

3. Linnean Society of New South Wales.

Abstract of Proceedings, July 26th, 1905. — 1) On Dimorphism in the female of *Ischnura heterosticta* Burm. [Neuroptera: Odonata]. By R. J. Tillyard, B.A. — In February last, at Cook's River, about a dozen beautifully coloured examples of the pretty little dragonfly, *Ischnura heterosticta* Burm., which appeared to be males, were captured, together with half a dozen females of the ordinary dull blackish type. On examination it was found that, with the exception of three, all the supposed males were in reality a second form of female (Form B) closely resembling the male. It is intermediate in shape between the male and the typical female (Form A), the abdomen being thicker than in the male, but with the tip distinctly enlarged; while in colouring it almost exactly resembles the male, but bears not the slightest resemblance to the typical female. Both forms, however, possess the pale pterostigma on the forewing, whereas in the male this is black. One of two things seems to have happened: — Either, firstly, Form A is the original specific female, in which case Form B may have been evolved as a protective form, mimicking the male because of the latter's immunity from destruction; or, secondly, Form B, resembling the male so remarkably, was the original specific female, in which case Form A may have developed its sombre colouring as a protective garb for the preservation of the species, the typical female being particularly liable to destruction from its brilliant colouring. It may be then supposed that the male, being less palatable and attractive, had no need of a protective guise, and therefore remained constant in form and colouring. If the second supposition be correct, it might be expected that the protective form of the female would become more abundant and more fertile than the unprotected form. This is at present the case, Form A being by far the more abundant, and the stouter and more developed abdomen indicating greater fecundity. — 2) Notes on the Older Tertiary Foraminiferal Rocks on the West Coast of Santo, New Hebrides. By Frederick Chapman, A.L.S., F.R.M.S., National Museum, Melbourne. (Communicated by Professor T. W. Edgeworth David.)

The examination of the oldest sedimentary rocks seen and collected by Mr. Mawson in the Island of Santo proves them to be of Miocene age (Aquitanean and Burdigalian). A point of particular interest brought out by the present investigations is the association of *Lepidocyclus* with the excentric forms of *Miogyssina* in the New Hebrides. According to H. Douvillé¹ the latter make their appearance after the *Lepidocyclus* in the Miocene of the South-west of France; although the regular form *M. burdigalensis* is contemporaneous with that genus in beds of Aquitanian age (basal beds of Miocene). The next stage in ascending order, the Burdigalian, is in the same area characterised by *Miogyssina globulina*, *M. irregularis* and *M. complanata*. In the Miocene rocks of Santo, however, both the excentric and the regular forms occur in the same deposit, namely, the foraminiferal tufaceous rock underlying the massive *Lepidocyclus* limestone at Wai Malikoliko. From this we naturally infer that faunas, distinct in the European area, were living together in the New Hebrides Miocene sea. A similar association of species occurs here as in the Miocene limestones of Christmas Island, and also of

¹ Bull. Soc. Géol. France Sér. 4, Vol. II. 1902. p. 312.

Madoura, and other parts of the Dutch East Indies, with which the New Hebrides marine area was most probably connected when these fossiliferous beach and shallow-water deposits were laid down. The occurrence of a new species of *Cycloclypeus* in the New Hebrides rocks further emphasises the fact that certain genera and species of even such lowly forms as protozoa have been more or less restricted in their geographical distribution from their earliest geological appearance until recent times; for this part of the world afforded us the earliest dredged specimens of *Cycloclypeus*, and with the exception of an Arabian fossil species, the Tertiary examples seem to be restricted to this area also. — 3) On the Occurrence of a Bed of Fossiliferous Tuff and Lavas between the Silurian and Middle Devonian at Cavan, Yass, N.S.W., similar in Age and Character to the Snowy River Porphyries of Victoria. By A. J. Shearsby. (Communicated by W. S. Dun). — On the left bank of the Murrumbidgee, about half a mile below Boambolo Ford, a splendid anticlinal fold was met with. This may be known as the Glenbower Anticline. It is about 150 feet high, the summit being of porphyritic tuff, overlying a band of quartzite which in turn covers the following strata in descending order — tufaceous limestone, thin layers of sandstone, shale and limestone, thick hard compact limestone, thin bands of sandstone, shale and limestone, hard compact limestone, sandstone showing current bedding, hard compact limestone, and finally, at the riverlevel, sandstone. The dip of these strata is about 30° S. Fossils of Upper Silurian Age are abundant in situ, and comprise, among others, *Favosites gothlandica*, *Heliolites*, *Stromatopora*, *Cyathophyllum* (fasciculate), *Syringopora* (dendroid), *Favosites*, *Amplexus*, *Alveolites*, *Atrypa reticularis* Linn., *Atrypa* sp., *Orthis*, *Chonetes*, *Tryplasma* sp., Crinoid stems, and Trilobites of the genera *Cromus* and *Encrinurus* etc. — About two miles distant from the Glenbower Anticline, in a north-west direction, is Clear Hill, about 300 feet high, made up of porphyry at the base like that overlying the Silurian shales, and above this, in succession, shale (about 200 feet thick), quartzite, chert-like felsitic or trachytic tuff (30—40 feet), shale (about 150 feet), and finally limestone to the crown of the hill. The strata are inclined at an angle of about 50° S.W. The limestone on the summit contains fossils of Middle Devonian Age, such as *Diphyllum gemmiforme*, Eth. fil., *Stromatopora*, *Cystiphyllum australicum* Eth. fil., *Favosites*, *Cyathophyllum*, *Chaetetes* (?), *Alveolites*, *Desmidopora*, *Syringopora*, *Leptaena*, *Spirifer* *Yassensis* De Kon etc. — The intervening country includes a narrow strip of shale with thin bands of limestone containing Upper Silurian fossils, the whole mass being very highly contorted and covered here and there with masses of the porphyritic tuff already mentioned as capping the anticline. At about one mile below the anticline the shale disappears and is followed by an alluvial river flat, which ends at the foot of Clear Hill. — Taking into account the macroscopic resemblance of the porphyries at Cavan to the Snowy River Porphyries of Victoria, the distribution of the latter (from the Victorian Border to Mount Kosciusko), and the probability that further search will reveal outcrops of the same beds over the country between Mount Kosciusko and Yass, the opinion is expressed that the beds are in direct communication, since »the age of the Snowy River Porphyries is fixed by the Silurian sediments which are inferior to them, and the Middle Devonian marine limestone which, for instance, at Gelantipy, rest upon them« (Howitt). — Mr. Edgair R. Waite reported that a Leopard

Seal (*Ogmorhinus leptonyx* Blainv.) came ashore alive at Manly Beach on 25th inst., and was secured by two men. It is eleven feet in length. This antarctic species so very rarely straggles so far north that the occurrence is worthy of record. Mr. Waite also exhibited young examples of the Paradise Fish (*Polyacanthus opercularis* Linnaeus) bred by him, in Sydney, from specimens received from China. An account of the breeding habits of this fish will be found in a recent No. of the Records of the Australian Museum (VI. 1905. p. 1—4).

III. Personal-Notizen.

Dr. Mario Stenta tritt am 1. Oktober d. J. die Assistentenstelle für Zoologie an der k. k. Zoologischen Station in Triest an.



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