accompany any other gulls; Mr. Williams indeed did not take it for a gull at all.

The date of its capture was not noted ; it came into Mr. Thompson's hands November 1st, 1884, and had been then some days dead. It was therefore probably shot at the beginming of the last week in October. The sex was not ascertained.

Mr. Henry Seebohm exhibited a fully adult male of Ross's Gull (Larus rossi) which had been shot on the 15 th of June, 1885, in the neighbourhood of Christianshaab on the south shore of Disco Bay in Greenland, about latitude $69^{\circ}$. It was shot at the nest, and both bird and egg were sent by Mr. Paul Müller to Copenhagen. The egg is of exactly the same character as that of Sabine's Gull (Larus sabinii), but is rather larger, measuring 1.9 by 1.3 inch. Mr. Seebohm exhibited a coloured photograph of the egg, which has never been obtained before. The bird is so rare that the British Museum does not possess an example, though there is one in Edinburgh and one in Liverpool, from Melville Peninsula, and one in Cambridge, besides three in Copenhagen, the last four from Disco Bay. In the fully adult breeding bird the delicate salmon-colour of the head, rump, and under-parts, contrasting with the black ring round the neck, make it an exceptionally beautiful object. The bill is black, the legs and feet coral-red with black nails, and the orbits deep orange or pale vermilion.
A. communication was read from Prof. R. Collett, C.M.Z.S., containing an account of the external characters of the Northern Finwhale (Balanoptera borealis). This memoir had been based upon the examination of numerous specimens of this Whale killed on the coast of Norway during the past summer.

This paper will be published, with illustrations, in the Society's 'Transactions.'

## The following papers were read:-

1. Notes on Freshwater Entomostraca from South Australia. By George Stewardson Brady, M.D., F.R.S., F.L.S., Professor of Natural History in the Durham College of Science, Newcastle-upon-Tyne.
[Received January 5, 1886.]
(Plates VIII.-X.)
The Entomostraca here described were collected by Professor Ralph Tate, of the University of Adelaide, South Australia, and by Mr. T. Steel. Prof. Tate's specimens were sent by him to Prof. T. Rupert Jones, F.R.S., to whose kindness I am indebted for the


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NEW AUSTRALIAN ENTOMOSTRACA.


opportunity of describing them. Those collected by Mr. Steel were submitted to me by Messrs. James Steel, of Glasgow, and Thomas Scott, of Greenock, to whom, as well as to Prof. Rupert Jones, my best thanks are due. I have had no opportunity of comparing these specimens with authenticated types of the species to which they are in some cases referred, but have had to depend entirely upon the published descriptions. The general likeness of these Australian Ostracoda to European freshwater forms is no more than might be expected; it is, indeed, rather remarkable that in no case do they come so near to any known European species as to be difficult of discrimination.

As the literature of the subject is not easily accessible, I give here a list of all the Australian freshwater Entomostraca which have been described up to the present time:-

## Phyllopoda.

Lepidurus viridis, Baird, P.Z. S. 1850. Van Diemen's Land.
Lepidurus angasii, Baird, P.Z.S. 1866. Adelaide, South Australia.
Lepiduriss viridulus, Tate, Proc. Roy. Soc. Austr. 1878-9. Adelaide, South Australia.
Limnadia stanleyana, King, Papers \& Proc. Roy. Soc. Van Diemen's Land, vol. iii. pt. i. 1855. New South Wales.
Limnadia sordida, King, ibidem. New South Wales.
Linnetis macleayana, King, ibidem. New South Wales. Artemia proxima, King, ibidem. New South Walcs.
Estheria birchii, Baird, P. Z. S. 1860. Wanoi River, Australia.
It may be well to note that two New-Zealand Phyllopoda (Lepidurus kirlei and $L$. compressus) have been described by Prof. Thomson in the Transactions of the New Zealand Institute, vol. xi. p. 260, pl. ii. fig. E, 4, 5 .

The following Cladocera, found living in New South Wales, are described and figured by the Rev. R. L. King in the 'Papers and Proceedings of the Royal Society of Van Diemen's Land,' vol. ii. pt. 2, 1853, and vol. iii. pt. 1, 1855 :-

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Daphnia carinata, King.
—— elizabethæ, King.
— honorati, King.
- mucronata, Mïller.
Macrothrix spinosa, King.
Moina lemnæ, King.
- maclenyii, King.
Eurycercus spinosa, King.
—— cookii, King.
-_cunninghami, King.
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Chydorus leonardi, King. - angustus, King. Alona bairdii, King. A- pulchella, King.

- diaphana, King.
—— diaphana, Kina, King.
- marua, King.
Dunheredia crassa, King.

Dunhevedia pra, King.

Also by the same writer the following Copepoda, from South Australia, are mentioned or briefly described, izid. vol. iii. pt. J, 1855:-

Oyclops australis, King.
Diaptomus pollux, King.
——uxorius, King.
——maria, King.
_ cookii, King.

And, in the same work, vol. iii. pt. 1, 1855, the following SouthAustralian Ostracoda are described and figured :-

Oypris canclonoicles, King.

- varrovillin, Kiag.

Omdona stmeyeyma, King.

- 1uten, King.

Newnhminia (Nolodromas) fenestrata, King.
——guliolmi (?), King.

The species now described and figured are the following :-

Jimnetis tatei, not.
Eulimuadia rivolensis, nov.
Lepidurus viridulus, Tate.
Estheria lutearia, nor.

- packardi, nov.

Oypris viridula, noy.

- stanleyana, King.
—— tatei, nov.

Oypris mytiloides, nov.
Ohlamydotheon anstralis, nov.
Oyprictopsis minna, Kiny. - funebris, nor.

Notodiomas fuecaltus, nov. Candona lutea, King. - tenuis, nop.

## Order PHYLLOPODA.

Family Limnadiad a, Baird.
Subfamily Limnetinae, Packard.
Genus Limnertis, Lovén.
Limnetis tatei, n.sp. (Fig. A.)
Shell smooth, subspherical. Seen from the side it is broad and
Fig. A.


Limnetis tatei.
subtruncate in froot, narrower and rounded behind; the dorsal margin is but slightly arched; ventral convex, with a considerable protuberance toward the front; seen dorsally, the outline is broadly
oval, the width equal to more than half the length, broadly rounded behind, subacuminate in front. The shell is granular in structure, without any concentric ridges. Length $\frac{1}{5}$ of an inch, height $\frac{1}{6}$, width $\frac{1}{8}$.

Hab. Freshwater pools, Rivoli Bay, South Australia (Prof. R. Tate).

## Subfamily Estheriana, Packard.

Genus Estheria, Riippell.

## 1. Estheria lutraria, n. sp. (Fig. B.)

Valves oblong, compressed, membranous; beak near the anterior extremity, lines of growth about twelve; seen laterally, the dorsal line is quite straight, ventral convex, anterior extremity broadly rounded, posterior narrowed and somewhat oblique; seen from above it is much compressed behind the middle, and sharply pointed at the extremity; broadly rounded in front. Colour yellowish brown. Length ${ }^{\frac{7}{6}}$ of an inch; height $\frac{4}{16}$.

Hab. Cooper Creek, at Innaminka, Central Australia (Praf. R. Tate).

Fig. B.


Estheria lutraria.
Prof. Tate's specimens include only a single example of this species -a dried empty shell ; apparently somewhat shrunk and distorted. The specific name refers to the Molluscan genus Lutraria, which it rather closely resembles.
2. Estheria fackardi, in. sp. (Fig. C.)

Valves, seen laterally, subelliptical, beak prominent and situated near the anterior extremity, extremities rounded, the anterior much the wider of the two, dorsal margin straight in the middle, ventral convex ; lines of growth 12-15, not sharply marked. Shell rather

Fig. C.


Dstharia pacRarde.

Fig. D.

hard and dense, dark brown (one of the specimens has a broad white marginal band). Length $\frac{5}{18}$ of an inch; height $\frac{3}{10}$.

Hab. Lake Bonney, River Murray, South Australia; also Fowler Bay, Great Australian Bight (Prof. R. Tate).

> Genus Eulimnadia, Packard.
> (Limnadia, Brongniart, in part.)

Euliminadia rivolensis, n. sp. (Fig. D.)
Shell membranous, without any lines of growth; seen from the side, subovate, highest toward the front; anterior extremity broadly rounded, posterior narrow, very slightly rounded; dorsal margin well arched, almost gibbous, ventral slightly convex ; the dorsal aspect is compressed, ovate, more than thrice as long as broad, tapered and acuminate behind, somewhat more obtuse in front. Length $\frac{38}{100}$ of an inch; height $\frac{20}{10}$, width $\frac{10}{100}$.

Very similar to Limnadia antillarum, Baird, but much larger ; differs also in having the eye near the middle of the anterior margin instead of near the dorsal angle, in being without any distinct lines of growth, and in having an evenly rounded (not angulated) anterior margin. This species was found by Prof. R. Tate in company with Limnetis tatei.

Inside the valves of a specimen of this Eulimnadia I found on dissection a large colony of a protozoon, possibly Arcella dentata, Ehrenberg, at any rate very closely resembling that species, as figured by Professor Leidy.

Family Apodides, Burmeister. Genus Lepidurus, Leach.
'Lepidurus viridulus. (Fig. E, p. 88.)
Lepidurus viridulus, Tate, Trans. \& Proc. Philosoph. Soc. Adelaide (1879), p. 136.
"Animal, including flap of tail-segment, about an inch long, carapace rounded, elongate-oval, of a brownish-green colour, covering the whole abdomen excepting flap of tail-segment; keeled toward the extremity, ending in an acute point, lunately notched posteriorly, and sharply and conspicuously hooked on its margin. Front and lateral margins of the carapace smooth and thickened. The rings of the abdominal segments, dark brown, are beset with stout spines equidistantly placed all round and directed backwards. The flap of the tailsegment has a blunt keel along its whole length, with blunt prominences, and its edges are ciliately serrated. The filaments of the tail are about half the length of the body, and are clothed with fine cilia.
"Hab. Collected by Thomas Tate, October 1878, in the floodwaters of the 'Reedbeds,' near Adelaide.
"Two Australian species of the genus have been described. $L$. $v i-$ ridis, so called from its colour, inhabits Tasmania, and was diagnosed
by Dr. Baird (Proc. Zool. Soc. 1850, p. 254); and L. angasi of the same author, 1866, which is of a pale horny colour, and is common in the rain-pools about Adelaide. L. viridis is characterized by its fine green colour, by its oval carapace covering less of the body than in T. angasi, and the edges of the lower half of its length being serrated; L. angasi is distinguished by its horny colour, its rounded carapace

Fig. E.
$\circ$


Lepidurus viridulus.
covering nearly two thirds of the body, and by the smooth edges of the sides of the carapace:
" L. vividulus differs from $L$. angasi in colour, in the carapace covering more of the abdomen, its keel limited to the hinder part and in the narrower and more spathulate tail-flap."-Trans. \& Proc. \& Report of the Philosophical Society of Adelaide, South Australia, for $1878-9$, p. 136 (published 1879), afterwards called the Royal Society of South Australia.

## Order OSTRACODA.

Family Cyprydida.
Genus Cypris, Müller.

1. Cypris viridula, n. sp. (Plate VIII. figs. 1, 2.)
"Carapace oblong, compressed, reniform, greatest height situated in the middle, and somewhat less than half the length; seen from the side the extremities are well rounded, the anterior somewhat the narrower of the two, dorsal margin almost fiat or very slightly arched, ventral sinuated in the middle; seen from above, compressed, ovate, twice as long as broad, widest in the middle, gradually tapered towards the anterior extremity, which is subacuminate, posterior extremity narrowed and rounded; surface smooth and polished, the
anterior half marked with a fine reticulated sculpture, colour greenish, clouded with bands of a darker shade. Length $\frac{1}{20}$ of an inch.

Collected by Mr. Thomas Steel at Condong, on the 'Tweed River, near Sydney, New South Wales.
2. Cypris stanleyana (King). (Plate VIII. figs. 3, 4.)

Candona stanleyana, King, 1855, Pap. Proc. K. Soc. Van Diemen's Land, vol. iii. pt. 1, p. 66, pl. x. H.

This is very much like C. viridula, but the height is somewhat less, the dorsum is more decidedly arched, and the extremities are less obliquely rounded. The surface is marked everywhere with fine, very closely set, and deep longitudinal grooves. Colour light green, slightly clouded. Length $\frac{1}{20}$ of an inch.

Taken in the same gathering as the preceding species. Mr. King refers this to the genus Candona; but the lower antenna is provided with a brush of seta reaching about to the extremity of the terminal claws.
3. Cypris tatei, n. sp. (Plate VIII. figs. 5: 6.)

Shell, seen from the side, broadly reniform, greatest height in the middle, and equal to more than half the length; extremities rounded, dorsal margin boldly arched, sloping abruptly behind, more gradually towards the front, ventral deeply sinuated in the middle; seen from above, the outline is ovate, somewhat compressed in front, widest behind the middle, anterior extremity subacuminate; posterior wide and rounded; valves unequal, that of the right side the larger. Surface smooth, colour yellowish brown, with darker clonded markings. Length $\frac{1}{15}$ of an inch.

Taken by Prof. li. Tate in "brackish pools in a dry creek at Adelaide."

This species, though considerably more tumid, has very much the general character of C. prasina, Fischer (fretensis, Brady \& Robertson): and of $O$. incongruens, Ramdohr, especially as to the curiously compressed anterior extremity. It is remarkable, too, that all of these are inhabitants, almost exclusively, of brackish water. I have pleasure in naming the species after Prof. Ralph Tate, by whom it was found, and to whose kindness I am indebted for the opportunity of describing it.
4. Cypris mytiloides, n. sp. (Plate IX. figs. 1-3.)

Shell, seen laterally, elongated, siliquose, highest in front, produced behind into a very acute, tapering beak; height equal to less than one half the length; anterior extremity broad and boldly rounded, dorsal margin boldly arched, highest near the front, thence sloping at first with a gentle curve, but more abruptly towards the posterior extremity, in front of which it is deeply sinuated ; ventral margin almost straight, with a slight median sinuation; seen from above, compressed, oblong, widest near the middle, about thrice and a half as long as broad; extremities acute, the posterior the more
slender of the two. The right valve is the smaller of the two, and has the dorsal margin less arched. The inner aspect of the valves shows a large shelf-like flange fore and aft. The terminal claws of the second pair of antennæ are slender and finely pectinated on the inner margin. Postabdominal rami slender, with one long terminal claw, one short seta at the base of the claw, and one a little removed on the margin of the ramus. Margins of claws and ramus minutely pectinated. Shell thin, horny, of a smoky hue., ("Colour in life light-brown, with darker zebra-like markings." Prof. R. Tate.) Length $\frac{1}{5}$ of an inch.

Collected by Prof. R. Tate in fresh water, at Kangaroo Island, Australia.

Though quite abnormal in shape of shell, the soft parts of the animal agree in every important respect with those of the genus Cypris.

## Genus Chlamydoxheca, de Saussure ${ }^{1}$.

"Testa undique pilosa, antice posticeque rotundata, appendice anteriore cum margine valvulæ dorsali sensim coalescente, cum margine ventrali autem angulum manifestum efficiente; appendice posteriore minima. Altitudo maxima pone merlium et propius ventralem quam dorsalem marginem sita, exinde pars postica crassior quam antica. Margo ventralis vix sinuata, dorsalis valde armata, Impressio muscularis paulo ante medium sita."

The anatomical structure agrees exactly with Cypris. The author (de Saussure) refers to a paper by Sir John Lubbock, in which a similar species, Cypris brasiliensis, is described ${ }^{2}$.

The genus Cypridea, Bosquet ${ }^{3}$, if not identical with, is at least very nearly allied to, the forms now under discussion. No undoubted recent specimens of Cypridea have, however, as yet been seeu, and Prof. Rupert Jones, in a recent paper "On the Ostracoda of the Purbeck Formation,", says that the "hinder margin is definitely straight along the middle third or more of the corsal edge, with the hinge-angles more or less defined, and is oblique to the main axis of the valve, The left valve is the largest, and receives the dorsal edge and a straight ridge of the other valve in grooves on its dorsal and ventral contact-margins." These characters are not to be found in Chlamydotheca. Moreover, from the figures given by Prof. Rupert Jones, it seems that both valves of Cypridea are provided with the notch and hatchet-like anterior process, whereas in Chlamydotheca only the left valve is so formed.

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## Chlamydotheca australis, n. sp. (Plate IX. figs. 4-8.)

Shell, seen from the side, subovate, greatest height equal to rather more than half the length, and situated in the middle, anterior extremity rounded, produced at the inferior angle so as to form i ventral beak, posterior extremity narrower, rounded, dorsal margin boldly arched, ventral slightly sinuated in the middle, more deeply in front, behind the beak; seen from"above, the outline is ovate, twice as long as broad, anterior extremity forming a large, broad, obtusely-pointed, and twisted prominence, posterior slightly narrowed and produced, but rounded off. The valves are unequal, the left being the larger, overlapping on the ventral, and less distinctly on the dorsal margin. The outline of the right valve is more evenly rounded than that of the left, presenting no ventral beak nor sinuation, nor are the margins, either ventral or dorsal, so much incurved; the inner aspect of the valves shows shelving flanges both before and behind, and in that of the left side there is a curious twisted ridge separating the anterior beaked portion from the body of the shell. The substance of the shell is rather thick; surface closely marked with small circular impressions ; colour fuscous. Length $\frac{1}{13}$ of an inch. The specimens are all empty shells, so that the structure of the soft parts is as yet unknown.

Penola (Prof. R. Tate).

## Genus Cypridopsis, Brady.

1. Cypridopsts minna (King). (Plate X. figs. l-3.)

Oypris minna, King; 1855, Pap. Proc. R. Soc. Van Diemen's Land, vol. iii. pt. i. p. 64, pl. x. в.

Shell very tumid; width and height about equal, length about one fourth greater. Seen from the side, subcircular, highest in the middle, extremities broadly rounded, dorsal margin excessively arched, ventral nearly straight in the middle; seen from above very broadly ovate, obtusely pointed in front, the hinder part forming almost a complete circle; end view subcircular, obscurely pointed above, slightly keeled and emarginate below. Surface smooth, beset with small impressed circular puncta; colour olivaceous, clouded irregularly with darker patches. Anterior margins of the valves slightly erenulated. Length $\frac{1}{25}$ of an inch.

Hab. Condong River, Australia (Mr. T. Steel). "Pouds, everywhere " (Rev. R. L. Hing).
2. Cypridopsis funebris, n. sp. (Plate VIII. figs. 7-9.)

Shell, seen from the side, subtriangular ; greatest height a little in front of the middle and equal to nearly two thirds of the length; extremities rounded, the anterior wide, posterior narrower and not so well rounded, dorsal margin elevated and almost gibbous near the middle, thence sloping almost in a straight line bnckwards, and with a gentle curve towards the front, ventral almost straight; seen from above, ovate, widest in the middle, width equal to two thirds of the
length, anterior extremity obtuse, scarcely rounded, posterior rounded off and rather wider than the front. End view subcircular. Surface smooth, cream-coloured, with transverse black bands after the manner of C. vidua. Length $5_{50} \frac{1}{0}$ of an inch.

Hab. Condong, Tweed River, New South Wales (Mr. T. Steel).

## Genus Notodromas, Lilljeborg.

(Newnhamia, King, 1855, Pap. Proc. R. Soc. Van Diemen's Land, vol. iii. pt. 1, p. 67.)

## Notodromas fuscatus, n. sp. (Plate X. figs. 4-6.)

Sbell, seen laterally, subtriangular, height equal to three fourths of the length, extremities very broadly rounded, the anterior somewhat the narrower of the two, dorsal margin excessively arched, highest a little behind the middle; ventral nearly straight; seen from above, the outline is ovate, scarcely twice as long as broad, tapered and acuminate in front, rounded off behind. Surface of the valves somewhat rough and furfuraceous, colour brownish, with darker cloudings. The ventral aspect of the shell is ribbed almost exactly as in $N$. monachus; the "ocular" tubercle is large and distinct; by transmitted light the shell is seen to have a polygonal reticulated structure, and the reticulations are visible also by reflected light on the anterior portion of the valves.

Hab. At Condong, with the foregoing species.
This is very much less tumid and less angular in outline than Newnhamia fenestrata, King, and its lateral outline differs in the same way from Notodromas monachus, Müller.

## Genus Candona, Baird.

1. Candona lutea, King. (Plate X. figs. 7, 8; \& ? Plate VIII. figs. 10, 11.)

Candona lutea, King, 1855, Pap. Proc. R. Soc. Van Diemen's Land, vol. iii. pt. i. p. 67 pl. x. к.

Male. Shell, seen from the side, subreniform, depressed in front, greatest height near the posterior extremity and equal to half the length; antcrior extremity narrow and well rounded, posterior wide, obliquely rounded; dorsal margin forming a flattened arch, sloping with a gentle curve to the front, and abruptly backwards, ventral sinuated in the middle; seen from above, compressed, ovate, about thrice as long as broad, gently tapered towards the front, which is subacuminate, rounded off behind. Shell smooth and polished, pellucid, white or straw-coloured. Length $\frac{1}{2.4}$ of an inch.

Hab. Condong, with the foregoing species.
The shell figured in Plate VIII. figs. 10, 11, occurred in the same gathering, and possibly may be the young of C. lutea.
2. Candona tenuis, n. sp. (Plate X. figs. 9, 10.)

Shell elongated, compressed, reniform ; seen from the side it is at least twice as long as broad, the greatest height being a little behind the middle, extremities rounded, dorsal margin boldly arched, ventral
deeply sinuated in the middle; the dorsal view is elongated, ovate, quite thrice as long ns broad, widest in the middle; extremities narrowed, the anterior subacuminate, posterior rounded off; left valve rather larger than the right. Shell smooth, pellucid, creamcoloured, with opaque clondings. Length $\frac{1}{\sharp 2}$ of an inch.

Taken in company with the preceding species.

## EXPLANATION OF THE PLATES. <br> Pata VIII.

Fig. 1. Cypris viridula (p. 88), seen from left side.
$\left.\begin{array}{l}\text { 1. Cypris viridula (p. 88), seen from left side. } \\ \text { ". } \quad " \text { seen from above. } \\ \text { 3. stanleyana (p. S9), seen from left side. } \\ \text { 4. } \\ 4 . \\ \text { seen from above. }\end{array}\right\} \times 40$.

7. Cypridopsis funebris (p. 91), seen from left side.
$8 . \quad " \quad n \quad$ seen from above. $\quad \times 40$.
$\left.\begin{array}{l}\text { 9. Candöna lutea, jun. ? (p. } 92 \text { ), seen from left side. } \\ \text { 11. } \quad, \quad, \quad \text { seen from above. }\end{array}\right\} \times 80$.
Plate TX.
Fig. 1. Cypris mytiloides (p. 89), seen from left side. $\} \times 6$. $3 . \quad, \quad$ postabdominal ramus. $\times 40$.
4. Chlamydothcea australis (p. 91), seen from left side.
5. $\quad$ " $\quad$ " seen from below.
$\left.\begin{array}{lll}6 . & " & " \\ 7 . & \text { " } & \text { seen from front. } \\ 8 . & " & \text { ", } \\ \text { left valve seen from inside. } \\ \text { right valve seen from inside. }\end{array}\right\} \times 28$.

Plate X.
Fig. 1. Cypridopsis minna (p. 91), seen from right side.

2. Contribution to a Knowledge of the South-Italian Chiroptera. By Fr. S. Monticelli, D.Sc. (Communicated by Dr. H. Woodward, F.R.S., F.G.S.)
[Received January 5, 1886.]
Bonaparte ${ }^{1}$ was the first naturalist who wrote upon Italian Chiroptera; but his researches are too general, and there are no indications of southern localities contained in his work.

Later on, Prof. C. G. Costa gave in 1839 a catalogue of

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[^0]:    1 "Mémoire sur divers Crustacés nouveaux des Antilles et du Mexique," par M. Heuri de Saussure. (Mémoires de la Société de Physique et d'Histoire Naturelle de Genève, 1856.)
    2 "On the freshwater Entomostraca of South Americn." (Trans. Entom. Soc. Lond. new sexies, vol. iii. part vi. 1855.)

    3 "Tntom. fossil. des Torrains tertiaires de la. France et de la Belgique." (Mém couronnés Acad. Royal de Belgique, vol. xxiv. 1852.)
    4 "Ostracada of the Purbeck Formation, with notes on the Wealden species." (Quarterly Journal of the Geological Society, August 1885.)

[^1]:    1 'Iconografia della Fauna Ttalica': Roma, 1832-41.
    2 'Elenco dei Mammiferi e Supplemento.' (Fauna del Regno di Napoli.)

