

He observed that *Lingula* had the power of moving over the sand by the sliding motion of the two valves, using at the same time the fringes of setæ, which swung promptly back and forth like a galley of oars, leaving a peculiar track in the sand. In the motion of the setæ he noticed the impulse commencing from behind and running forward.

Within the mantle he found a series of rows of prominent lamellæ in which the blood rapidly circulated—thus confirming the correctness of Vogt's observations. These lamellæ, however, were contractile.

The peduncle was hollow, and the blood could be seen coursing back and forth in its channel. It was distinctly and regularly constricted or ringed, and presented a remarkably worm-like appearance; it had layers of circular and longitudinal muscular fibre, and coiled itself in numerous folds, or unwound at full length; it was contractile also, and would quickly jerk the body beneath the sand. But the most startling observation in connexion with this interesting animal was the fact that its blood was *red*. This was strongly marked in the gills and various ramifications of the mantle, and in the peduncle. At times the peduncle would become congested; and then a deep rose blush was markedly distinct. Mr. Morse expressed his gratification in having come to the conclusions in regard to the annelidan characters of Brachiopods a long time previous to his observations on *Lingula*.

He then concluded by stating that the Brachiopods, with the Polyzoa, should be removed from the Mollusca, and placed with the Articulates among the Annelids; that the Brachiopods came near the tubiculous worms, though they were much more highly cephalized; that they exhibit certain Crustacean characters, but were widely removed from the Mollusca, unless a relation could be traced through the homologues of the Polyzoa to that aberrant group, the Tunicates, as pointed out by Allman. He believed the Brachiopods to be a comprehensive type, exhibiting general Articulate features, and forming another example of those groups belonging to the last that exhibit the characters of two or more classes combined.

It was interesting in this connexion to remark that *Lingula*, one of the earliest forms created, had yet remained the same through all ages of the earth's history.—*Silliman's American Journal*, July 1870.

Our two Swallows and their Nests. By M. J. B. NOULET.

M. Noulet, writing from the neighbourhood of Toulouse, states that the two species of swallows (*Hirundo rustica* and *H. urbica*) have not made any alteration in their mode of architecture such as has lately been described by M. Pouchet.

The first species, *H. rustica*, our chimney-swallow, and the *Hirondélo* of Languedoc, builds a nest which is broadly open like a balcony in all its free part; and the young birds which occupy it show their heads all round the opening, especially when expecting the return of their parents. The nest of *H. urbica*, on the contrary,

is of greater depth, and has a small circular opening. This is what M. Pouchet calls the old mode of building; and M. Noulet declares that it is still followed by the house-martins of his district. His opinion is that Spallanzani's opinion, disputed by M. Pouchet, is confirmed,—namely, “that every species constructs its nest upon a model which is peculiar to it, which never changes, and is perpetuated from age to age.”—*Comptes Rendus*, July 4, 1870, pp.79–81.

On the Scissiparous Reproduction of the Naidina.

By M. E. PERRIER.

The investigations upon the scissiparity of the *Naidés* and allied *Oligochaeta* at present relate only to *Nais proboscidea*. Gruithuisen, O. F. Müller, Leuckart, and Max Schultze have successively studied this phenomenon. Their views, although distinct in some respects, may nevertheless be fundamentally reduced to the following statement.

The *Naidés* alternately present two modes of agamic generation: one individual *divides* at first into two others of equal length; then each of the individuals thus formed produces a new one at its hinder part by a process of *gemmation*.

The observations that we have made upon *Dero obtusa* enable us to present the mode of reproduction of the *Naidés* under another aspect.

Whilst in *Nais proboscidea* chains of three or four individuals are frequently met with, in *Dero obtusa* we have never seen more than two individuals placed end to end. The head of the hinder individual and the tail of the anterior one are formed, however, precisely as indicated by Max Schultze in his *Nais*. These two individuals separate before we observe in them any trace of fresh scissiparity; but in front of the respiratory lobe which terminates the body we always see, *so long as the individual is not adult*, numerous animals in course of formation, and in which we may follow the development of the setigerous sacs, the segmental organs, the muscles, &c. When the two separated individuals have attained a sufficient length, the median scissiparity recommences in them, as in the single individual at the cost of which they were formed.

Now, as this phenomenon is only produced when the animal has attained a certain length, it follows that the hinder individual of the second generation will be formed of segments which were not developed until after the separation of the individual, but formed *an integral part of that individual when they were produced*.

Thus the *Dero* first enlarges by the formation of segments in front of its vibratile lobe, and then undergoes *scissiparous division*.

This being settled, suppose that the two *Deros* of the first generation were not separated after their individualization, then the individuals of the second generation would have been produced between the vibratile lobe and the rest of the body of each of the individuals of the first generation. Moreover each of these new individuals would have been formed by means of segments originating after the individualization of the two primary *Deros*, as we have explained.



Noulet, J.-B. 1870. "Our two swallows and their nests." *The Annals and magazine of natural history; zoology, botany, and geology* 6, 270–271.
<https://doi.org/10.1080/00222937008696247>.

View This Item Online: <https://www.biodiversitylibrary.org/item/93156>

DOI: <https://doi.org/10.1080/00222937008696247>

Permalink: <https://www.biodiversitylibrary.org/partpdf/67988>

Holding Institution

Missouri Botanical Garden, Peter H. Raven Library

Sponsored by

Missouri Botanical Garden

Copyright & Reuse

Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.