Natural History of Victoria.

PRODROMUS

OF THE

ZOOLOGY OF VICTORIA;

OR

FIGURES AND DESCRIPTIONS OF THE LIVING SPECIES OF ALL CLASSES

OF THE

VICTORIAN INDIGENOUS ANIMALS.

DECADE XVI.

BY

FREDERICK McCOY, C.M.G., M.A., Sc.D. CANTAB., F.R.S.,

HONORARY MEMBER OF THE CAMBRIDGE PHILOSOPHICAL SOCIETY; HONORARY ACTIVE MEMBER OF THE IMPERIAL SOCIETY OF NATURALISTS OF MOSCOW; CORRESPONDING MEMBER OF THE ZOOLOGICAL SOCIETY OF LONDON; HONORARY MEMBER OF THE ROYAL SOCIETY OF NEW SOUTH WALES; HONORARY FELLOW OF THE GEOLOGICAL SOCIETY OF EDINBURGH; HONORARY MEMBER OF THE GEOLOGICAL SOCIETY OF MANCHESTER, ETC., ETC., ETC.

AUTHOR OF "SYNOPSIS OF THE CARBONIFEROUS LIMESTONE FOSSILS OF IRELAND;" "SYNOPSIS OF THE SILURIAN FOSSILS OF IRELAND;" "CONTRIBUTIONS TO BRITISH PALÆONTOLOGY;" ONE OF THE AUTHORS OF SEDGWICK AND McCOY'S "BRITISH PALÆOZOIC ROCKS AND FOSSILS;" "PRODROMUS OF THE PALÆONTOLOGY OF VICTORIA," ETC.

PROFESSOR OF NATURAL SCIENCE IN THE MELBOURNE UNIVERSITY.
GOVERNMENT PALÆONTOLOGIST, AND DIRECTOR OF THE NATIONAL MUSEUM OF MELBOURNE, ETC.

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PREFACE.

This sixteenth Decade gives an illustration, of the natural colors of life, of the beautiful species of Monitor Lizard, *M. Gouldi*, from the warmer latitudes of the colony, allied to the large Lace Lizard, or so-called Iguana, *Hydrosaurus varius*, figured on our Plate 41, of the districts nearer the Southern coast.

The next two plates illustrate two genera (*Pygopus* and *Delma*) of those extraordinary Snake-shaped Lizards without feet, popularly supposed, both by the aborigines and settlers, to be highly poisonous snakes, although perfectly harmless.

Plate 154 gives a figure from the recent specimen, of the natural colors, of the rare gigantic Mackerel, the *Cybium Commersoni*, of which only one example has been found on our coast.

The next plate illustrates another fine species of large, food fish, one of the *Pelamyds*, nearly allied to one from Japan, but which I have named *Pelamys Schlegeli*, to recall that fact, and on account of differences which I have published.

The next three plates illustrate rare and interesting Polyzoa from our coast, the specimens and descriptions of which Mr. MacGillivray has given for the Museum and this work.

Plate 159 illustrates the common Sydney Craw-fish, *Palinurus Hügeli*, showing the colors of life for the first time; one of the rarest crustacea of our coast. This is replaced in Victoria by the Southern Spiny Lobster or "Common Melbourne Craw-fish,"

Palinurus Lalandi, figured in our fifteenth Decade, which, I have no doubt, is identical with the species of the Cape of Good Hope and New Zealand, but not recorded from New South Wales or any place much north of Victoria. By comparison with South African specimens, I have confirmed my previously published opinion of the identity of the South African and Victorian species.

The last plate illustrates, what I believe to be, a local variety of the "Murray Spiny Lobster" or large Murray Cray-fish, *Astacopsis serratus*, found abundantly in the Yarra and the streams flowing into it. I have given the name *Yarraensis* to this variety, which, from its small size and bright blue color, is very unlike the large northern Murray form, the illustration being desirable, as the majority of the fishes and other inhabitants of the Murray are different from those found in the rivers running southwards, as the Yarra does.

The succeeding Decades will illustrate as many different genera as possible, and will deal first, usually, with species of some special interest, and of which good figures do not exist, or are not easily accessible.

FREDERICK MCCOY.

22nd June, 1888.*

* Pressure of other business at the Government Printing Office, and the removal to new building, have delayed the publication of this Decade.

PLATE 160.

ASTACOPSIS SERRATUS (SHAW SP.), VAR. YARRAENSIS (MCCOY).

THE YARRA SPINY CRAY-FISH.

[Genus ASTACOPSIS (HUX.). (Sub-kingdom Articulata. Class Crustacea. Order Decapoda. Section Macrura. Tribe Astacidea. Family Astacidæ. Sub-family Parastacinæ.)

Gen. Char.—Epistome long, flat. Antennæ with base fixed by edge of carapace; scale small; thoracic sterna narrow from the approximation of the large basal joints of the legs; twenty-one gills and one rudiment. Podobranchiæ six, destitute of upper posterior lamellæ and without dilatation of stem, and on first jaw-foot an epipodite with rudimentary branchial filaments; no podobranchiæ on last pair of thoracic legs; six anterior arthrobranchiæ on arthrodial membrane of second jaw-foot to penultimate leg; five posterior arthrobranchiæ on arthrodial membrane from third jaw-foot to penultimate pair of legs; four pleurobranchiæ on epimera of four last thoracic joints. Australia.]

Six months after I published in the Second Decade the illustration of the Murray Cray-fish (*A. serratus*), and about a month after I published in the Third Decade the account of the Yabber Cray-fish (*A. bicarinatus*), there was published the number of the Proceedings of the Zoological Society of London containing Professor Huxley's remarkable paper on the classification and distribution of the Cray-fish, and I gladly recognise the internal anatomical peculiarity of the Australian Cray-fishes which he has pointed out, characterising his family *Parastacidæ*, peculiar to the Southern Hemisphere, and differing from those of the other half of the world in the podobranchiæ having no lamina, and in the first joint of the abdomen being destitute of appendages in both sexes. In these the anterior edge of the carapace overlaps and fixes the basal joint of the antennæ, and the posterior thoracic sterna are very narrow; the coxopodites of the posterior thoracic legs are large and approximate in the midline, and the rostrum and antennary scale short, and the telson, or last joint of the abdomen, is never divided by a transverse joint; the podobranchiæ of the first jaw-foot or maxillipede is like an epipodite, but has some branchial filaments not present in the *Potamobiidæ*. The branchial filaments of the podobranchia and the coxopoditic setæ have hooked tips generally, not found in the northern family.

The two Cray-fish, *A. serratus* and *A. bicarinatus*, which I have figured in this work, differ from the Madagascar genus, *Astacoides*, to which I, with all the best continental writers, had referred them, in the larger number of the gills (*Astacopsis* having twenty-one and a rudiment, *Astacoides* only twelve fully developed). Placing *A. serratus* in the genus *Astacopsis*, which Professor Huxley has proposed, and which is entirely peculiar to Australia, the *A. bicarinatus* may be referred to a section of *Astacopsis* forming the sub-genus *Chœraps* of Erickson (if he be assumed to be wrong in saying the fifth legs have no gills), as, in our specimens, the gills in number, structure, and position are, as Huxley pointed out, like *Astacopsis*, but the podobranchiæ differing in having the inner anterior edge of the stem widened into an ala, covered with branchial filaments.

The old family, *Astacidæ*, is divided from Professor Huxley's observation into two groups, one inhabiting the Northern Hemisphere, for which the name *Potamobiidæ* has been suggested, including the genera *Astacus* and *Cambarus*, in which the gills from the first joint, or coxæ, of the five thoracic legs on each side have the upper part of the stem dilated posteriorly into a broad double, plaited lamina, and that of the adjacent jaw-foot is reduced to an epipodite without branchial filaments, none of the branchial filaments or setæ ending in hooks ; the first abdominal segment always with appendages in the male, or in both sexes ; those of the four following joints small ; the telson, or middle piece of the tail-fin, divided transversely by a more or less perfect joint.

The second group, named *Parastacidæ*, confined to the Southern Hemisphere, containing the genera *Astacoides*, *Astacopsis*, *Chœraps*, *Engæus*, and *Parastacus*, is distinguished by the absence of the upper posterior laminæ to the podobranchiæ : having branchial filaments on the epipodite of the hind jaw-foot. The filaments of the podobranchiæ mostly end in hooked spines, as well as the setæ at their base and stems ; the telson is not divided by a transverse suture ; the first abdominal segment has no appendages in either sex, and those of the four following segments are large.

Our plate 160 illustrates a remarkable variety of the typical *A. serratus* of the Murray, common in the Yarra and its numerous affluents flowing southwards into the sea of the south coast of the colony; and as very few of the inhabitants of these river systems are identical (most of the species and many of the genera being dissimilar), this form is worthy of special note. It is usually less than half the size of the Murray individuals, being usually only five inches and rarely six inches long; it further differs in the whole thorax and abdomen above being of an intense Prussian-blue color, the spines, chelæ, and under surface ivory-white, with the membrane of the joints red. All the proportions and the number and disposition of the spines seem to me to agree so closely with the large pale Murray form, that, although so unlike at first glance, I have no doubt the southern race is merely a variety, which, for convenience of reference, may be distinguished by the name of the river in which it is chiefly found, from its mouth at Melbourne to its highest branches. The colors of those from the Watts River are particularly intense.

EXPLANATION OF FIGURES.

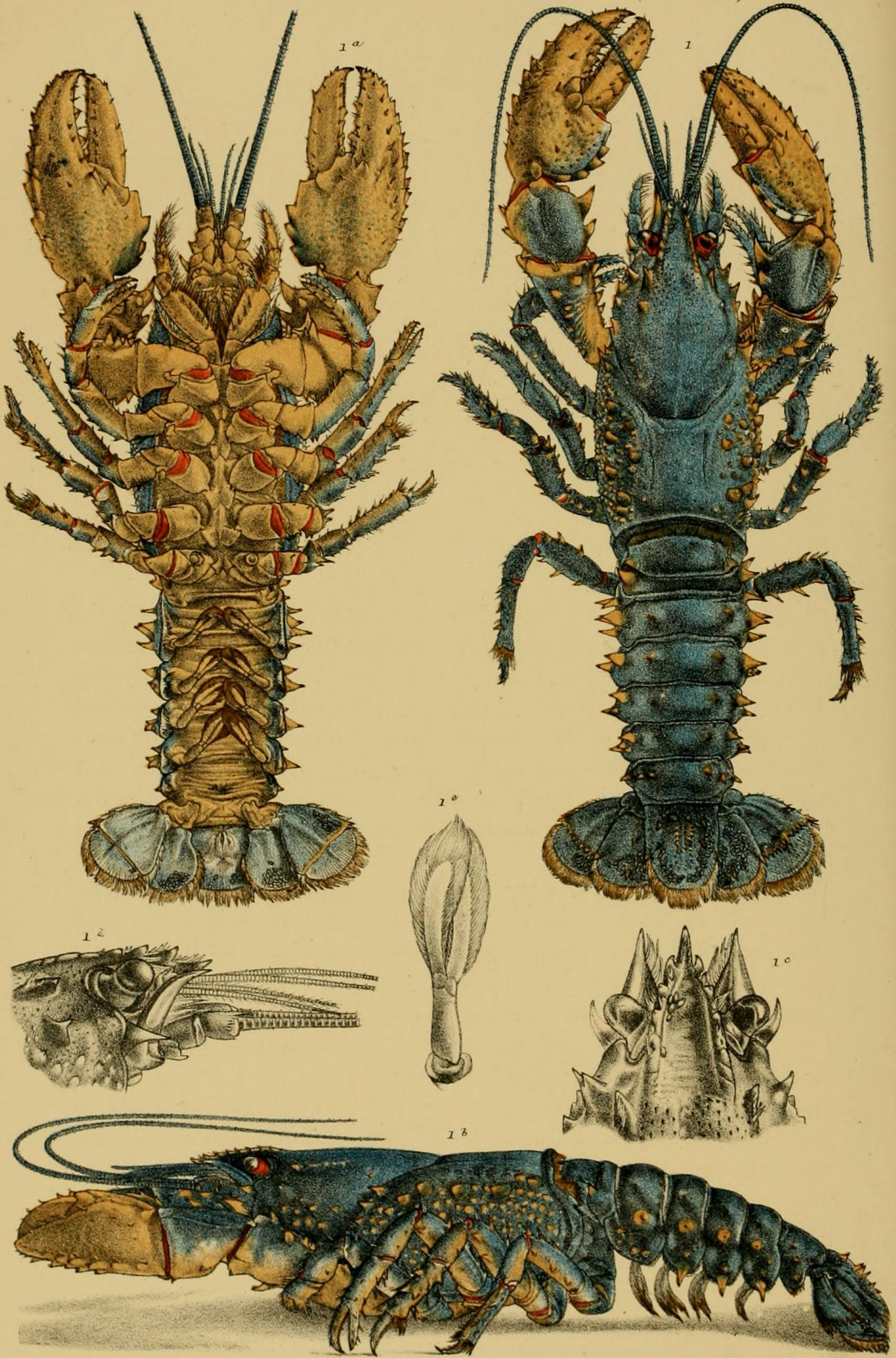
PLATE 160.—Fig. 1, male specimen, viewed from above, natural size. Fig 1*a*, same, viewed from below, showing the male openings in the base of the hind pair of legs, and the absence of appendages to the first abdominal segment. Fig. 1*b*, side view of same. Fig. 1*c*, top of head, magnified two diameters, to show details of rostrum. Fig. 1*d*, side view of portion of head, magnified two diameters, to show proportional dimensions of rostrum, antennary scale, and basal joints of antennæ. Fig. 1*e*, one of the abdominal appendages, magnified three diameters.

NOTE.—The color of the under surface, and chelæ and spines of upper surface, are rather too dark, and should be of an ivory-white with a slighter brown tinge.

FREDERICK McCOY.

ZOOLOGY OF VICTORIA

(Crustacea)



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