

L.—ON A NEW GENUS AND SPECIES BELONGING TO THE FAMILY PANDARINA. By EDWARD PERCEVAL WRIGHT, M.D., F.L.S., Professor of Botany, Dublin University. (With Plate 35.)

[Read May 11, 1874.]

RHINODON TYPICUS, Smith, is one of the largest and one of the least known of the sharks. It was originally described by the late Sir A. Smith, from a young specimen about 17 feet long, found near Capetown. "It was the only one that had been seen at the Cape within the memory of any of the fishermen. At the time it was discovered, it was swimming leisurely near the surface of the water, and with a certain portion of the back above it. When approached, it manifested no great degree of fear, and it was not before a harpoon was lodged in its body that it altered its course and quickened its pace. The prepared specimen is deposited in the Museum of the Jardin des Plantes of Paris."*

The true habitat of this remarkable species appears to have remained unknown until during a visit paid to the Seychelles in 1867. I found it at home in the waters surrounding these pleasant islands. The size to which this great sluggish fish grows presents many obstacles to obtaining specimens of it. I have heard of some individuals being seen of about 70 feet in length; I have seen some that I believe to have exceeded 50 feet; my friend, Mr. Swinburne Ward, the then Civil Commissioner of these islands, measured one that a little exceeded 45 feet in length; and I have had the opportunity of dissecting two specimens, one of which was 18 feet long from the tip of the nose to the end of the caudal fin. *Rhinodon typicus*, though a large, is a quiet, harmless fish, with a mouth of immense width, and jaws furnished with very small teeth. I found large masses of algæ in their stomachs, so that at one time I was inclined to think it was an herbivorous shark. Probably, however, it derives its nourishment, in part at least, from minute crustaceans and other oceanic animal forms, which it may take in along with masses of floating weed, and then ejecting the water through the strange mesh-like structures that unite the edges of the great gill openings, obtain by so doing enough to swallow. Be this as it may, I found on the surface of these meshes the little parasitic crustacean, which it is the object of this paper to describe. The absence of parasites was remarkable. Some forty or fifty of the new form alone rewarded a very careful search. The sharks had been harpooned in the evening, and brought ashore by sunset (about 6 o'clock). Word was at once sent to me. I was at the time stopping exactly at the opposite side of the island,

* Illustrations of the Zoology of South Africa. By Andrew Smith, M.D. Pisces, Plate 26.

and was on the spot the next morning before sunrise, so that I was enabled to examine the specimen while it was still quite fresh. The following will serve as a diagnosis of the new form:—

Family—PANDARINA.

Rostrum longum, angustum. Palpi articulati, foliacei.

Stasiotes rhinodontis, gen. et spec. nov. (Plate 35, figs. 1 to 14).

The cephalothorax is nearly as broad as long, projected somewhat in front where the frontal lamina becomes conspicuous. It is very transparent, which will account for the markings to be seen on figure 2, where there is an appearance as if the cephalothorax were segmented. The sides project backwards, forming lobes so as to cover the free edges of the first abdominal ring. The first abdominal ring is narrow, not extending at either side so as to touch the prolongation of the cephalothorax. The second abdominal ring is somewhat broader and even wider, with delicately ciliated appendages, somewhat like those to be met with in *Demoleus paradoxus*, Heller. The last abdominal ring is furnished with very feebly developed wing-like projections, which lie slightly over the largely developed genital ring; the edges of these rings are clothed with bristle-like hairs.

The genital ring is rounded in the front and at the sides, obtusely truncated, and somewhat notched behind, a little less than one-half in length of the cephalothorax. The caudal ring is narrow—quite hid under the genital ring—but the caudal appendages (figure 14) are visible.

The anterior antennæ (figure 5) are biarticulate, and spring from the under surface of the frontal lamina; the first joint is twice as broad and as long as the second, and just behind its articulation with the second it is set over with a few minute bristle-like hairs; the second ends abruptly in two or three bristles. The posterior antennæ (figure 7) are stout and four-jointed; the third joint is twice as long as broad, and is barely covered by the front portion of the cephalothorax; the fourth joint consists of a long incurved claw. The rostrum (figure 6*a*) is long and narrow, consisting of two halves inclosed in a sheath each of which (figure 6*c*) is terminated by a series of tooth-like projections. The palpi (figure 6*a*) are small, feebly biarticulate, and very slightly foliaceous. The base of the rostrum with the palpi is situated between, and a very little below, the origin of the posterior antennæ.

The first pair of maxillary feet (figure 3) are of the shape and form usually met with in this group, but just at the base of the chelæ, and on their outer surface, there is a scale-like body (figure 8*a*), which is thickly set with short, stiff hairs of the same nature as those which are developed along the margins of the pincers. The second pair of maxillary feet (figure 9) are broad and large: the claw-like terminal joint can project beyond the edge of the cephalothorax; both the third and fourth claw-joint carry a stiff bristle.

The four pairs of abdominal feet are two-branched, and in the first three pairs each of these branches (figures 10, 11, and 12) are two-jointed, each of the joints being clothed with large bristles lined with hairs. The first pair possesses the smaller number of bristles, and there are no bristles on the first joints; the second and third pair have, on the inner edge of both the first joints, a well marked, long, ciliated bristle. The fourth pair (figure 13) is not fully furnished with bristles, and these are not clothed with ciliæ; and they are also not two-jointed; and in this, as in the number of bristles, differ very materially from the first three pairs.

The average length of the specimens examined is six millim. All the specimens met with were females.

In conformity with the practice of Heller, Steenstrup, Lutken, and others, I describe the swimming feet as abdominal—(abdominal fussedpaare: bagkropsfodderne); but it would have seemed to me more natural to have described them and the somites from which they spring as thoracic. Heller gives* a conspectus of the Family Pandarina, including all the genera known to him. This new genus it appears to me might come in after Demoleus, the remi of the third pair not being 'biarticulati', and not being 'setis plumosis ornati.'

* Novara-Expedition. Zoologischer Theil: Crustacea, p. 160, about 1866.

need suffi-
sed spiny
chambers.
leed, very
ial spiny

d. Wiss.
g notice.
ulations,
und it in
a recent
e Banat,
oo Choo

was en-
types of
od-fauna
sion that
ch more
rganisms
terest to
but how
ntangled
adherent.
e of the
and the
to warm
ich time
during
It was
h which
e pieces
of warm
ome vio-
with the
ecimens
ed to a
ly lived
y were
eyi with
ed needs
am not
noticed
ht have
he pre-

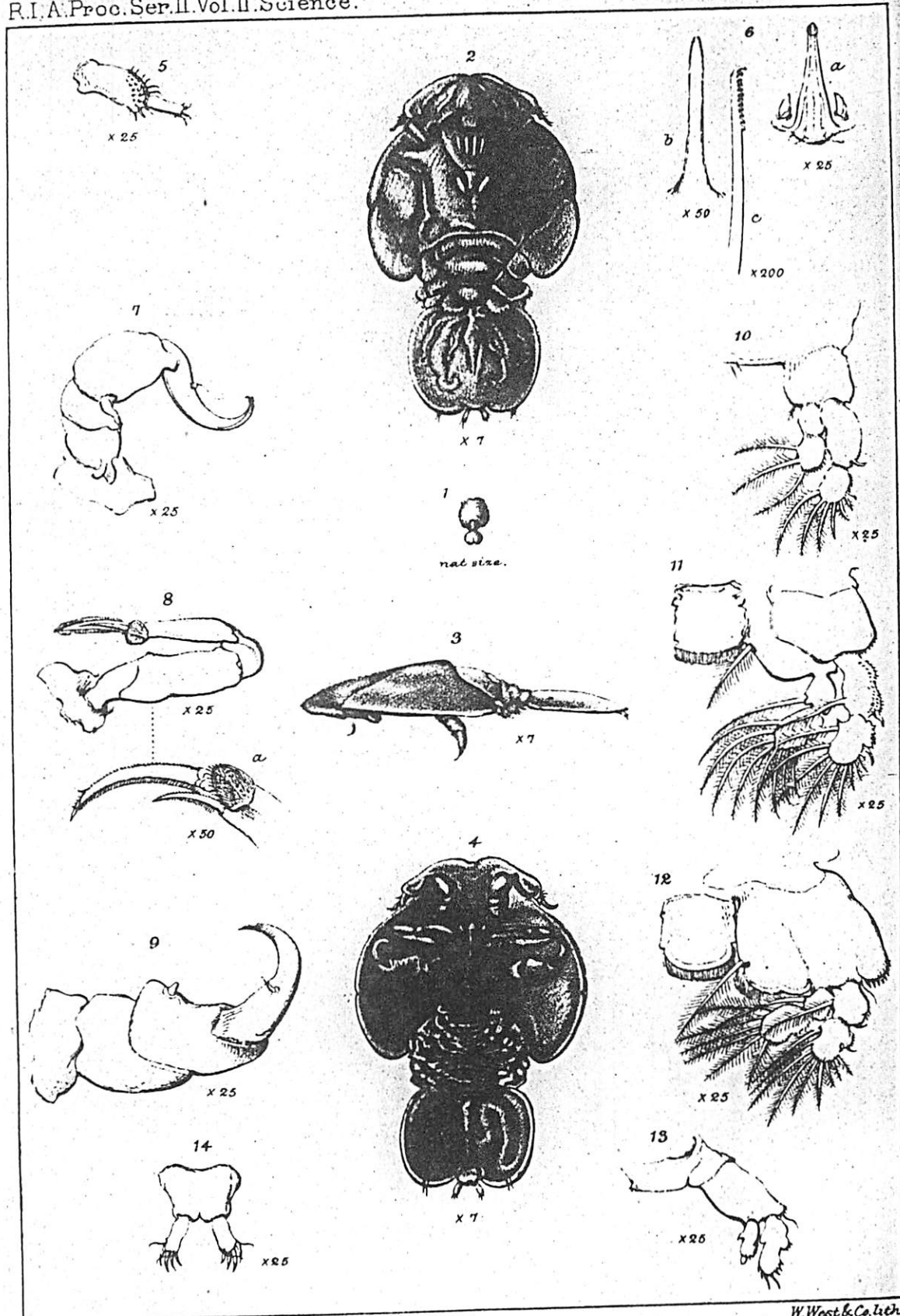
PLATE 35.

ILLUSTRATIVE OF PROFESSOR EDW. PERCEVAL WRIGHT'S PAPER "ON A
NEW GENUS AND SPECIES OF PANDARINA."

Vide Proceedings R. I. Acad., Vol. 2, Ser. 2, p. 583.

Fig. 1. *Stasiotes Rhinodontis*, gen. et sp. nov. Nat. size.

- 2. ,, dorsal aspect.
- 3. ,, side view.
- 4. ,, ventral aspect.
- 5. ,, anterior antenna $\times 25$.
- 6. ,, rostrum and palpi (*a*) $\times 25$.
rostrum (*b*) $\times 50$.
,, shewing toothing (*c*) $+ 200$.
- 7. ,, posterior antenna $\times 25$.
- 8. ,, first foot-jaw $\times 25$: chelæ (*a*) $\times 50$.
- 9. ,, second ,, ,,
- 10. ,, first abdominal foot $\times 25$.
- 11. ,, second ,, ,,
- 12. ,, third ,, ,,
- 13. ,, fourth ,, ,,
- 14. ,, last segment with appendages.



Tuffen West ad nat del.

W. West & Co. lith.



THE ROYAL IRISH ACADEMY.

VOL. II. SER. II.

JULY, 1876.

No. 6.

CONTENTS.

SCIENCE.

	PAGE
XLI. An Estimation of the Free and Albuminoid Ammonia yielded by the Stagnant Waters of the Dublin Streets, as compared with the quantities of those Substances obtained from the Liffey Water, after receiving the Sewage. By LANCELOT STUDDERT, LL.D., Ex-S. T.C.D.,	459
XLII. On an Elementary Proof of "Lagrange's Equations of Motion in Generalized Co-ordinates." By ROBERT S. BALL, LL.D., F.R.S., Andrews' Professor of Astronomy in the University of Dublin, and Royal Astronomer of Ireland,	463
XLIII. On the Exploration of the Knockninny Cave. By T. PLUNKETT. With an Account of the Animal Remains. By Rev. Professor HAUGHTON, M.D., F.R.S., and Professor MACALISTER, M.D.,	465
XLIV. On Personal Errors in Astronomical Transit Observations. By JOHN L. E. DREYER, M.A., F.R.A.S., Astronomer at the Earl of Rosse's Observatory,	484
XLV. Analysis of Coals and Iron-stones from the Dungannon Coal-Field, Co. Tyrone. By EDWARD T. HARDMAN, F.C.S., &c., of the Geological Survey of Ireland,	529

[For continuation of Contents see last page of Cover.]

DUBLIN:

PUBLISHED BY THE ACADEMY,
 AT THE ACADEMY HOUSE, 19, DAWSON-STREET.

SOLD ALSO BY

HODGES, FOSTER, & CO., GRAFTON-ST.

AND BY WILLIAMS & NORGATE,

LONDON:

Henrietta-street, Covent Garden.

EDINBURGH:

20, South Frederick-street.

Price Two Shillings and Sixpence.