

X.—*Description of a new Species of the Lepidopterous Genus Elymnias.* By J. WOOD-MASON.

[Plate II. figs. A & B.]

Elymnias Peali, n. sp.

♂. Wings above violescent black-blue, gradually darkening from the outer margin to the bases, with the markings deep lavender-blue and the incisural fringes greyish white.

Anterior wings with an oblique subapical band placed nearly at right angles to a complete submarginal series of rather faint and diffused blotches, and the apical subcostal cell, all lavender-blue, and with the costal and subcostal areas transversely striated with the same colour.

Posterior wings with a corresponding submarginal band, which is very prominent and broken up into coarse striæ between the foremost median veinlet and the abdominal margin, towards which it passes from blue into red-violet.

Wings below much as in *E. undularis* and its allies, but more richly coloured than in any of the species of that group.

Length of anterior wing 1.5, expanse 3.15 inches.

Hab. Aideo, Sibsagar district, Assam. Captured by Mr. S. E. Peal.

In form it approaches *E. timandra*, Wallace; "in coloration," as Mr. E. W. Janson informs me, "it is most like *E. penanga*, Westwood (*M. mehida*, Hew.), much less so the *E. Säueri* of Distant, recently described and figured in his 'Rhopalocera Malayana,' p. 65, tab. ix. fig. 3, ♂."

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

November 1, 1882.—J. W. Hulke, Esq., F.R.S.,
President, in the Chair.

The following communication was read:—

"Notes on some Upper Jurassic Astrorhizidæ and Lituolidæ."
By Dr. Rudolf Häusler, F.G.S.

The Arenaceous Foraminifera obtained by the author are chiefly from the zones of *Ammonites transversarius* and *A. bimammatus* in the Upper Jura of the Aargau; and from the whole Swiss Jurassic

formation he has determined about sixty species, including the Textularidæ. They belong to the genera:—

Psammosphæra.	Placopsilina.
Astrorhiza.	Trochammina.
Rhabdammina.	Hormosina.
Marsipella.	Webbina.
Hyperammina.	Thurammina.
Lituola.	Textularia (Plecanium).
Reophax.	Bigennerina.
Haplophragmium.	Valvulina.
Haplostiche.	

A few species are identical with Carboniferous or Permian forms; but most of them most nearly approach recent deep-sea species and varieties, although similar forms do not occur in the younger formations. The species described in the present paper are from the zone of *Amm. transversarius*, and are as follows:—*Psammosphæra fusca*, Schultze; *Hyperammina vagans*, Brady; *Reophax multilocularis*, sp. n.; *R. helvetica*, Häusl.; *R. scorpiurus*, Montf.; *Placopsilina arenacea*, d'Orb.; *Thurammina papillata*, Brady; and *T. hemisphærica*, sp. n. Most of the recent genera of Astrorhizidæ and Lituolidæ would seem to have been represented by species identical with, or nearly allied to, those now existing, at the time of deposition of the beds with *Ammonites transversarius*.

December 6, 1882.—J. W. Hulke, Esq., F.R.S.,
President, in the Chair.

The following communication was read:—

"Note on a Wealden Fern, *Oleandridium* (*Tæniopteris*) *Beyrichii*, Schenk, new to Britain." By John E. H. Peyton, Esq., F.G.S.

This fern, figured by Schenk in the 'Palæontographica' (vol. xix. plate xxix. figs. 6, 7), was discovered near Minden, in the North-west German Wealden-beds, and appears to have been hitherto unknown in England. It was first discovered in the Wadhurst Clay ("Tilgate stone" of Mantell) of the cliffs east of Hastings, by Mr. Charles Dawson, of Warrior Terrace, St. Leonards, who has a fine collection of Wealden fossils, and was brought to my notice by Professor Augusto de Linares, of the Valladolid University, who has lately discovered the Wealden in the north of Spain.

This specimen*, which I have much pleasure in presenting to the Society for their Museum, I found about a fortnight ago, also in our local "blue stone" from the Wadhurst Clay of the Hastings cliffs.

In connexion with the flora of the Wealden, I may perhaps mention that, besides the ordinary ferns recorded by Mantell, Fitton, Topley, and others, viz. *Lonchopteris Mantelli*, *Sphenopteris*

* It varies slightly from the one figured by Schenk in the nervures; and the midrib is "herring-boned." It bears a strong resemblance to *Tæniopteris vittata* (Brongn.) of the Trias (Geikie's 'Text-Book of Geology,' fig. 358); compare also *T. scitamineæ-folia* (Sternberg), from the Stonesfield beds (Phillips's 'Geology of Oxford,' Diagram xxx. fig. 8).

gracilis, *S. Mantelli*, *S. Phillipsii*, *S. Sillimani*, &c., I have been fortunate enough to discover the following North-German forms:—

Pecopteris Geinitzii,
Pecopteris Murchisoni,
Pterophyllum schauburgense (*Dunker*).

and an undetermined one, which I think is *Sphenopteris Göpperti*. They all occur in the beds of stone in the Wadhurst Clay, which are locally used for building and road-metal.

MISCELLANEOUS.

On the Significance of the Polar Cells of Insects.

By M. BALBIANI.

THERE is now scarcely any one who admits the homology of the polar cells of insects with the bodies designated by the same name, or more frequently by that of *direction-vesicles*, in animals of other classes, especially the Mollusca and Vermes. Notwithstanding their extreme resemblance, it is well known that a capital difference exists between these two kinds of elements: the direction-vesicles disappear without taking any part in the formation of the embryo, while the polar cells persist and penetrate into the ovum in course of development. But authors are not agreed as to the part played by these elements in the phenomena of organogeny. The first observers, MM. Robin (1862) and Weismann (1863), supposed that they penetrated into the blastoderm to become confounded with the cells of that membrane; but they could not ascertain what became of them in the subsequent evolution. Alex. Brandt, in 1878, was no more fortunate than his predecessors. Metschnikoff, in 1866, studying the development of the viviparous larvæ of *Cecidomyids* (*Miastor*), was led to see in the polar cells the rudiments of the organ in which is produced the living progeny by which these Diptera multiply during a great part of their existence. But this observation of the Russian embryologist has remained completely isolated; and moreover the singularity of the phenomena of reproduction in *Miastor* did not authorize the extension of his conclusions to the other animals of the same class. Consequently the significance of the polar cells has remained in much obscurity, and the last author who has paid attention to the question (Weismann) could say in a recent memoir (1882) that there is no reason for modifying the name under which these bodies are known so long as the part they perform in the formation of the embryo is not placed above all uncertainty.

In an insect reproducing by the normal mode of fecundated and deposited ova (*Chironomus*) I have succeeded in tracing the transformations of the polar cells in the whole series of phases of embryonic development, from the moment of their first appearance up to



1883. "Proceedings of Learned Societies." *The Annals and magazine of natural history; zoology, botany, and geology* 11, 62–64.

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