

THE
SCOTTISH NATURALIST:

A MAGAZINE OF SCOTTISH NATURAL HISTORY.

EDITED BY

F. BUCHANAN WHITE, M.D.

VOLUME I.

“ Gabh fradharc air bad agus sliabh.”

“ FIONNGHAL.”

PERTH:

PERTHSHIRE SOCIETY OF NATURAL SCIENCE.

EDINBURGH: MACLACHLAN AND STEWART, SOUTH BRIDGE.

GLASGOW: J. MACLEHOSE, 61 ST. VINCENT STREET.

ABERDEEN: J. WILSON, CASTLE STREET.

LONDON: E. W. JANSON, 28 MUSEUM STREET, W.C.

1871-1872.

dividuals of the domestic cat. These, after several years' freedom in the forest, assume very large dimensions, hence their being frequently confounded with the true *F. Catus*. The domestic cat (*Felis maniculata*), it is supposed, came originally from Egypt.—*Id.*

[I have seen the Wild Cat mentioned by Mr. Paton, and can assure Mr. Norman that it is really a specimen of the true *Felis Catus* and *not* a tame cat run wild. The other specimens mentioned, I believe, were also true Wild Cats.—EDITOR *Sc. Nat.*]

Early singing of the Chaffinch.—On the 16th January, while walking in the beautiful Cluny Hill woods I heard the cheerful and well known call of the Chaffinch (*Fringilla cælebs*). For upwards of thirty years I have paid attention to the earliest dates of the singing of this bird, both in England and the continent, but have never before heard it sooner than the beginning of February.—*Id.*

THE STALK-EYED CRUSTACEA OF THE NORTH-EAST COAST OF SCOTLAND :

*With Descriptions of new Genera and Species.**

BY GEORGE SIM.

THE following list includes the stalk-eyed crustacea hitherto found on the coasts of Aberdeenshire and Kincardineshires, from Banff to Stonehaven, but refers more particularly to the neighbourhood of Aberdeen. It is the result of several years' labour, in which it has been my practice to visit the sea-beach every morning, and also to search the fishermen's lines as they came to land, and, when time would permit, to go to the rock-pools on the Kincardineshire coast, where many of my best specimens have been got ; the fishermen, too, brought me some of the larger kinds (whose habitat is the open sea) which it is their practice to cast overboard as useless. In addition, I regularly attended the fish-market, and examined the stomachs of cods and haddocks, in which several species have been found which would not have been obtained otherwise, unless by the dredge ; but this latter mode of search I have never had time to prosecute sufficiently. I have no doubt, however, that if it were gone about in a proper manner the list would be very much enlarged.

In drawing up the list I have followed the arrangement of Professor Bell. In it will be found three species which I believe have not been before described. The first of these is a new species of

* A paper read before the Aberdeen Natural History Society.

the genus *Thysanoessa* of Brandt, which I have called *Thysanoessa aberdonensis*. The other two appear to belong to genera hitherto undescribed. I have therefore constituted for their reception the new genera *Rhoda* and *Acanthocaris*, placing in the first, *Rhoda Jardineana*, which species I have dedicated to that eminent naturalist, Sir William Jardine, Bart.; and in the second, *Acanthocaris Livingstoneana*, so named as a mark of my esteem for Dr. Livingstone for his indomitable courage and perseverance as an African traveller and discoverer. Specimens of each of these species are in my own collection, and in those of my friends, Messrs. Willis and Hodge, who have both rendered me valuable assistance in this work.

Let no one suppose that the work is completed. There is yet much to be done, but we require workers. Let, therefore, those who have spare time commence the study, and I will guarantee them a rich harvest and much pleasure.

In a complete list of British stalk-eyed crustacea I would place *Acanthocaris* immediately after the genus *Phyllosoma*; but in the case of *Rhoda* I have been unable to determine where it should appear. I have placed it provisionally after *Acanthocaris*; but regarding the position of both genera I am somewhat in doubt, and will leave their proper place to be determined by some one better qualified for the task.

It will be seen that several individuals are enumerated in the list whose specific names are not given. Although certain as to the genera of these, I have been unable to refer them to their proper species, as all have been discovered since the publication of Bell's "Stalk-eyed Crustacea," and their names and descriptions published in several periodicals which I have had no opportunity of consulting.

STENORHYNCHUS PHALANGIUM Bell.—Common.

STENORHYNCHUS TENUIROSTRIS Bell.—Occasionally in cods' stomachs.

INACHUS DORSETTENSIS Leach.—Very common in cods' stomachs and in fishers' lines.

INACHUS DORYNCHUS Leach.—Occasionally on sands and in rock pools.

HYAS ARANEUS Edw.—Very common.

HYAS COARCTATUS Leach.—Very common.

CANCER PAGURUS L.—Common.

- PIRIMELA DENTICULATA Leach.—Rare.
 CARCINUS MÆNAS Leach.—Very common.
 PORTUMNUS VARIEGATUS Leach.—Frequent.
 PORTUNUS PUBER Leach.—Rather rare.
 PORTUNUS DEPURATOR Leach.—Rather rare.
 PORTUNUS MARMOREUS Leach. (?)—Rare.
 PORTUNUS HOLSATUS Fabr.—Very common.
 PORTUNUS PUSILLUS Leach.—Very common in cods' stomachs.
 EBALIA PENNANTII Leach.—Frequent in cods' stomachs.
 EBALIA BRYERII Leach.—Occasionally in cods' stomachs.
 ATELECYCLUS HETERODON Leach.—Very common on fishers' lines and in cods' stomachs.
 CORYSTES CASSIVELAUNUS Leach.—Very rare.
 LITHODES MAIA Leach.—Frequent from deep water.
 PAGURUS BERNHARDUS Fabr.—Very common.
 PAGURUS PRIDEAUXII Leach.—Rare.
 PAGURUS CUANENSIS Thompson.—Rare.
 PAGURUS LÆVIS Thompson.—Frequent in haddocks' stomachs.
 PAGURUS THOMPSONII Bell.—Common in cods' stomachs.
 PORCELLANA LONGICORNIS Edw.—Common.
 GALATHEA SQUAMIFERA Leach.—Very common in rock pools.
 GALATHEA STRIGOSA Fabr.—Very common in rock pools.
 GALATHEA NEXA Embleton.—Frequent in rock pools.
 GALATHEA DISPERSA Spence Bate.—Frequent from fishers' lines.
 GALATHEA ANDREWSII Kinahan.— do.
 MUNIDA RONDELETII Bell.—Rare.
 CALLIANASSA SUBTERRANEA Leach.—Frequent in haddocks' stomachs.
 GEBIA DELTURA Leach.—Frequent in haddocks' stomachs.
 HOMARUS VULGARIS Edw.—Common.
 NEPHROPS NORVEGICUS Leach.—Frequent in cods' stomachs.
 CRANGON VULGARIS Fab.—Very common.
 CRANGON SPINOSUS Leach.—Rare.
 NIKA EDULIS Risso.—Once cast on the beach ; occasional in cods' stomachs.
 HIPPOLYTE CRANCHII Leach.—Common in rock pools.
 HIPPOLYTE WHITEI Thompson.—Rare.
 HIPPOLYTE, 2 *sp.*
 PANDALUS ANNULICORNIS Leach.—Frequent in cods' stomachs.
 PANDALUS *sp.*—One specimen found in cod's stomach.
 PALÆMON *sp.*— do. do.

ACANTHOCARIS *nov. gen.*

Externæ antennæ crassæ, primo segmento permagno; internarum antennarum pars inferior (ex tribus segmentis) longior eadem externarum antennarum parte, et duabus multi-articulatis appendiculis instructa. Pedes omnes monodactyli, a parte anteriore retrorsum decrescentes. Oculi conici, pedunculis brevibus validis impositi. Testa (sive clypeus dorsalis) a parte posteriore altissima, sulco tenui in dorso post regionem gastricam arata, septem spinis in margine posteriore armata, et ab anteriore parte in rostro obtuso decurvato desinens. Sternum quoddam post testam usque ad extremam secundi abdominis segmenti partem porrigitur; intra hoc sternum respirandi instrumenta locata sunt. Abdomen pæne cylindricum. Telson (sive lamella caudalis mediâ) bifurcatum, utroque aculeo spina valida immobili instructo, armatum senis mobilibus spinis per utrumque latus dispositis.

External antennæ thick, first segment very large; basal portion of the internal antennæ longer than that of the external, and furnished with two multi-articulate appendages. Feet wholly monodactyle, decreasing from before backwards. Eyes conical, set on short stout foot-stalks. Carapace deepest posteriorly, with a slight furrow on the dorsal aspect behind the gastric region, and armed with seven spines on the posterior margin, and terminating anteriorly in an obtuse decurved rostrum. A sort of sternum extending behind the carapace to the extremity of the second abdominal segment, within which sternum the respiratory organs are placed. Abdomen nearly cylindrical. Telson bifurcate, each point armed with a strong immovable spine, and six movable spines along each side.

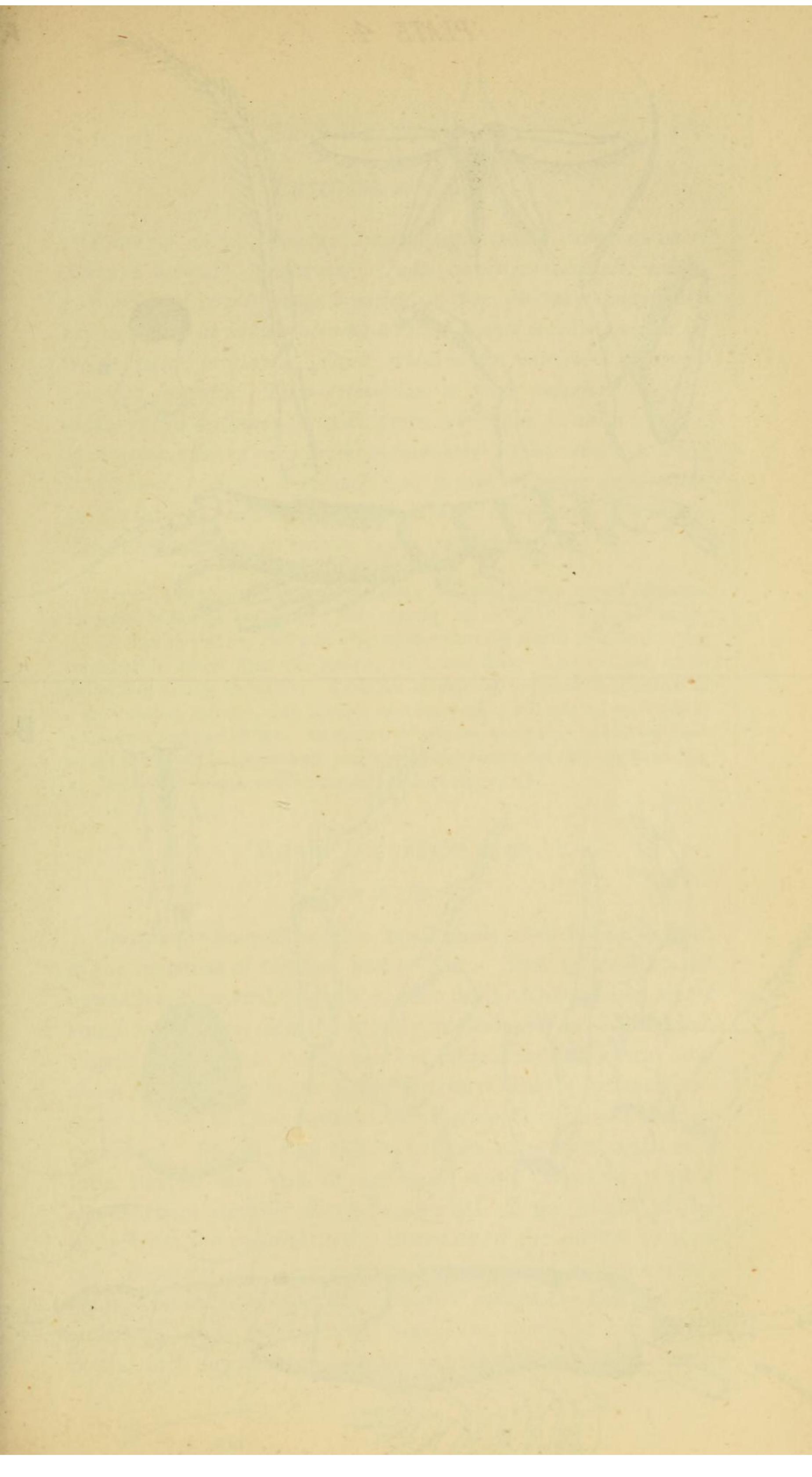
ACANTHOCARIS LIVINGSTONEANA *n. sp.*

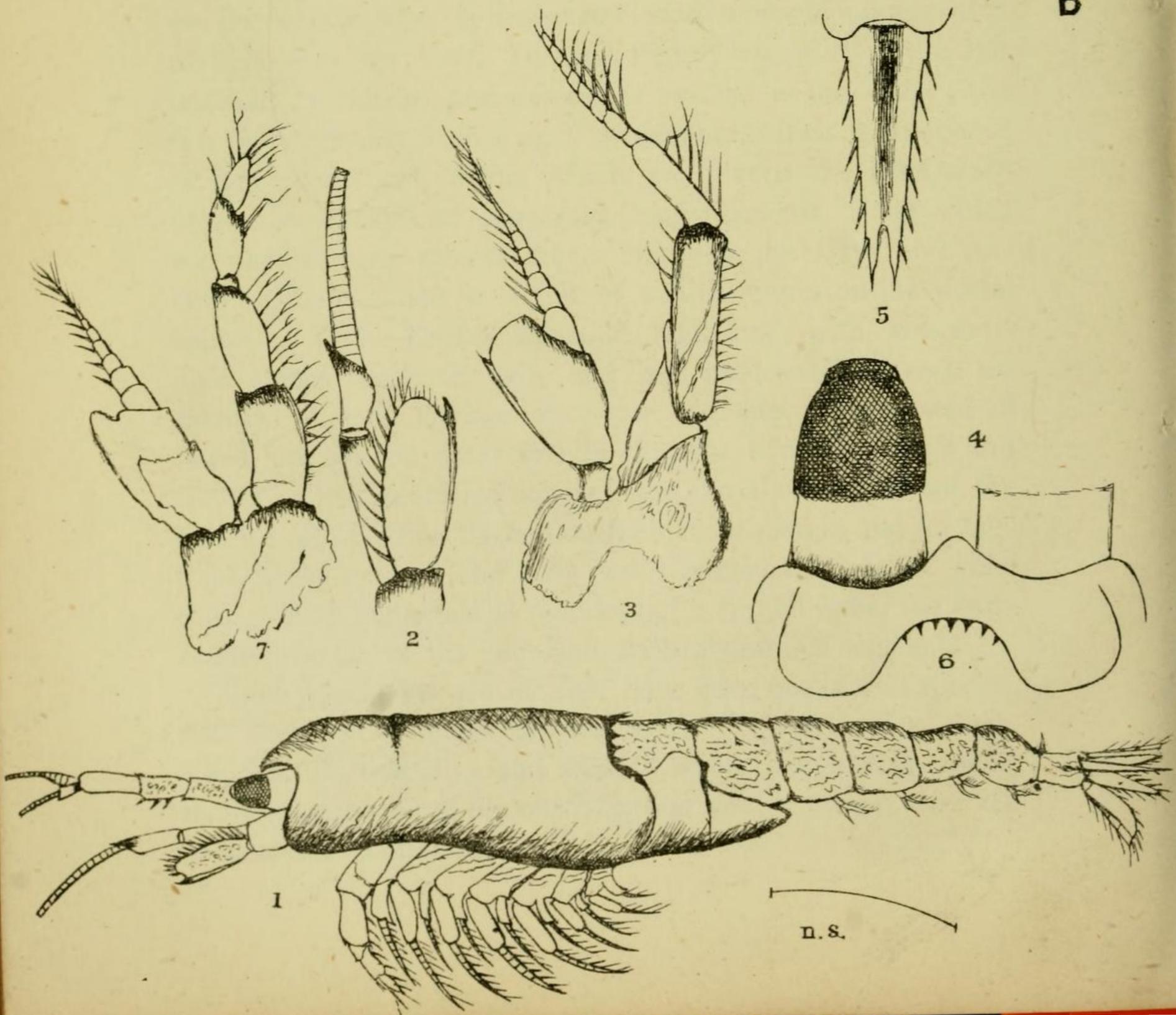
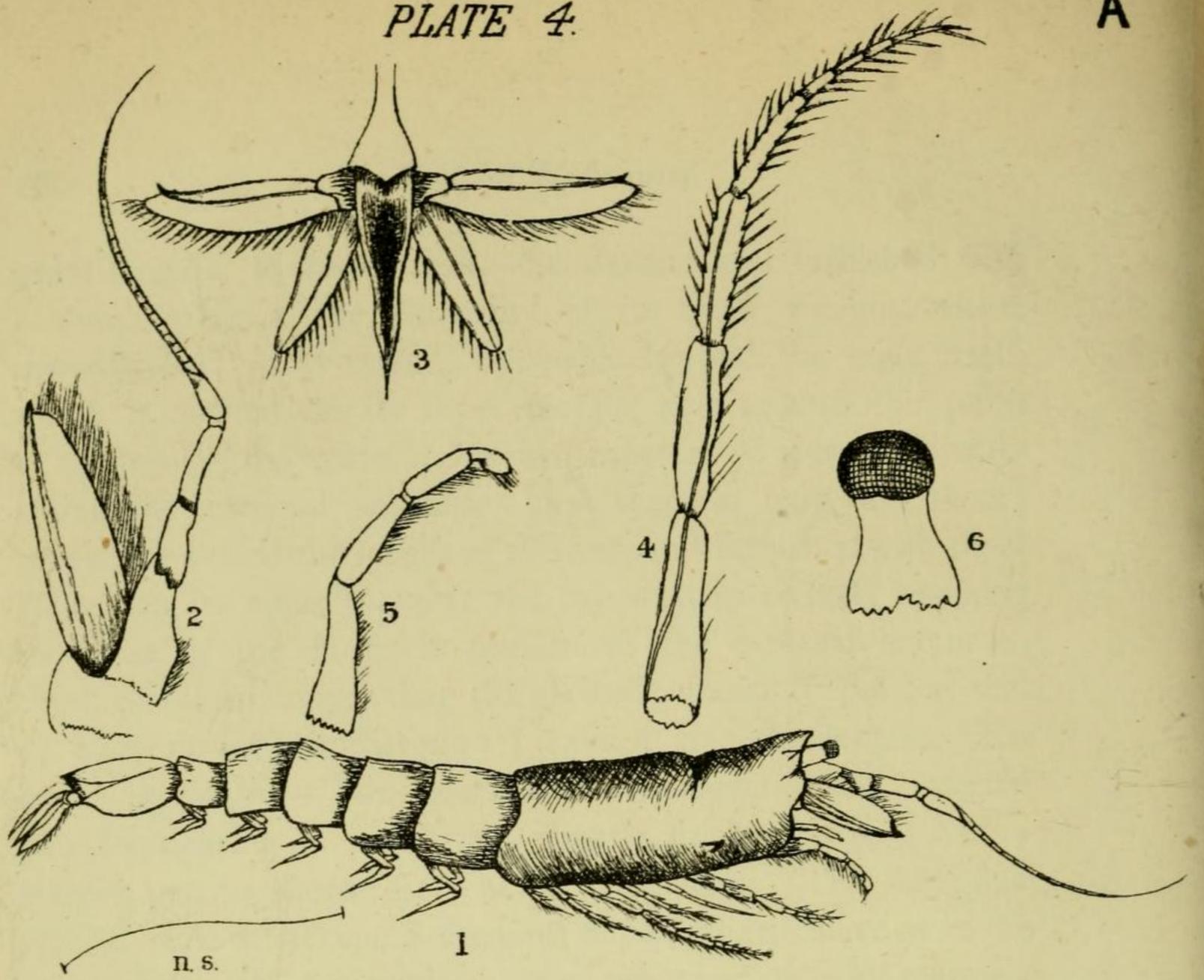
(Plate IV., Fig. B.)

Carapace.—Smooth, with a slight transverse hollow on the dorsal aspect, and armed with seven sharp spines on the posterior margin. *Rostrum.*—A single depressed rather obtuse spine bent down between the eyes. *Eyes.*—Conical, covered with a sort of cap in front, and about one third longer than their short stout peduncles, the whole extending slightly beyond the joint of the antennal scale. *External antennæ.*—With the first segment three-fourths the length of the scale, rounded and slightly swelled in the centre; second, one-third the length of the first, movable portion stout at the base but becoming abruptly slender. As it was imperfect I cannot give its

exact length. *Antennal scale*.—Semi-ovate and furnished with a sharp spine at the extremity of its outer margin, whose inwardly bent point extends somewhat beyond the scale itself, which is ciliated on its inner margin and around the point to the base of the spine. *Internal antennæ*.—Inserted directly above the external antennæ; first segment long and stout; second, one-third the length of the first, and furnished with three spines on its outer margin; the two segments nearly reaching the base of the movable portion of the external antennæ; third, one-third longer than the second; movable portion and its filament broken, therefore I cannot give the length. *External pedipalps*.—Two pairs, both pediform; the internal pair terminating in an obtuse, slightly knobbed tip. *Feet*.—Simple, getting shorter from before backwards. The first pair robust, with the terminal segment not multi-articulate as in the succeeding pairs, the whole ciliated on their anterior margins, their filaments being ciliated on their posterior margins. *Abdomen*.—First five segments cylindrical; the sixth compressed on the dorsal edge (a transverse section would appear as a triangle with the lower corners slightly rounded); the last segment cylindrical, and somewhat swelled in the centre; the first two segments lie in a sort of sternum, which is composed of four pieces and within which are placed the respiratory organs, composed of numerous long filaments, along which are placed many minute cilia. Between the sixth and seventh segments there is a tuft of softish spines on the dorsal aspect. *Tail*.—Telson *depressed*, bifurcated, with six movable spines on each side, and one immovable at each extremity. Lateral laminae lanceolate, the outer ones ciliated all round, but on the outer margin the cilia become shorter and stouter (might be called spines), the inner ones but half the breadth of the outer, ciliated on their inner margin and for one-third of the outer. The body is of a rather clear opaque white throughout; and when at rest the tail is turned under the body at the junction of the fifth and sixth abdominal segments.

Three specimens are all that have been got of this species, and these were found on the sands at high water mark. The first one was alive and lived a whole day without water, shewing a tenacity of life much beyond what is usually observed in creatures of this order.





RHODA nov. gen.

Externæ antennæ modice crassæ, parte mobili extra curvata. Externi pedipalpi pediformes. Pedes omnes monodactyli; eorum par primum ceteris paulo crassius, et par quartum longitudine vix æquans; at horum utrumque est aliquanto longius paribus secundo, tertio, et quinto. Oculi orbiculares, pedunculis sublongis tenuibus impositi. Testa cylindrica, a parte anteriore in brevi obtuso rostro desinens; in testa prope utrumque foramen oculare, et in utroque latere recta primi pedum paris regione singulæ spinæ locatæ sunt. Abdomen cylindricum, præter ultimum segmentum, quod admodum compressum longius et altius est segmento pænultimo. Telson lanceolatum, in valida, acuta spina desinens.

External antennæ of moderate thickness, movable portion curved outwards. External pedipalps pediform. Feet wholly monodactyle, first pair rather thicker than the others, and somewhat shorter than the fourth pair, both being considerably longer than the second, third, and fifth. Eyes circular, set on rather long slender foot-stalks. Carapace cylindrical, terminating anteriorly in a short obtuse, rostrum, with a spine near each orbit, and one on each side in a line with first pair of feet. Abdomen cylindrical, excepting the last segment, which is very much compressed, and longer and deeper than the one preceding it. Telson lanceolate, terminating in a strong, sharp spine.

RHODA JARDINEANA n. sp.

(Plate IV. fig. A.)

Carapace.—Smooth, with a small tooth on each side in front of the insertion of the first pair of feet. Two spines directed upwards and forwards, one above each orbit. *Rostrum.*—A single compressed spine, directed slightly upwards. *Eyes.*—Rounded, slightly larger than the peduncles, which are cylindrical and about a-fourth the length of the antennal scale. *External antennæ.*—With the first segment half the length of antennal scale, depressed. Second and third segments extending together a little beyond the end of antennal scale, movable portion slender, bent abruptly outwards, and half of the length of the body, from the rostrum to the extremity of the central plate of tail. *Antennal scale.*—Lanceolate, terminating in a minute spine, ciliated on the inner margin. *Internal antennæ.*—Inserted outside and below the external, nearly two-thirds of the length of the first segment of external antennæ; cylindrical, termi-

nating abruptly as if broken off (or rudimentary?) *External* First and second segments short and cylindrical; third ovate, depressed, and longest; fourth similar but smaller. The whole furnished with bristles. *Feet*.—First and fourth pairs robust and much depressed; the fourth longer than the first; second, third, and fifth of equal length, and somewhat more than half the length of the fourth; sixth about one-third the length of the fifth. All are monodactyle, and furnished with bristles on their margins. *Abdomen*.—Cylindrical, excepting the last segment, which is greatly compressed, and longer and deeper than any of the rest. *False-feet*.—Long, ciliated, decreasing in length backwards, and furnished with filamentous ciliated appendages. *Tail*.—Telson *compressed*, grooved above, and rounded at the extremity, which is armed with a sharp spine; lateral laminae longer than the central-plate, lanceolate, ciliated on their inner margins, the outer ones longest, and rounded at the apex, near to which is a *short* spine on its lateral margin.

Only one individual of this species has as yet been found. It was left by the tide at high-water mark, and when found it was of a highly polished opaque white throughout.

MYSIS CHAMÆLEON J. V. Thompson.—Very common.

MYSIS VULGARIS J. V. Thompson.— do.

MYSIS SPIRITUS Norman.—Frequent.

MYSIS *sp.*

THYSANOPODA COUCHII Bell.—Common, cast on beach.

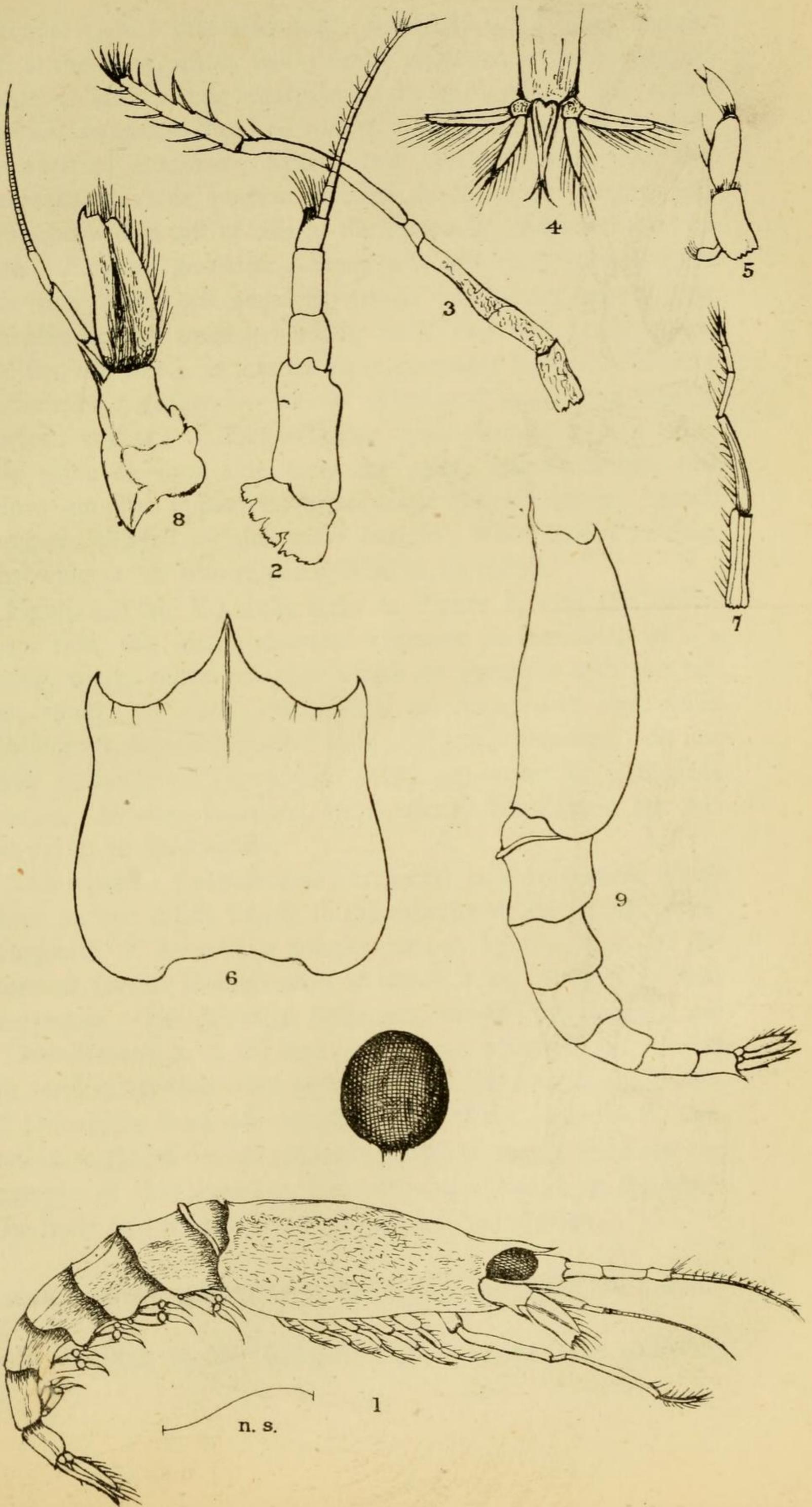
THYSANOESSA BOREALIS Norman.—Frequent on sands.

THYSANOESSA ABERDONENSIS, *n. sp.*

(Plate V., Fig. 1.)

Carapace.—Smooth, lateral margins terminating in a spine anteriorly, posterior margin roundly indented. *Rostrum*.—Straight, with a ridge along the median line, which forms the point of the rostrum. *Orbits*.—Open above. *Eyes*.—Large, set on short and very slender peduncles, which do not extend beyond the orbits. *External antennæ*.—First segment nearly one-fourth the length of the antennal scale; second and third, somewhat over three-fourths the length of the scale; movable portion, including the three segments, twice the length of the

PLATE 5.



antennal scale. *Antennal scale*.—Ciliated on its inner margin and at the apex, which has a small spine on the outer margin. There is also a long sharp spine at the base of the scale. *Internal antennæ*.—Inserted within, and on the same line with, the external antennæ; longer and much stronger than the external; movable portion ciliated on its inner margin, and furnished with a tuft of cilia at the extremity, and another at its base. *External pedipalps*.—Stout and pediform. *Feet*.—First pair very long; last segment armed with about twenty long movable spines, arranged along each side and at the apex, and two on wrist; remaining pairs gradually becoming shorter backwards. *Abdomen*.—Nearly cylindrical, narrowing rapidly towards the tail. *Tail*.—Telson spear-shaped, with a movable spine on each side, near the apex, and sometimes two spines on its upper surface; *outer lateral laminae* broad, truncate, ciliated on the inner margin; *inner lateral laminae*, narrowing to an obtuse point, ciliated all round.

Figure 9 (Plate V.) is the same as Figure 1, with this difference, that the last abdominal segment is furnished with a strong, sharp, recurved spine above its junction with the telson, which has always two spines on its median line, while *aberdonensis* generally wants them. These differences I do not think sufficient to warrant its being put down as a distinct species. It may, however, be a sexual distinction; but this has yet to be determined.

This species (*aberdonensis*) is found in considerable abundance on our sandy beach, in the months of March and April, along with *T. borealis*, a species named by the Rev. A. M. Norman, for the identification of which I am obliged to that gentleman. The principal difference between *T. borealis* and *T. aberdonensis* is in the first pair of feet, which in *T. borealis* are terminated with from eighteen to twenty long sharp spines, all proceeding from the extremity of the limb: while in *T. aberdonensis* eighteen spines are arranged along the sides of the last segment of that member, and two more placed on the wrist. The body and rostrum also differ in the two species.

LOPHOGASTER TYPHICA Sars.—Occasionally cast on the beach.

In addition to the foregoing list I append the following

species, taken from the "Banffshire" list, as given by "W." in vol. v. of the "Naturalist," 1855:—

INACHUS LEPTOCHIRUS Leach.

EURYNOME ASPERA Leach.

PINNOTHERES PISUM Leach.

PORTUNUS LINEPPES.

And he also adds POLYBIUS HENSLOWII Leach., "on the authority of the fishermen."

EXPLANATION OF PLATES IV. & V.

Plate IV. A. 1, *Rhoda Jardineana*.—2, External antennæ; 3, tail; 4, one of first pair of feet; 5, external pedipalps; 6, eye.

Plate IV. B. 1, *Acanthocaris Livingstoneana*.—2, External antennæ; 3, second and succeeding pairs of feet; 4, anterior margin of carapace and eye; 5, telson; 6, posterior margin of carapace; 6, one of first pair of feet.

Plate V. 1, *Thysanoessa aberdonensis*.—2, Internal antennæ; 3, one of first pair of feet; 4, tail; 5, external pedipalps; 6, carapace; 7, form of second and succeeding pairs of feet; 8, external antennæ and scale; 9, supposed additional species.

LIST OF HYDROID ZOOPHYTES FROM THE NORTH-EAST COAST OF SCOTLAND.

THE following list of Hydroid Zoophytes has been made up from specimens collected on the north east coast, from the town of Peterhead to the Sands of Cruden, and from a point about three miles north of the river Don to several miles south of the mouth of the river Dee. Part of this extent of coast is sandy, but the greater part is rocky.

For the notice of the occurrence of many of the species I am indebted to the kindness of the Rev. J. Yuil of Peterhead.

I have followed the nomenclature of Hincks.

HYDRACTINIIDÆ.—*Hydractinia echinata*, frequent on *Buccinum undatum*.

CORYNIDÆ.—*Coryne pusilla*, not uncommon; *Syncoryne eximia*, very common.

EUDENDRIIDÆ.—*Euaendrium rameum*, not uncommon; *Eudendrium ramosum*, common; *Eudendrium capillare*, frequent.

ATRACTYLIDÆ.—*Bougainvilla ramosa*, common.