

SOLANDER AS A CONCHOLOGIST.

By TOM IREDALE.

Read 12th May, 1916.

To most conchologists of the present generation the name of Solander does not convey much. For instance, in the *Hist. Coll. Nat. Hist. Brit. Mus.*, vol. ii, 1906, p. 702, E. A. Smith wrote: "It is probable that Dr. D. C. Solander, who was appointed an assistant in the Museum in 1765, may at some time have had charge of the collection, as it is known from his MSS. in the Banksian Library that he had a knowledge of conchology." In the *Ibis*, 1913, pp. 127-35, under the title "Solander as an Ornithologist", I gave a short account of the career of Solander, who must have been far ahead of any other worker of his time in his grasp of systematic ornithology, and I believe also in conchology, but this cannot be so readily established.

Daniel Carl Solander was born in Norrland, Sweden, on 28th February, 1736, and studied at Upsala, where he was a personal pupil of Linné, and where he took the degree of M.D. Upon Linné's advice he came to England in 1760, and recommended to the British Museum, through Ellis, the famous English botanist, he was engaged to classify and catalogue, but was not placed on the permanent staff. Linné, in 1762, therefore procured for him the offer of the Chair of Botany at St. Petersburg, but on the advice of his English friends Solander refused this offer, and in 1763 was appointed assistant in the British Museum, becoming Under Librarian (as the Assistant Keepers were then termed) in 1765, under Maty. In 1764 he was elected a Fellow of the Royal Society. In 1767 Joseph Banks met and persuaded Solander to accompany him on a voyage to observe the transit of Venus in the South Pacific. Captain Cook was to take the expedition, which, as a bye-issue, was to seek the theoretical Antarctic Continent. This voyage lasted from 1768 to 1771, and though primarily Banks and Solander were botanists, zoology was well looked after and a multitude of new shells was procured. Before Solander left England he had been promised that his official post would remain open, and after his return, when Maty was appointed Principal Librarian, Solander was promoted to the Keepership of the Natural History Department, whilst in his non-official time he acted as secretary and librarian to Banks.

The joy of travel had, however, upset both Banks and Solander, and preparations were soon being made, to the detriment of the first collection, by them to accompany Cook on his second voyage. This project fell through, but Banks and Solander consoled themselves with a trip to Iceland instead.

Solander was probably working slowly at the collections he had brought back when he was suddenly cut off on the 16th May, 1782, at the early age of 46.

As an all-round naturalist he was a worthy pupil of Linné, and his knowledge of every branch of natural science must have been profound. His ornithological work showed accuracy and detail far ahead of Linné, and it is definitely stated that while preparing this work he still considered himself primarily a botanist.

In the British Museum (Natural History) is kept a cabinet containing Solander's manuscripts, received with Sir Joseph Banks' collections, and from a glance over these it may be suggested that he hoped to publish a Survey of Natural History, comparable to that of Linné's *Systema Naturæ*, but on an even more extensive and accurate scale than Gmelin's edition as well as more replete with personal knowledge. A very large quantity of manuscript deals with molluscs, which appear to have been a favourite study of his since Solander collected them on his voyages.

Donovan in the *Naturalist's Repository*, vol. i, pl. viii, 1st June, 1822, observed: "It may not be very generally known, excepting only among naturalists, that the late Dr. Solander had devoted much attention to this intricate science; his arrangement of shells was designed as an amendment upon that of Linnæus. This arrangement was never made public, it remained in manuscript in the library of the late Sir Joseph Banks." Donovan proceeds to comment on what may be learnt from a perusal of these MSS., thus showing that they were available to workers, whilst in another place he upbraids Dillwyn for not making better use of them when quoting from them. Again, Pulteney continually quotes them and gives notes upon them.

I have been unable to trace any worker since the time of Donovan who has consulted them, and the reputation of Solander as a conchologist stands upon the published account of British fossils in Brander's *Fossilia Hantoniensia*. This book, small as it is, I am told by my friend Mr. Bullen Newton, is a standard work quite remarkable for its accuracy as the initial attempt to deal with British fossils.

A source of publication which has been neglected forms the basis of the present note. A reference by Dr. Dall to the Portland Museum Catalogue compelled me to refer to this publication. I carefully studied it and was unable to see any cause for the non-acceptance of the names I noted in it. I found there were less than a hundred validly proposed names, and this seemed a small number to cause an exception to our commonly accepted nomenclatural laws. I at once looked up that all-in-all to the systematist, the *Index Animalium*, by C. Davies Sherborn, and on p. xlv of the Bibliography I read "Portland. Catal. of the Portland Museum. 4to. Lond. 1786. [Many *nomina nuda* of Testacea by Solander, which it seems inadvisable to introduce into literature]", and I therefore consulted Mr. Sherborn, who pointed out to me on p. 458 the entry "'hians Argonauta, Solander' [*Portland Catalogue*]. This seems to have been a MS. name and *nomen nudum* until 1817, when Dillwyn described it in his *Descr. Catal. Recent Shells*, vol. i, 1817, p. 334".

Much as I would have delighted to acquiesce in this disposition the facts seemed to negative such a proceeding, and therefore I put these before the late Mr. Edgar A. Smith, I.S.O., of the British Museum. Mr. Smith at once turned up a note made by himself some thirty years ago wherein he had investigated the matter and had rejected the book as "anonymous and with no descriptions". Under the present laws anonymity is no bar to acceptance, and the fact that, though there are no descriptions, a definite reference to the figure of the shell is given cannot be disputed. Mr. Smith then concluded that under the present laws the names accompanied by the citation of a published figure are perfectly valid and must be recognized, and Mr. Sherborn has agreed. I have therefore considered it advisable, since it is a rare book, to give details of the contents so far as regards conchological science. The title-page of the *Portland Catalogue* reads: "A | Catalogue | of the | Portland Museum, | lately the property of | The Duchess Dowager of Portland, | Deceased: | which will be Sold by Auction, | by | Mr. Skinner and Co. | On Monday the 24th of April, 1786, | and the | Thirty-seven following Days | At Twelve O'Clock, | Sundays, and the 5th of June, (the Day his Majesty's Birth-Day | is kept) excepted; | At her late Dwelling-House, | In Privy-Garden, Whitehall; | By Order of the Acting Executrix. | To be viewed Ten Days preceding the Sale. | Catalogues may now be had on the Premises, and of Mr. Skinner | and Co., Aldersgate-Street, Price Five Shillings, which will admit | the Bearer during the Time of Exhibition and Sale." The Preface begins: "It may be proper to inform the Purchasers of the Catalogue, and the Public in general, That there is no one Article contained in it but was a Part of the Genuine *Collection* of the late Noble Possessor, *Margaret Cavendish*, Duchess Dowager of Portland . . . in *Natural History* every Subject is inserted she had with so much Pains and Treasure accumulated. And here it will appear, that all the Three Kingdoms of Nature, the *Animal*, *Vegetable*, and *Fossil*, were comprehended in her Researches. In all of these she took infinite Pleasure and Delight; but in none of them is her Cabinet more richly stored than in that durable and beautiful Part of the *First*, named *Conchology*. In this Branch of Nature's Works, no Collection in *Europe* can equal that of her Grace's in Number and Variety. To give some Idea of its great Extent, it may be remarked, that the celebrated *Linnaeus*, who had studied the Subject, and methodized the Materials of it, has not described One Fourth Part of the Objects contained in the Museum now offered to the Public. It was indeed in the Intention of the enlightened Possessor to have had *every unknown* Species described and published to the World; but it pleased God to cut short the Design. not only by the Death of the ingenious Naturalist employed by her for that Purpose * (**Dr. Solander*); but, in a short Time afterwards, to the great and irreparable Loss of Science, by her *own* also . . . It is hoped, however, that the *Man of Science* will not be altogether disappointed in the present Arrangement of the Catalogue; for as much Pains and Care have been taken to affix the proper classical, or generally received Names,

to as many Articles as the *Time* and *Abilities* of the Compiler would allow; it will be no great Trouble for him to cast his Eye over each Day's Sale, as it occurs, and he will hardly fail to meet in one or more of them, with the Subjects he desires. In Order therefore to his more ready Understanding the various Articles recorded in the following Catalogue, it remains only to subjoin an Explanation of the References and Abbreviations made Use of in it."

Then follows a bibliography with the abbreviations used, which stamps the Catalogue as available as a reference work.

In the British Museum (Natural History) a specimen of this Catalogue is kept which is priced throughout. I have observed that Dall refers to the Portland Catalogue as available to him, and have noted that Mr. E. R. Sykes exhibited a copy before this Society. Mr. Alex. Reynell showed me a copy in his library, and later obtained the copy, which I have before me, which he generously presented to me.

As examples of the manner in which the references in this work are given may be cited:—

"Page 1. Lot 8. A fine pair of *Voluta Vespertilio*, L., or Wild Music.

„ 1. „ 10. A pair of *Buccinum Barbiton*, S., or Smooth-ridged Harp.

„ 18. „ 400. A large and fine *Helix plicata*, *undescribed*, Favanne, pl. 61, D. 10.—rare."

The first is a Linnean name; the second is a *nomen nudum*; while the third is a new name founded on Favanne's pl. lxi, D. 10, and under the present nomenclatural laws is certainly an acceptable name. I only deal with those of the last class.

I might note that it is probably from this published source and the acquisition of named specimens at the sale that so many of Solander's names crept into literature. Dillwyn constantly synonymizes the *nomina nuda* observed in this Catalogue, and this could only be done through named specimens. With access to the Solander Manuscript in the British Museum I note that against the description of many species appears the letters "M.P." and "M.C.P.", which I correlate with this collection.

Contrary to my general usage I cite the names from this Catalogue as of Solander, though it is obvious from the above extract that really "the Compiler" is responsible. I think that as Solander drew up the descriptions and named the specimens in the Portland Museum and "the Compiler" simply saw that there was no discrepancy the credit must belong to Solander. Who "the Compiler" was is not accurately known, but Dillwyn has recorded "Humphreys" as the compiler.

A word of warning must be here inserted. *Nomina nuda* which at first sight appear valid commonly occur as "p. 44, Lot 1043. Two fine specimens of *Buccinum ligatum* S. a curious and new species, from New South Wales, very rare, Martyn, vol. ii, fig. ". No reference is given, since Martyn's second volume had not been published at this date. *

* No such species in either volume of Martyn.

In this connexion may be noted that the Catalogue was published between the 8th and the 24th of April, 1786, and we do not know the exact date of publication of Martyn's vol. ii, save 1786. This suggests that if the Portland Catalogue's valid names clashed with Martyn's the former should have priority. I know of one case, *Patella umbraculum*, and I will use this name in preference to Martyn's (*Lepas*) *umbella*, until such time as an exact date is known for the latter, when the matter may be reconsidered.

The valid names are as follows:—

<i>Arca fusca</i> , S., p. 42,	based on Gualt., 87 G.
<i>labiata</i> , S., p. 185	D'Avila, vol. i, pl. 18.
<i>nodulosa</i> , S., p. 98	Gualt., 87 E.
<i>Argonauta hians</i> , S., p. 44	Rum., 18 B.
<i>navicula</i> , p. 44	Rum., 18, 4.
<i>nodosa</i> , S., p. 96	Rum., 18, 1.
<i>Buccinum calcaratum</i> , S., p. 133	Gualt., 31 F.
<i>iris</i> , S., p. 14	Martyn, vol. i, fig. 2 <i>b</i> .
<i>monodon</i> , S., p. 17	Martyn, vol. i, fig. 10 <i>e</i> .
<i>muricatum</i> , p. 104	Favanne, 33, x. 3.
<i>pustulosum</i> , S., p. 88	Rum., 49 B.
<i>taurinum</i> , S., p. 142	Lister, 841, 69.
<i>testudo</i> , S., p. 98	Seba, iii, 70, figs. 2, 3, and 4 of the <i>Bucc. harpa</i> , L.
<i>Bulla vesicaria</i> , S., p. 136	Seba, iii, tab. xxxviii, figs. 46, 48.
<i>zonata</i> , S., p. 164	Born, Mus. cæs., tab. ix, fig. 1.
<i>Cardium hystrix</i> , S., p. 116	Gualt., 72 B.
<i>impressum</i> , S., p. 155	Born, mus., tab. ii, figs. 15, 16.
<i>protrusum</i> , S., p. 178	Lister, 319, 156.
<i>robustum</i> , S., p. 58	Lister, 328, 165.
<i>spinosum</i> , S., p. 105	Favanne, 52, A 2.
<i>Chama lazarus</i> , var. <i>pannosus</i> , S., p. 96	Rum., 48, 3.
<i>Conus araneosus</i> , S., p. 76	¹ Martyn, vol. ii, 676.
<i>architalassus</i> , S., p. 189	Argenv. Suppl., tab. i, fig. M.N., 18.
<i>augur</i> , S., p. 44	Knorr, vi, tab. xiii, fig. 6.
<i>fuscatus</i> , S., p. 160	Martyn, vol. ii, fig. 693.
<i>leoninus</i> , p. 72	Knorr, iii, 12, 5.
<i>mappa</i> , S., p. 116	Knorr, i, tab. viii, 4.
<i>nocturnus</i> , S., p. 156	Martyn, vol. ii, 687, 688.
<i>pulcher</i> , p. 179	Lister, 772.
<i>quercinus</i> , S., p. 67	Martyn, vol. ii, 657.
<i>undulatus</i> , S., p. 180	Gualt., 25 I.
<i>Cypræa pantherina</i> , S., p. 50	Lister, 681, 28.
<i>pustulata</i> , p. 106	Lister, 710, 62.
<i>Helix alba</i> , p. 186	Lister, tab. xxxiii, xxxii, and xlvi, Favanne, 63 E.
<i>erubescens</i> , p. 187	Lister, 24, 22.

¹ It will be noted that *Martini* is commonly written *Martyn*.

- Helix insignita*, p. 176, based on Lister, 67, 68.
otis, p. 38 Favanne, tab. lxiii, fig. 11.
ovipara, p. 87 Lister, 23, 21.
picta, p. 182 Rum., 22, 1.
undata, p. 177 Lister, 76, Favanne, tab. lxiii, fig. G3.
vitellus, p. 26 Rum., 22, 1.
Isognoma lignea, S., p. 9 New name for *Ostrea isognomon*, L.
rigida, S., p. 115 Lister, 227, 62.
Lepas cornucopiæ, S., p. 101 D'Argenville, 26 D.
Murex elongatus, p. 65 Favanne, pl. lxxix H.
fimbriatus, p. 106 Martyn, vol. i, fig. 6c.
plicatus, p. 104 Favanne, tab. lxxix, I.
tribulus, var. *pecten*, p. 188 Rum., 26, 3.
Mya complanata, p. 100 Lister, 150, 5.
gigas, S., p. 27 Lister, conch. 414 ; 414, 258.
ovalis, p. 134 Lister, 146, 1.
Mytilus castaneus, S., p. 69 Lister, 1055, 9.
lingua, S., p. 77 New name for *Patella unguis*, L. =
Humph. Conch., pl. ii, fig. 2.
pictus, p. 158 Knorr, iv, tab. xv, fig. 5.
Nautilus scrobiculatus, S.,
p. 182 Lister, 552, 4 ; Knorr, iv, 22, 1.
Ostrea purpurea, p. 139 Born, Mus. cæs., tab. vi, figs. 11, 12.
Patella auricularia, p. 154 Rumph., 40 N.
fungoides, p. 55 Humph. Conch., pl. iv, fig. 16.
gorgonica, p. 105 Humph. Conch., 3, 8.
macroschisma, p. 71 Humph. Conch., pl. vii, fig. 3, 3.
mytiliformis, p. 42 Humph. Conch., pl. iii, fig. 9.
oculus-hirci, p. 105 Humph. Conch., pl. ii, 6.
pulchra, p. 105 Humph. Conch., pl. ii, 8.
umbraculum, p. 178 Humph. Conch., pl. v, fig. 5.
Pinna rigida, S., p. 136 Knorr, ii, 26, 1.
Serpula attrahens, p. 106 Humph. Conch., pl. vii, fig. 15.
gigantea, p. 186 Seba, iii, 94 ; the largest figure.
tortuosa, p. 184 Humph. Conch., pl. ii, fig. 4.
Solen antiquatus, p. 101 Pennant, 46, 25.
pallidus, p. 42 Lister, Conch., t. 412 inferior.
plebeius, p. 42 Lister, 421, fig. 265.
rostratus, S., p. 160 Valentyn, Bivalves, No. 5.
Strombus fusus, var. *persicus*,
p. 3 Lister, 854, 12.
sinuatus, p. 189 Seba, iii, pl. lxii, fig. 3 ; Favanne, 22,
A. 2.
tricornis, p. 5 Martin, 843, 45 ; Lister, 873.
truncatus, p. 150 D'Avila, vol. i, tab. xii.
Tellina cruentæ, S., p. 10 Knorr, vi, 12, 1.
marginalis, S., p. 137 Lister, 387.
Trochus alveolatus, p. 52 Lister, 62, 60.
onustus, p. 4 Favanne, tab. xii, C. 1, 2.
solaris, p. 86 Martyn, vol. i, fig. 30, 9.

Trochus sulcatus, p. 113, based on Naturforscher, vol. ix, tabs. iii, figs. 5, 6; Martyn, vol. i, fig. 33r.

<i>tectus</i> , p. 187	Lister, 628, 14.
<i>Turbo cornutus</i> , p. 147	D'Avila, vol. i, pl. v, fig. 1.
<i>Venus arctica</i> , S., p. 138	Lister, 426, 267.
<i>nimbosa</i> , p. 175	Favanne, pl. xlix, fig. I, 1.
<i>Voluta amphora</i> , S., p. 30	Martyn, 780.
<i>ancilla</i> , S., p. 84	D'Avila's Cat., vol. i, pl. viii, fig. 5.
<i>angulata</i> , S., p. 76	Martyn, vol. iv, 1325.
<i>anguria</i> , S., p. 64	Martyn, vol. iii, 767.
<i>arausiaca</i> , S., p. 26	Rumph., 37, 2.
<i>cithara</i> , S., p. 96	Seba, Mus., vol. iii, t. lxxv, figs. 1, 2.
<i>elongata</i> , p. 30	Martyn, vol. i, fig. 25n.
<i>filosa</i> , S., p. 76	Martyn, vol. i, fig. 22l.
<i>gravis</i> , S., p. 103	Martyn, vol. iii, 917.
<i>haustum</i> , S., p. 137	Martyn, vol. iii, 781.
<i>imperialis</i> , S., p. 183	Martyn, vol. iii, 934, 935.
<i>incompta</i> , S., p. 96	Martyn, vol. i, fig. 19l.
<i>incrassata</i> , S., p. 13	Martyn, 499, 500.
<i>melo</i> , S., p. 41	Martyn, vol. iii, 772, 773.
<i>muricata</i> , S., p. 142	Lister, 810, 19.
<i>nobilis</i> , S., p. 6	Lister, 799, 6; p. 183, adds Martyn, vol. iii, 774.
<i>pepo</i> , S., p. 87	Martyn, vol. iii, figs. 768-70.
<i>ponderosa</i> , S., p. 25	Martyn, 916.
<i>scafa</i> , S., p. 41	Adans., Seneg., 3, 2.
<i>virescens</i> , S., p. 26	Martyn, 932, 933.

I had hoped to have given the exact status of each of the above names, but my ignorance of general conchology has compelled me to forego that idea. I believe, however, that the preceding list will prove useful, and here add a few notes whereby the work of my critics may be lessened.

Page 186, lot 3964, reads: "A very fine specimen of the Concho-Lepas, or Cockle Limpet. Humph. Conch. page 12, No. 7, plate 5, fig. 9, which was taken from the shell. See also Favanne, pl. 4, fig. H. 2, from the Straits of Magellan."

I note that the following Solander names are invalid through earlier usage of the same combination, mayhap in some cases in the same connexion. The necessary data can be easily recovered in each instance from the same source as I have consulted, viz. Sherborn's *Index Animalium*. Such are *Serpula gigantea*, *Buccinum monodon*, *Trochus solaris*, *Arca nodulosa*, *Voluta muricata*, *Mytilus pictus*, *Helix picta*, and *H. plicata*.

A second series of invalid names are those proposed for the shells figured by Martyn in the first volume of the *Universal Conchologist*. These are *Buccinum iris*, *Voluta elongata*, *V. filosa*, *Trochus solaris*, *V. incompta*, *Murex fimbriatus*, and *T. sulcatus*. I have compiled from Sherborn's *Index* a third list of names, these being generally referred to a later worker. The latter need investigation, though in some instances probably they refer to the same species, viz.: *Arca*

fusca, Brug., 1789; *Conus araneosus*, Brug., 1792; *C. augur*, Brug., 1792; *C. leoninus*, Gmelin, 1791; *C. nocturnus*, Brug., 1792; *C. quercinus*, Brug., 1792; *C. sulcatus*, Brug., 1792; *Cymbium melo*, Bolten, 1798; *Cypræa nebulosa*, Gmelin, 1791; *Helix undata*, Gmelin, 1791; *Murex plicatus*, Gmelin, 1791; *Mya ovalis*, Pulteney, 1799; *Patella mytiliformis*, Gmelin, 1791; *Solen antiquatus*, Pulteney, 1799; *Trochus tectus*, Gmelin, 1791; *Turbo cornutus*, Gmelin, 1791; *Voluta arausiaca*, Shaw, 1790; and *V. scapha*, Gmelin, 1791.

Most, if not all, of these Solander names are quoted by Dillwyn in his synonymy, but I have refrained from citing Dillwyn's equivalents as it is commonly known that these may not be exact, and I might only cause confusion. Thus *Arca fusca* of Solander is cited as a synonym of *Arca imbricata*, Bruguière, over which it has priority, while it invalidates the later *Arca fusca*, Bruguière. The exact determination of the correct names of the two species concerned would need special knowledge, for E. A. Smith has shown that Lamy's synonymy of these complex bivalves is open to correction.

STROMBUS LIVIDUS, Linné.

Hedley, in the Proc. Linn. Soc. N.S.W., 1909, vol. xxxiv, p. 453, used *Drillia livida* ex Gmelin, explaining: "In the absence of a figure and a type, the Linnean *Strombus lividus* is, according to Hanley, unrecognizable. Under these circumstances it is better to adopt the name of Gmelin, securely based on the figure of Chemnitz (Conch. Cab., ix, 1786, pl. 136, f. 1269-70), than to use Lamarck's *auriculifera*."

I have made it a rule never to accept second-hand determinations, so that to me Linné's species being indeterminable Gmelin's interpretation did not systematically concern me, save as a synonym. For the shell figured by Chemnitz, Bolten (prior to Lamarck) had proposed two names, viz., (Mus. Boltenianum, p. 100) *S[trombus] canalicularis*, and (p. 124) *T[urris] St. Stephani*. I should therefore have preferred the safe method of nomination and called the shell "*Drillia*" *canalicularis* (Bolten). The sequel appears in the present publication, as on p. 91 we read, "A pair of large and fine *Strombus lividus*, L., from Guinea, Lister, 121, 17, rare." Here we have a definite and earlier attempt to fix the Linnean species, and, moreover, one more valuable than Gmelin's, as Solander was a personal pupil of Linné and more likely to know the Linnean shell. I cite this as of interest in confirming my proposed usage of the Boltenian species-name, and *not* as an incentive to use Solander's acceptance of the Linnean name.

I have cited "*Drillia*" as I do not consider this genus-name in any way satisfactory. It is restricted to the species *D. umbilicata*, Gray, fixed as type in 1847, and I cannot trace any knowledge of the animal of this apparently aberrant species. It belongs to the west coast of Africa, where also *Clavatula* typical is found, and the shell characters of this genus, as commonly utilized, approach so closely that it is difficult to separate these genera. I do not believe the Pacific "*Drillia*", especially the smaller species, are closely related.

CYPRÆA UMBILICATA, Solander.

On p. 65 "Lot 1471, *Cypræa umbilicata*, S., Coromandel" occurs. Here it is a *nomen nudum*.

Dillwyn, in his Index Hist. Conch. List., 1823, p. 32, gives a note identifying List., 667, fig. 12, thus: "This shell has been arranged as a variety of *Cypræa Pyrum*, and as a separate species in Solander's MS. with the name of *Cypræa umbilicata*; it has the teeth of a saffron colour, and in *Cypræa Pyrum* they are whitish." This quotation validates *Cypræa umbilicata* as of Dillwyn, 1823, and invalidates *Cypræa umbilicata* of Sowerby, 1825. Recently Verco has given a good history of the latter species, and now his varietal name *armeniaca* will become the species-name, while the typical form will need renomination. In order to draw attention to this matter I propose to rename *C. umbilicata*, Sowerby, and to call it

CYPRÆA HESITATA.

[P.S.—*Murex fimbriatus* of Solander (*ante*, p. 90) unfortunately invalidates *Murex fimbriatus* of Lamarck, 1822, which has just recently been rehabilitated, after ninety years, by C. Hedley (Proc. Linn. Soc. New S. Wales, vol. xxxviii, 1913, p. 328).]



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