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1037.

A NOTE ON SOME ANTARCTIC MALLOPHAGA.

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[Plate IV.]

IN 1876 Giebel published preliminary descriptions of new species of Mallophaga collected by the Rev. A. E. Eaton during the Transit of Venus Expedition to Kerguelen in 1874–1875, and in 1879 gave fuller descriptions with figures of the same species. Recently specimens have been found in the British Museum (Natural History) which by their host and locality labels show that they must be the specimens on which Giebel based his descriptions, although there is no indication that they are type material and they have subsequently been labelled with various generic or specific names not used by Giebel. It seems advisable, therefore, to show that these specimens are the type material and to designate lectotypes, especially as there is some confusion about the identity of one of the species, *Nirmus setosus*.

In 1876 Giebel described *Docophorus dentatus* and *Nirmus angulicollis* from *Diomedea exulans*, *Nirmus setosus* from *Pelecanoides urinatrix* and *Goniodes brevipes* from *Aptenodytes longirostris*. In the British Museum collection there are specimens of these species labelled as being collected by the Rev. A. E. Eaton and with the number 1885–56. Reference to the Museum register shows that this is the number given to a collection made by the Rev. A. E. Eaton, and under this number each species is listed by name followed by “n. sp.” and, with full details of host, position on host, locality and date. A comparison (see below) of these details with those given by Giebel in 1879 in his fuller descriptions leaves no doubt that these specimens are syntypes of the species.

Docophorus dentatus Giebel, 1876.

Extract from British Museum register :—“4 *Docophorus dentatus*, n. sp. On the breast plumage of the great Albatross, *Diomedea exulans*, L. Southern Ocean N.E. of Kerguelen, March 1875”.

Extract from Giebel, 1879 : 251 : “On *Diomedea exulans*, among the breast feathers. Five examples collected in March 1875”. Only one of these specimens, a female, can now be found in the Museum ; it agrees with Giebel, 1879, pl. 14, fig. 16 (labelled ♂, the figure labelled ♀ is a nymph) and is here designated lectotype.

Lectotype of Docophorus dentatus Giebel : Female in the British Museum (Natural History), slide No. 635, labelled :—

“*Diomedea exulans*. Kerguelens Land. 1885–56. Rev. A. E. Eaton”.
Present status : *Docophoroides brevis* (Dufour), 1835.

Nirmus angulicollis Giebel, 1876.

Extract from British Museum register :—“3 *Nirmus angulicollis*, n. sp. On the lower part of the neck and on the breast of the great Albatross. Southern Ocean, N.E. of Kerguelen, Mch. 1875”.

Extract from Giebel, 1897 : 253 : “On *Diomedea exulans*, with *Docophorus dentatus* ; three examples”. There are three specimens, a male and two females which agree with Giebel’s figure of *Nirmus angulicollis* and which are without doubt the syntypes of this species although the date on the label differs from that in the original description and in the Museum register, this must be due to an error in transcription.

Lectotype of Nirmus angulicollis Giebel : Male in the British Museum (Natural History), slide No. 636 ; labelled “*Diomedea exulans* Southern Ocean 1878 (sic). 1885–56 Rev. A. E. Eaton”. *Paratypes* : two females, slides nos. 637–638.

Present status : *Episbates pederiformis* (Dufour), 1835.

Nirmus setosus Giebel, 1876.

Extract from British Museum register :—“6 *Nirmus setosus*, n. sp. On the white plumage (i.e. the throat, breast and belly) of *Pelecanoides urinatrix*, Gmelin. Royal Sound, 14 Oct. 1874”.

Extract from Giebel, 1879 : 254 : “On *Pelecanoides urinatrix*, in the white feathers of the breast and belly. Six examples, two of them immature, captured on the 14th October 1874 at Observatory Bay, Kerguelen Island”.

There is here a slight discrepancy in the locality given in the Museum register and Giebel, 1879, but as Observatory Bay is only about 1½ miles from Royal Sound it is probably not important. In the Museum collections there are 2 ♂♂, 2 ♀♀ which agree with Giebel’s figures of *setosus* and are labelled as follows : “*Pelecanoides urinatrix*. Kerguelen Is. 14. x. 1876. 1885–56. Rev. A. E. Eaton”. Here again we must presume that there has been an error of transcription in the last figure of the year on these labels, as both the register and Giebel, 1879, give the date as 1874.

Reference to the literature shows that there has been some confusion about the identity of the species of *Pelmatocerandra* largely due to the fact that *Pelecanoides georgica* was not separated from *P. urinatrix* until 1916. The first species to be described was *setosa* (Giebel) and the syntypes discussed above belong to the species found on *Pelecanoides urinatrix* and which was fully described by Thompson, 1940. Enderlein (1909 : 449) described and figured specimens alleged to have been taken from *Pelecanoides urinatrix* in Kerguelen which he identified as Giebel’s *setosa*. However, the figure (190) of the male shows the ventral chaetotaxy characteristic of *P. enderleini*, which occurs on *Pelecanoides georgica*, and it can be presumed that the host of Enderlein’s specimens was in fact *georgica*, not at that time separated from *urinatrix*. Eichler, 1949 : 338 described *P. enderleini* from specimens alleged to have come from *Pelecanoides urinatrix*, S. Georgia, but which he assumed to be *P. georgica*.

The only description is a comparison between these specimens and Enderlein's figures thought to be *setosa* but both in fact representing the same species, and is thus somewhat misleading. It was at first thought that Eichler's specimens must have been *setosa*, but through the kindness of Dr. Weidner of the Zoologisches Museum, Hamburg, it has been possible to examine the holotype and allotype of *enderleini*. These were found to differ from *setosa* and to be the species usually found on *P. georgica*. In order to prevent further confusion about the species parasitic on *Pelecanoides urinatrix* and *P. georgica*, *Pelmatocerandra enderleini* is re-described and figured below. Dr. R. C. Murphy has kindly confirmed that *Pelecanoides urinatrix* does not occur on S. Georgia.

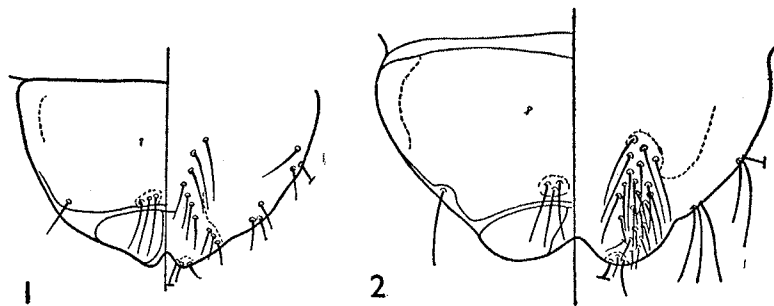
Pelmatocerandra setosa (Giebel), 1876.

Type host : *Pelecanoides urinatrix*=*P. urinatrix exsul* (Salvin)*
(Pl. IV, fig. 1 ; text-figs. 1, 4, 7.)

Nirmus setosus Giebel, 1876. *Ann. Mag. nat. Hist.* (4), 17 : 388.
Host : *Pelecanoides urinatrix*=*P. urinatrix exsul* (Salvin).

Nirmus eatoni Kellogg, 1914. *Brooklyn Sci. Bull.*, 2 : 81, 86 *Nomen novum* for *setosus* Giebel on transfer to *Lipeurus*.

Figs. 1-2.



Terminal segments of male abdomens. 1. *Pelmatocerandra setosa*. 2. *P. enderleini*.

Material examined. 2 ♂♂, 2 ♀♀ from *Pelecanoides urinatrix* from Kerguelen, syntypes of *Nirmus setosus* Giebel. 23 ♂♂, 33 ♀♀ from *Pelecanoides urinatrix* from Straits of Le Maire, Tierra del Fuego, collected by the "Discovery" Expedition 1925-1927 ; Heard Island, collected by A.N.A.R.E., 1950 and B.A.N.A.R.E., 1929 ; Falkland Islands ; Ewing Island ; Auckland Island ; New Zealand and Nightingale Island, Tristan da Cunha.

Lectotype of *Nirmus setosus* Giebel : Male in the British Museum (Natural History), slide no. 639 ; labelled : "*Pelecanoides urinatrix*. Kerguelen Is. 14. x. 1876. 1885-56. Rev. A. E. Eaton".

* Falla, 1937. *Birds. Repts. B.A.N.Z. Antarct. Res. Exped. 1929-1931 ser. B.* 2 : 214.

Paratypes ; 1 ♂, 2 ♀♀, slide nos. 640-641. It should be noted that the unofficial neotype erected by Thompson, 1940 now has no standing.
Present status : *Pelmatocerandra setosa* (Giebel), 1876.

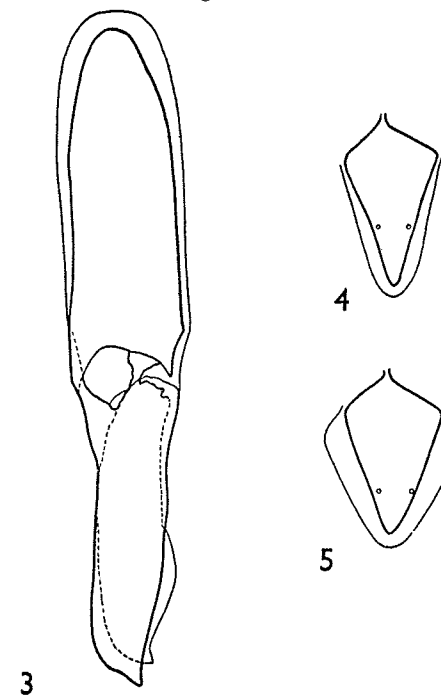
Pelmatocerandra enderleini Eichler, 1949.

Type host : *Pelecanoides georgica* Murphy & Harper.
(Pl. IV, figs. 2-3 ; text-figs. 2, 3, 5, 6, 8.)

Pelmatocerandra setosa Enderlein, 1909. (nec Giebel, 1876). *Dtsch. süd-polar Exped.*, 1901-1903, 10 (Zool. 2) : 449, figs. 189-191. Host : *Pelecanoides urinatrix*, Kerguelen=*P. georgica*.

Pelmatocerandra enderleini Eichler, 1949. *Rev. Brasil. Biol.* 9 : 338, fig. 4. Host : *Pelecanoides urinatrix*, S. Georgia=*P. georgica*.

Figs. 3-5.



3. Male genitalia of *Pelmatocerandra enderleini*. 3-4. Female metasternal plates. 4. *P. setosa*. 5. *P. enderleini*.

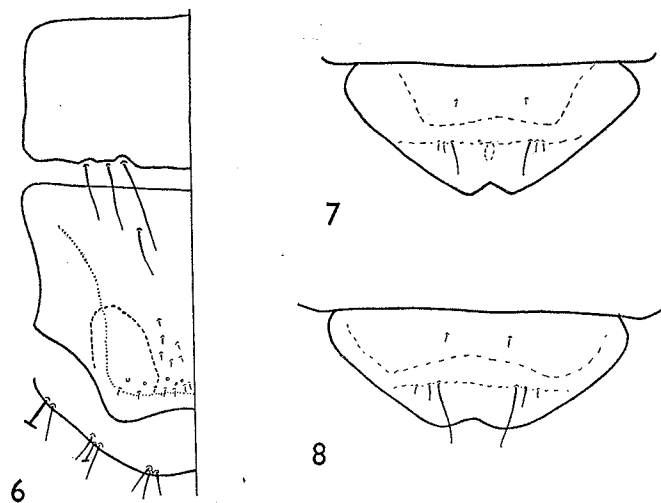
This species is easily distinguished from *P. setosa* in the male by the ventral chaetotaxy of the terminal segments of the abdomen (figs. 1 and 2), and also by the shape of the head (Pl. IV, figs. 1 and 2)* and the male genitalia : in the female the two species are distinguished by the shape of the head and the shape and dorsal chaetotaxy of the fused segments IX-XI.

* Unfortunately these photographs were taken at different magnifications.

Male. General characters as shown in Pl. IV, fig. 2. Metasternal plate broader than in *setosa*. Prothorax with two elongated anterior dorsal setae and five lateral and latero-posterior setae each side; mesothorax with two dorsal setae; methathorax with setae as in *setosa* (see Thompson, 1940, fig. 3). Chaetotaxy of posterior segments and genitalia as in figs. 2-3.

Both *setosa* and this species show ectodermal sculpture, one type found on the terminal segments of the male and female consists of discrete areas with one or two small thickened points; the other found on the wall of the genital chamber is similar, but there is a toothed edge to each thickened area.

Figs. 6-8.



Pelmatocerandra species, female. 6. Genital region, *P. enderleini*. 7-8. Dorsal view of terminal segments. 7. *P. setosa*. 8. *P. enderleini*.

Female. General characters as shown in Pl. IV, fig. 3. Metasternal plate (fig. 5), genital region (fig. 6) and dorsal view of segments IX-XI (fig. 8) as shown in figures. The dorsal setae of segment X vary in number from two to three each side and the central one is longer than in *setosa*. It has not been found possible to see the exact outline of the inner genital and subvulval sclerites (see Clay, 1957), even in dissected specimens.

Chaetotaxy of the abdomen. Tergocentral setae: II with two anterior and two posterior; III-VIII, two minute setae; IX-XI, figs. 2, 8. Post-spiracular setae absent, but terga II-V with post-spiracular sensillae. Pleural setae: II, 1; III-VII, 3-4; VIII, 5; IX, 3; X, 4. Sternocentral setae: II-VI, 4-5; VII, 6; VIII-XI, figs. 2, 6; in the female VI-VII, 6-7.

MEASUREMENTS IN MM.

		MALE			
		Length		Breadth	
		Range	Mean	Range	Mean
Head	(14)	0.64-0.69	0.673	0.49-0.52	0.510
Prothorax	(6)			0.35-0.36	0.358
Pterothorax	(6)			0.50-0.51	0.503
Abdomen	(5)	1.44-1.54	1.470	0.58-0.61	0.600
Total	(6)	2.45-2.57	2.510		
Genitalia	(1)	0.97			
C.I.	(14)	0.74-0.80	0.76		
FEMALE					
Head	(15)	0.68-0.72	0.703	0.53-0.57	0.545
Prothorax	(6)			0.37-0.38	0.375
Pterothorax	(6)			0.53-0.56	0.541
Abdomen	(6)	1.47-1.58	1.500	0.70-0.75	0.725
Total	(6)	2.50-2.65	2.570		
C.I.	(15)	0.75-0.80	0.78		

Numbers of specimens measured in brackets; all measurements taken at mid line except length of abdomen; length of head includes hyaline margin.

Material examined. Holotype, ♂ and allotype, ♀ of *P. enderleini*; 16 ♂♂, 28 ♀♀ from *Pelecanoides georgica* Murphy and Harper from Heard Island collected by the Australian National Antarctic Research Expeditions, 1949 and 1952 and from S. Georgia collected by the Rev. E. Milner, R.N. of H.M.S. "Protector." and from skins.

Goniodes brevipes Giebel, 1876.

Extract from British Museum register:—"1 *Goniodera* (sic) *brevipes*, n. sp. On the neck of a King Penguin, *Aptenodytes longirostris*, Scop. Swain's Bay. Jan. 1875".

Extract from Giebel, 1879: 255: "On *Aptenodytes longirostris* among the neck feathers. One specimen obtained in January in Swain's Bay". A single female which agrees with Giebel's figure must almost certainly be the type although the slide is labelled "Penguin?" it has the number 1885-56 and must be the specimen listed under this number in the register quoted above.

Holotype of Goniodes brevipes Giebel, 1876: Female in the British Museum (Natural History), slide no. 642; labelled: "Penguin? Kerguelen Is. 1885-56. Rev. A. E. Eaton".

Present status: *Austrogoniodes brevipes* (Giebel).

SUMMARY.

The type material of the five species described by Giebel in 1876 is discussed and lectotypes designated. The identity of *Pelmatocerandra enderleini* Eichler is discussed and the species re-described.

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 THOMPSON, G. B. 1940. Lice of Petrels. III. *Pelmatocerandra*. *Ann. Mag. nat. Hist.* (II), 6, 103-111.

EXPLANATION OF PLATE.

1. *Pelmatocerandra setosa* (Giebel). Male. $\times 52$.
2. *Pelmatocerandra enderleini* Eichler. Male. $\times 45$.
3. *Pelmatocerandra enderleini* Eichler. Female. $\times 44$.

