephalothorax, and of the rostrum, which gradually tapers to a longer point, and in colour, which is throughout a brilliant scarlet-lake. I propose to call the new species clothed in a white uniform with red facings, *N. carpenteri*, after the commander of the vessel.

Full comparative descriptions of the two species, together with an account of the structure of the respiratory organs and of the larvae, which leave the huge egg, in a condition closely resembling fig. E. of S. I. Smith's plate representing the early stages of the American lobster, will be published with illustrations in the Journal.

In reply to a question by Mr. Cotes, the speaker explained that no trace of the outer remus of the thoracic limbs was preserved in the adults.

The following papers were read—

1. *Observations of the Solar Thermometer at Lucknow.*—*By* S. A. Hill, B. Sc., A. R. S. M., *Meteorological Reporter for the N. W. Provinces and Oudh.* (Postponed from last Meeting.)

(Abstract.)

This paper has been compiled with a view to test the soundness of the conclusions arrived at by the author from a discussion of seven years' observations at Allahabad, published in the Journal, Vol. LI, Part II.

The data on which the paper is founded are hourly observations of a non-registering black-bulb thermometer *in vacuo*. These observations were made on four days in each month during the eight years 1877-84, but only such as were recorded at times when the sky was free or nearly free from cloud have been made use of. The reductions have been effected by means of Ponillet's formula.

The deduced mean values of the constant of solar radiation in degrees of the thermometer employed are the following :—

Year.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.
Solar Const.	80·1	86·7	80·4	76·7	74·7	74·6	76·4	77·2

These results strongly support the conclusion derived from the Allahabad observations that the solar radiation is most intense when there are fewest spots on the sun's surface, the last sunspot minimum having occurred in 1878 and the maximum probably in 1881 or 1882.

The author then proceeds to show that though there is a rather strong presumption in favour of the variation in the sun's heat indicated by the figures above given, the range indicated is doubtless much too great. The thermometer having a globular bulb receives radiation from all sides; and therefore in dry weather, when the ground under it is bare and the air over it dusty, it receives much more reflected heat than