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»On the Influence of Wave Currents on the Fauna inhabiting shallow Seas«. The author refers to various physical data among others quoting Prof. Stokes and Mr. J. J. Stevenson; the latter stating that a current of 0.6819 of a mile per hour will carry forwards fine gravel and that of 1.3638 roll along pebbles an inch in diameter. From this and other facts Mr. Hunt argues that wave currents do materially influence the marine fauna inhabiting shallow water; not only those of the tidal strand but likewise those inhabiting the deeper sea bottom. He adduces instances of animals living among or on rocks, and of those frequenting sand or other deposit; enumerating species of starfish, molluscs, shrimps, crabs and fish. He says that even the flat-fishes (Pleuronectidae) seem to have changed their original forms and habits for the purpose of being able to live in shallow waters agitated by waves. Referring more particularly to species of Cardium he endeavours to show how under the influence of wave currents the variation of species may be promoted and even their local extinction brought about. - A paper was read : On the Longicorn Beetles of Japan by Mr. H. W. Bates. In a former paper (in 1873) on the same subject the author treated of 107 species but now adds many new genera and 129 more species or a total of 236 specific forms as at present known to belong to the Japanese fauna. This great accession is due to the later collections of Mr. Geo. Lewis who made a second visit to the islands in 1880-81. Mr. Bates reasoning from his fresh material is inclined to modify his previously stated views as to the predominance of a supposed tropical element in the Longicorn group in question; the relative number of absolutely new genera now turning the scale in favour of Palaeartic or Neartic affinities. - The last Zoological Communication taken was »On three new species of Metacrinus« by P. Herbert Carpenter with note on a new Myzostoma, by Prof. von Graff. Mr. Carpenter describes Metacrinus rotundus from Japan dredged their by Dr. Doderlein of Strassburg, and M. superbus, and M. Stewarti two remarkable forms obtained by the Telegraph Co. on picking up a cable near Singapore. The Myzostoma cirripedium was found on the Japan Crinoid. - J. Murie.

## 3. Linnean Society of New South Wales.

30th April, 1884. - 1. On the preservation of tender Marine Animals. By R. von Lendenfeld, Ph. D. Before placing Medusae, Actiniae, and other delicate organisms into spirits it is necessary to treat them with poisonous chemical substances so as to harden the tissue and prevent the whole from shrinking. The methods employed for this purpose are described. It is often difficult to keep animals expanded; warmth and instantaneous poisoning are recommended for attaining this end. - 2. The Scyphomedusae of the Southern Hemisphere. Part. III. By R. von Lendenfeld, Ph.D. The numerous large jelly-fish belonging to the Family Discomedusidae, which have been described from the Southern Hemisphere, are referred to, and short Diagnoses, together with complete references, are given of every southern species. The classification used is that of Hæckel The Medusae studied by Dr. Lendenfeld, three of which are introduced to science in this paper, are described more minutely. The number of species of Discomedusidae found was: Adelaide, 1; Port Phillip, 3; Lyttelton, 1; Port Jackson, 3. Five of these were described by the author for the first time. - 3. Note on the Development of the Versuridae. By R. von Len-

denfeld, Ph.D. The Family of the Versuridae, comprising large Rhizostomous Medusae, is comparatively rare in the Northern Hemisphere. The development has only quite recently been described by Claus, who studied the Mediterranean Cotilorhiza, Dr. Lendenfeld has been successful in obtaining several young stages of the spotted brown blubber which he has named Stilorhiza punctata, and he has found its development very different from anything that has been observed hitherto. The eight marginal bodies (organs of sense) in the principal radii of the first and second order exist in the young larva. But besides these the larva possesses a greater number of similar marginal bodies which become less in number with increasing age. Firstly there are 24, then 16, and finally 8. But the umbrella margin retains the power of producing marginal bodies; and if after an injury of the margin new margin-flaps are formed, marginal bodies are also produced between them. The character of the embryonic tissue to form marginal bodies between all flaps, again makes its appearance if a new formation of the umbrella margin takes place. - 4. A Monograph of the Australian Sponges. Part II. By R. von Lendenfeld, Ph.D. A general outline of the Morphology and Physiology of the Sponges is given in this paper, and the classification to be used in the systematic part of the work is indicated. It is a condensed abstract of our present knowledge on the subject, with a few references concerning the main points. The classification differs somewhat from that of recent authors, and is arranged so as to suit the Australian sponges, as well as the European ones. It became necessary, therefore, as no one had studied the Australian sponges before, to reconstruct the classification. The sponges are considered as Metazoa, and forming a Class in the type Coelenterata. They are classified as follows: - (I.) - Gastraeadae (hypothetical, not forming colonies and without skeleton). I. - Calcispongiae (calcareous skeleton). II. — Myxospongiae (no skeleton, canal system much branched, cilated chambers, sometimes scattered silicious bodies). III. - Ceraospongiae (skeleton composed of horny fibre, sometimes with scattered silicious bodies outside the fibres). IV. - Monacticerae (with Monactinellid spicules within the fibres and often with silicious bodies scattered through the ground substance). V.- Hyalospongiae (originally without a horny skeleton. Skeleton consisting of silicious spicules with four or six axes). VI. - Monactihyalae (with a skeleton composed of Monactinellid spicules, originally with a horny skeleton). - 5. The Hydromedusae of Australia. Part II. By R. von Lendenfeld, Ph.D. According to the principles set forth in part I, of this paper, the Hydromedusae are classified in a new manner, and the Australian representatives of the first four families in this system are described or referred to. The paper contains descriptions of several new and interesting forms, and in every case an abstract of everything known on the histology of every species is given with references. The most interesting of the new forms is Eudendrium generale, the male polypostyles of which show a great similarity to Medusae. They possess four aboral tentacles in the principal radii, and on these the spermatozoa reach maturity. These tentacular appendages are therefore homologous to the Radial Canals of the Craspedote Medusae. Some deductions are drawn herefrom, and the homology of the parts in Medusae and Polypes described differently to the views expressed by Allman and others. The Umbrella is not homologous to a web between the tentacles of the mouth, but between the generative tentacular

processes at the aboral pole. - 6. Revision of the Recent Rhipidoglossate and Docoglossate Mollusca of New Zealand. By Professor F. W. Hutton, F.G.S. The synonomy of all the species is fully given, with, in many instances, revised descriptions and notes on the dentition where known. -7. Notes on hybridism in the genus Brachychiton. By Baron Ferd. von Mueller, K.C.M.G., M.D., Ph.D., F.R.S., etc. The plant which is the subject of this paper is a beautiful tree of 40 feet in height and a stem diameter of 1 foot, grown at Fern Hill, near Penrith, New South Wales, and is an undoubted hybrid between Brachychiton populneum and Brachychiton acerifolium. Like most hybrids, the flowers never perfect their seed. - Mr. W. A. Haswell read the following note: - »In part 7, of the Transactions of the Linnean Society (September, 1883), is a paper by Mr. A. G. Bourne« »On certain Points in the Anatomy of the Polynoina, and on Polynoë (Lepidonotus Leach) clava of Montagu«, in which occurs the following foot-note : --»Since this was written Mr. W. A. Haswell, M.A., B.Sc., in »A Monograph of the Australian Aphroditea« (Proc. Linn. Soc., New South Wales, (Vol. VII.), has described the segmental organ in P. (Antinoe) praeclara, and P. (Antinoe) Wahlii allied to P. pellucida Ehlers. That author has also arrived at the conclusion that Ehlers has not seen the true segmental organs, but only intestinal caeca, he describes the former as opening at the ventral tubercles, but does not give any figures.« - Now my paper on the above subject which contained among other matter an account of the nephridia or segmental organs of Polynoë was published, not after Mr. Bourne's, as might be inferred from the sentence quoted above, but several months before the latter was even read. - My paper was read in June, 1882, and published in August of the same year. Mr. Bourne's was read on January 18th, 1883, and published in September of that year. I therefore had priority in publication by a year. Moreover, I published a paper on the Segmental Organs of Polynoë, in the Zoologischer Anzeiger, of September, 1882, five months before Mr. Bourne's communication to the Linnean Society was read. Whatever credit', therefore, is due to priority of discovery, rests unmistakeably with me, and not with Mr. Bourne, and his note on the subject is calculated to convey an erroneous impression. - Mr. Haswell also read a note on the claspers of Heptanchus.

## IV. Personal-Notizen.

Milano. Dr. Angelo Andres, früher Assistent an der Zoologischen Station zu Neapel, ist vom 1. Januar dieses Jahres an a.o. Professor der Zoologie und vergl. Anatomie am Museo civico in Mailand.

#### Necrolog.

Am 2. Mai starb in Douglas, Isle of Man, Edwin Birchall, 65 Jahre alt, bekannt als Lepidopterolog.

Anfang Juni starb in Kopenhagen J. C. Schiødte, der verdienstvolle Herausgeber der Entomologisk Tidsskrift.

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