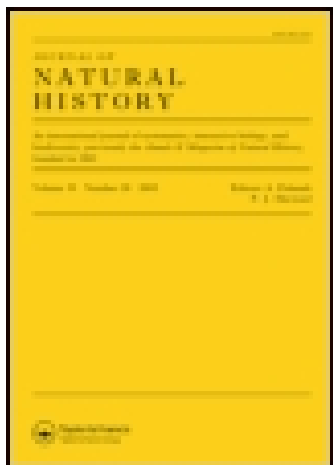


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### On the nervous system of *Idothea entomon*

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These genera have been placed in very different positions, but have generally been regarded as allied either to the Palæoniscidæ or to the Pycnodonts. Prof. Young of Glasgow has proposed to arrange them, with the latter, in a special suborder of Ganoids, under the name of Lepidopleuridæ—an arrangement which has met with considerable acceptance. Dr. Traquair discusses the views put forward by different authors, and then proceeds to a description of the characters presented by the genera above mentioned, which he shows to form a connected series, and proposes to include in a distinct family, Platysomidæ. He discusses at some length the affinities of this family to the principal groups to which its members have been thought to show relationships, and comes to the following conclusions:—

“1. That the Platysomidæ are specialized forms which have, if the doctrine of descent be true, been derived from the Palæoniscidæ. Their structure presents us simply with a modification of the Palæoniscoid type; and wherever the Palæoniscidæ are placed in the system, thither the Platysomidæ must follow.

“2. The resemblances between the Platysomidæ and the Dapediidæ and Pycnodontidæ are mere resemblances of analogy and not of real affinity. The Dapediidæ are related not to the Palæoniscidæ or Platysomidæ, but to the other semiheterocercal Ganoids of the Jurassic era (*Lepidotus* &c.); and the Pycnodonts are highly specialized forms, whose general affinities point in the same direction.”

Prof. Traquair regards the Palæoniscidæ and Platysomidæ as belonging to the Acipenseroid suborder of Ganoids.—*Trans. Roy. Soc. Edinb.* vol. xxix. pp. 343–391, pls. iii.–vi.

#### *On the Nervous System of Idothea entomon.*

By M. E. BRANDT.

The nervous system of *Idothea entomon* presents fourteen ganglia—three cephalic ganglia, seven ganglia of the trunk, four postabdominal ganglia.

The only naturalist who has investigated the nervous system of *Idothea* is H. Rathke\*; but his investigations are not exact. He describes a single cephalic ganglion (he did not see the others); he took the subœsophageal ganglion for the supræœsophageal, and he does not correctly describe the nerves which issue from it.

The supræœsophageal ganglion consists of six parts: it has two median lobes, or the hemispheres, which give off two nerves for the inner antennæ; two antennary lobes, which send off the nerves of the outer antennæ; and two external or optic lobes, which bear the nerves of the eyes. The œsophageal collar is short, very thick, and furnishes two nerves for the labrum (*nervi labii superioris*). The subœsophageal ganglion, which is small, furnishes three pairs

\* Neue Schriften der naturf. Gesellsch. in Danzig, 1820, p. 109, pl. iv. fig. 2.

of nerves, as in insects—two for the labium (*nervi labii inferioris*), two for the maxillæ (*nervi maxillares*), and two for the mandibles (*nervi mandibulares*). The third ganglion of the head, which I propose to name the *pedomaxillary ganglion*, rests upon a peculiar lamina, the *pedomaxillary plate*\*, and it furnishes one pair of nerves for the two jaw-feet (*nervi pedomaxillares*). The trunk possesses seven ganglia; that is to say, there is a ganglion for each segment. The first ganglion of the trunk is very small, although larger than the pedomaxillary ganglion; all the other ganglia of the trunk have the same volume. From each of these ganglia originates a pair of nerves for the feet—connectives separate from the nerves for the muscles and the skin of the segment, as described by H. Rathke. In this respect the pedomaxillary ganglion perfectly resembles those of the trunk; for, besides the nerves of the jaw-feet, it emits two other nerves for the posterior part of the head. It would seem, as shown by the innervation and the presence of a distinct ganglion, that the posterior part of the head of *Idothea* is a thoracic segment amalgamated with the head. The latter is therefore an imperfect cephalothorax, but still morphologically different from the heads of insects. There are four postabdominal ganglia, which are much smaller than the ganglia of the trunk; the last is the largest; the others are of equal size. The first, second, and third only furnish one pair of nerves for the corresponding segments; while the last emits four pairs of nerves. There is also a sympathetic nerve, represented by an unpaired trunk, placed between the connectives of the ganglionic chain, and interrupted by the ganglia—that is to say, exactly the same as that which F. Leydig has described in *Porcellio scaber*†, Rathke saw it, but did not recognize it as the sympathetic.—*Comptes Rendus*, March 22, 1880, p. 713.

*On a Peculiar Modification of a Parasitic Mite.*

By M. MÉGNIN.

In a great many insects parasitic on plants, the female, when ready to deposit her eggs or to give birth to larvæ, is seen to cover herself with a cottony or byssoid secretion, which serves not only to protect herself, but also to preserve her progeny from any injury during the first period of life. This is observed in most cochineal insects and in the woolly Aphis.

Certain Arachnida, also plant-parasites, possess the same peculiarity; and a species of *Tetranychus* has received its name (*T. telarius*) precisely on this account. In this case the cottony secretion of the mite forms a true nidification, destined to protect the

\* E. Brandt, 'Ueber eine Cephalothoracalplatte des gemeinen Schachtwurmes (*Idothea entomon*),' St. Petersburg, 1877.

† Vom Bau des thierischen Körpers (Tübingen, 1864), p. 251; and Tafeln zur vergl. Anat. pl. vi. fig. 7.