

because for many years past there has occurred a serious loss among the brook trout (and I think also the rainbow trout) of Pine Creek, at Long Pine, Nebraska. They have floated down stream dead, in large numbers, and stuffed with live rose chafers. The theory to account for this has been the same as stated by the above writer, namely, mechanical, though no real mechanical damage has been observed. I have no doubt of the poisonous character of the beetle, and add this note to extend the knowledge of its effects on a very different order of life. The chafers, it should be said, feed on the willows, chiefly *Salix fluviatilis*, that overhang the stream, sometimes stripping them bare.

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SCIENTIFIC BOOKS

British Antarctic (Terra Nova) Expedition, 1910. Zoology, Vol. I., No. 2, *Natural History of the Adelie Penguin*, by G. MURRAY LEVICK, M.D., R.N.; No. 3, *Cetacea*, by D. G. LILLIE, M.A.; Vol. II., No. 2, *Oligochaeta*, by H. A. BAYLIS, B.A.; No. 3, *Parasitic Worms*, by R. T. LEIPER, D.Sc. and E. L. ATKINSON, M.D., R.N.; No. 4, *Mollusca*, Pt. 1, by EDGAR A. SMITH, I.S.O.; No. 5, *Nemertinea*, by H. A. BAYLIS, B.A.; British Museum Nat. History, 1915, 4° with many plates and text-figures.

Notwithstanding financial stringency caused by the war, and the absence of many of the younger men of science in the hospital or the trenches, British scientific institutions have been able, as a rule, to continue publication though in restricted measure. The various papers based on material collected by the *Terra Nova* expedition have been coming out separately at intervals during 1915, without reference to the order in which they are intended finally to be bound up.

Dr. Levick's account of the habits of the Adelie penguin, illustrated by twenty plates, is most interesting and some of their proceedings, especially their habit of unanimous "drilling" in large masses like a regiment of well-trained soldiers, are inexplicable on any hypothesis.

Lillie's account of the whales relates chiefly to subantarctic species mostly observed at whaling stations in New Zealand. He is disposed to regard several of the species, especially the humpback (*Megaptera nodosa* Bonaterre), as identical with boreal species. However the coloration and proportions as figured differ markedly from the north Pacific species (*M. versabilis* Cope) and the species of *Cyamus* infesting them are distinct. He indulges in some speculations in regard to what the whalers call the "high-finned killer," individuals with a higher dorsal fin than the others of the same school, but in the north Pacific there is always at least one of these with every school of killer whales and there is little doubt that these individuals are the old parents of the family group which forms the "school."

Baylis describes a new species of *Oligochaeta* found in the gill-chamber of a land crab (*Geocarcinus lagostoma* M. Edw.) collected at S. Trinidad Island in the South Atlantic. This is the second species known to inhabit such a *situs*, and does not appear to have been materially modified by its parasitic habit. Two new Nemertean are described from the Antarctic Sea, a *Baseodiscus* and a *Lineus*, and two known species of *Amphiporus* were also obtained, while three other species were obtained in New Zealand waters.

The parasitic worms described by Leiper were chiefly obtained from seals and fishes, the birds proving almost free from parasites. A free living Nematode was dredged in McMurdo Sound in 250 fathoms. The species are well illustrated and the paper concludes with a summary of the species collected by previous Antarctic expeditions.

The Prosobranch, Scaphopod and Pelecypod mollusca are described with his usual care by Edgar A. Smith and illustrated by two excellent plates. Fifty-eight species are enumerated from the Antarctic region of which twelve are new.

The expeditions of the *Discovery* and *Southern Cross* had previously obtained a large proportion of the fauna of the region visited by the *Terra Nova*. Nothing very striking appears among the novelties except one or two

odd forms referred to *Trichotropis*. A new species of *Neoconcha* has a strong resemblance to *Torellia*. *Modiolaria lateralis* Say, originally described from the Florida coast, was obtained from South Trinidad Island, 700 miles off the coast of Brazil in the South Atlantic.

WM. H. DALL

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES

(VOLUME 2, NUMBER 1)

THE first number of volume 2 of the *Proceedings of the National Academy of Sciences* contains the following articles:

1. *A Possible Origin for Some Spiral Nebulæ*: G. F. BECKER, United States Geological Survey, Washington.

It is suggested that nebulæ may be developed from nebulous streamers or "bacula." Comparison of the theoretical shape of the nebulæ at certain stages of their development with the Whirlpool nebula is not unfavorable to the hypothesis.

2. *A Peculiar Clay from near the City of Mexico*: E. W. HILGARD, University of California.

The analysis shows that the predominant base is magnesia. A peculiarity of the clay is its exceptionally high absorptive power for water.

3. *Studies of Magnitude in Star Clusters, I. On the Absorption of Light in Space*: HARLOW SHAPLEY, Mount Wilson Solar Observatory, Carnegie Institution of Washington.

The examination of the Hercules cluster indicates the conclusion that the selective extinction of light in space is entirely inappreciable and that probably the non-selective absorption in space is also negligible.

4. *Studies of Magnitudes in Star Clusters, II. On the Sequence of Spectral Types in Stellar Evolution*: HARLOW SHAPLEY, Mount Wilson Solar Observatory, Carnegie Institution of Washington.

The giant second-type stars are present in large numbers in the globular clusters. The

results offer difficulties for the conventional scheme of evolution of spectral types, but the difficulties are not so severe for Russell's hypothesis.

5. *Experimental Evidence for the Essential Identity of the Selective and Normal Photo-Electric Effects*: R. A. MILLIKAN and W. H. SOUDER, Ryerson Physical Laboratory, University of Chicago.

Photo-electric phenomena are not in general conditioned by the presence of a gas. All distinctions between the normal and selective effects in lithium have disappeared.

6. *Concomitant Changes in Terrestrial Magnetism and Solar Radiation*: L. A. BAUER, Department of Terrestrial Magnetism, Carnegie Institution of Washington.

Changes in the earth's magnetism of appreciable amount are found associated with changes in solar radiation. Decreased solar constant is accompanied by increased magnetic constant. Various minor but important correlations are established.

7. *Submarine Solution of Limestone in Relation to the Murray-Agassiz Theory of Coral Atolls*: A. G. MAYER, Department of Marine Biology, Carnegie Institution of Washington.

By exposing pieces of shell of the mollusc *Cassis* to solution in sea-water for a year under various conditions, it is shown that the rate of solution is too slow to be favorable to the theory that the solvent action of sea-water for limestone is a primary factor in deepening and widening the lagoons of coral atolls.

8. *The Archegonium and Sporophyte of Treubia Insignis Goebel*: D. H. CAMPBELL, Department of Botany, Stanford University.

Treubia is probably on the whole nearer the leafy liverworts than is any other anacrogynous genus.

9. *Brief Notes on Recent Anthropological Explorations under the Auspices of the Smithsonian Institution and the U. S. National Museum*: ALEŠ HRDLÍČKA, Division of Physical Anthropology, U. S. National Museum.

The topics treated are: Search for Neolithic Human Remains in Southwestern Russia;