

Notes on the Rudow Collection of Mallophaga at Hamburg

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(With 7 Text-figures)

Through the kindness of Dr. H. WEIDNER of the Zoologisches Staatsinstitut und Zoologisches Museum in Hamburg it has been possible to examine a collection of Mallophaga recently found in the Hamburg Museum which seems to be, in part at least, material used by FERDINAND RUDOW for his original descriptions. Dr. WEIDNER has also most generously put at our disposal an account he has written of the history of this collection, and the following remarks are based almost entirely on this. We are also much indebted to Dr. G. TIMMERMANN for assistance in the translation of Dr. WEIDNER'S communication.

Rudow's first paper on Mallophaga (1866 a), containing descriptions of species of *Trichodectes*, was based on material collected by himself from both living and dead animals in the Hamburg Zoological Gardens. The material for his other papers came from Conservator H. SCHILLING of the Zoological Museum in Hamburg, who had collected it from fresh specimens as well as dried skins. Later a new director of the Hamburg Museum, probably not being satisfied with the standard of RUDOW'S work, refused to let Rudow have any further Museum material and sent the whole of the collections identified by RUDOW together with new material from the Zoological Gardens, to S. A. POPPE of Vegesack near Bremen. According to his biographer, F. BORCHERDING, POPPE intended to write a monograph on ectoparasites, but abandoned this idea on the publication of PIAGET'S "Les Pédiculines". Later O. TASCHENBERG also studied the Hamburg collections and there are many references to RUDOW'S specimens in the former author's publication of 1882. TASCHENBERG returned the Hamburg collection to POPPE, who passed it on to the Museum where it was labelled "Alte Sammlung, S. A. POPPE determ. 1880—1882"; all the specimens now extant and which are discussed below are so labelled. This label together with the fact that the original labels had been replaced by POPPE with labels written in his own handwriting, makes it impossible to identify with certainty the material originally examined and identified by RUDOW. Further, TASCHENBERG who had a justifiably low opinion of Rudow's work, definitely states that he used that name as valid under which a species has been recognizably described for the first time. He often used, therefore, a later PIAGET, NITZSCH or GIEBEL name

in preference to RUDOW'S original name. Thus, some of the specimens in this collection which are from RUDOW'S type hosts are labelled with a later name which may or may not be synonymous with the name originally given by RUDOW.

It is believed that POPPE made microscopic preparations of many of the RUDOW specimens, and some of these mounted specimens were incorporated into the Halle (NITZSCH and GIEBEL) Collection, the greater part of which was destroyed in the 1939—45 war. Any other slide material which may have been in existence in Hamburg was destroyed with the rest of the Hamburg slide collections, in 1943.

Enquiries addressed to the Hamburg Museum in 1935 showed that there was at that time no knowledge of the presence of any RUDOW type material in the Museum, so that it is possible that apart from the Halle slide material there was only the alcohol collection of RUDOW left, disguised under the labels of POPPE. This collection has now been rediscovered and its significance appreciated by Dr. WEIDNER. The available evidence, that is the history of the collection, the remarks by TASCHENBERG in his 1882 publication and the host labels and specimens makes it almost certain that at least part of this collection is the type material of species described by RUDOW. Lectotypes have therefore been selected from this material and are in the Hamburg Museum mounted in Canada balsam and labelled with red-bordered lectotype labels. No lectotypes have been selected for species represented by nymphs which are at present unidentifiable nor where an application has been made for the rejection of the name.

This collection raises considerable difficulties. RUDOW'S descriptions are in practically every case totally inadequate and frequently generically unidentifiable, his measurements are meaningless (see HOPKINS, 1940: 417—418) and his few figures are fantastic. Moreover, he frequently described the same species a second time, without giving any indication that he was doing so, and in such instances the different descriptions are often inconsistent with one another; he described *Ornithobius* (now *Acidoproctus*) thrice (1866 a: 465, 1869 a: 46, 1870: 141). Except where TASCHENBERG (1882) figured RUDOW'S original specimens the elucidation of nearly all the latter author's species is difficult and unreliable being largely a matter of guess work (see HOPKINS, 1942: 116 and 1944: 227 for examples of such attempts at elucidation). Even during his life-time, when the requirements of specific descriptions were less exacting than today, his work was considered so poor that the Hamburg Museum would not send him material and his contemporaries would not use his names where other names were available. Since then most of RUDOW'S names have sunk to the position of unused *n o m i n a d u b i a* or been used for what appears to be the most likely species from the given type host, irrespective of the fact that the description may have little relation to the species chosen, or indeed to any other species from the type host. As the following notes show, some of RUDOW'S species are now found to be other than those to which his names are generally applied or they are species which have since been named and the later name is now in general use. In the interests of stability the discovery of this collection is unfortunate. It is the aim of all responsible systematists to prevent the change of established names and in this case it is not reasonable to use the discovery of this old collection to

revive those names of RUDOW'S, scarcely if ever used since 1869 or 1870 because unidentifiable, and by so doing change later established names.

The policy adopted in this paper is to assume, where there is no adverse evidence, that the specimens are the RUDOW syntypes and to accept his names in all instances in which no nomenclatorial change will result, but where the knowledge of the true identity of a RUDOW species gained from the examination of this collection would mean replacing the current name we are making application to the International Commission on Zoological Nomenclature to have the name placed on the Official Index of Rejected and Invalid Specific Names in Zoology so that it can never be used again. While such names are sub judice they should not be used to replace any established name.

All the material seen was in alcohol and a sample of each species has been treated with caustic potash and mounted in Canada balsam. In general the specimens have reacted to this treatment reasonably well considering the long time they have been in alcohol, with the exception of a few instances in which specific identification is now difficult.

Dr. F. L. WERNECK, while in London, kindly examined the species found on mammals; he agrees with our conclusions.

Menopon giganteum RUDOW

(1869 b: 403)

Type host: *Sula fiber*. Error.

Hamburg Museum: 1 ♀ *Ancistrona* (now mounted) from type host.

It has not been possible to find any characters by which female *Ancistrona* from different hosts can be distinguished. This species, the name of which is preoccupied by *Menopon giganteum* DENNY, 1842, can be considered as conspecific with *A. vagelli*.

Lectotype: ♀ in the Hamburg Museum.

Present status: *Ancistrona vagelli* (J. C. FABRICIUS), 1787.

Menopon lucidum RUDOW

(1869 b: 402)

Type host: *Falco rufipes* = *Falco vespertinus* LINN.

Hamburg Museum: One tube labelled *Nirmus fuscus* N. from the type host containing *Degeeriella* (presumably *N. quadraticollis* RUDOW, see below) and 39 specimens of *Nosopon* (6 ♂♂, 6♀♀ now mounted).

There seems little doubt that this is part of RUDOW'S original type material of *Menopon lucidum* and *Nirmus quadraticollis*.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Nosopon lucidum* (RUDOW), 1869.

Menopon numenii RUDOW

(1869 b: 401)

Type host: *Numenius linearis* = *Numenius arquata orientalis* BREHM.

Hamburg Museum: One tube labelled *Menopon lutescens* N. from type host containing 1 ♀ *Actornithophilus* (see under *C. numenii*) and 9 *Austromenopon* (4 ♂♂, 3♀♀ now mounted).

It is assumed that these specimens are the type material of *Menopon* and *Colpocephalum numenii* of RUDOW. The *Austromenopon* agrees with authen-

ticaded material from *Numentus a. equata*, the species described by NITZSCH, 1866 as *crocatum*.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Austromenopon crocatum* (NITZSCH), 1866.

Menopon quinqueguttatum RUDOW
(1866 b: 402)

Type host: *Carpophaga semoenis*. Error.

Hamburg Museum: 17 *Gruimenopon* (4 ♂♂, 3 ♀♀ now mounted), from type host.

This species is discussed under *Colpocephalum unicolor*.

Colpocephalum commune RUDOW
(1866 b: 474 and 1869 b: 396)

Type hosts: *Neomorphus cultridens* (no such bird) and *Haliastur brasiliensis*. Error.

Hamburg Museum: 2 ♀♀ *Colpocephalum* (now mounted) from type host.

These two females are in very poor condition, heads distorted and practically no setae left, so that it is doubtful whether they can ever be identified with certainty. There is no authenticated host for these specimens and as the name has never been in general use it should certainly not be revived at any time to replace an established name. Application, therefore, will be made to the International Commission on Zoological Nomenclature to have the name *Colpocephalum commune* RUDOW 1866 placed on the Official Index of Rejected and Invalid Names in Zoology.

Colpocephalum flavum RUDOW
(1866 b: 472 and 1869 b: 392)

Type host: *Carduelis granadensis* = *Richmondia phoenicea* (BONAPARTE).

Hamburg Museum: 23 *Menacanthus* (3 ♂♂, 4 ♀♀ now mounted) from type host.

These specimens belong to the species group of *Menacanthus* with the long „oral“ spines as found on many of the Fringillidae.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Menacanthus flavus* (RUDOW), 1866.

Colpocephalum impressum RUDOW
(1866 b: 475 and 1869 b: 396)

Type host: *Aquila falco* = *Aquila chrysaetos* (LINN.).

Hamburg Museum: 33 *Colpocephalum* (8 ♂♂, 6 ♀♀ now mounted) labelled *Colpocephalum flavescens* NITZSCH from type host.

These specimens which are presumably part of the original type material are in rather poor condition, but seem to be the same as authenticated material from the type host.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Colpocephalum impressum* RUDOW, 1866.

Colpocephalum longicorne RUDOW

(1869 a: 393)

Type host: *Gallus furcatus* = *Gallus varius* (SHAW)Hamburg Museum: 1 ♂ *Colpocephalum* (now mounted) and 8 *Menopon* (3 ♂♂, 1 ♀ now mounted) from type host.

There is not much doubt that Rudow's original description refers to the *Colpocephalum* and not to the *Menopon*. This *Colpocephalum* is unlike the type found on the Galliformes and is probably a straggler from one of the Falconiformes, in which case it will be a matter of great difficulty to identify it. Owing to the original description being almost completely meaningless this name has been treated as a nomen dubium for the last 85 years and should not now be revived. Application will, therefore, be made to the International Commission to have the name *Colpocephalum longicorne* RUDOW, 1869 placed on the Official Index.

Colpocephalum numenii RUDOW

(1866 b: 469 and 1869 b: 389)

Type host: *Numenius linearis* = *Numenius arquata orientalis* BREHM.Hamburg Museum: One tube labelled *Menopon lutescens* N. from *Numenius linearis*, containing 1 ♀ *Actornithophilus* (now mounted) and 9 *Austromenopon*.

It seems probable that this tube contains some of the specimens on which RUDOW based his descriptions of *Colpocephalum numenii* and *Menopon numenii* (see above).

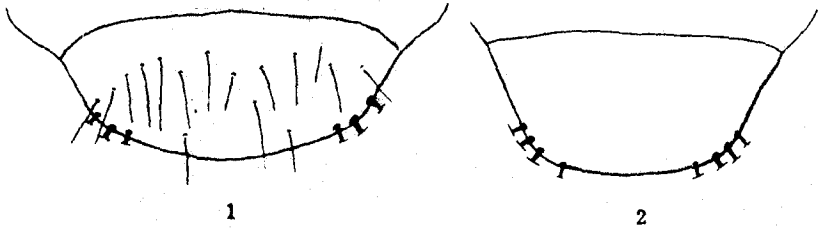
The single female *Actornithophilus* is the species widely known as *A. patellatus* (PIAGET), 1890. As this species is nearly unique among the Mallophaga in its habit of laying its eggs and passing probably the greater part of its life history in the quills of the primaries it has an interest to rather wider circles than those dealing with the systematics of the Mallophaga. RUDOW'S original description of *numenii* is so poor that the species has never been placed even generically and therefore rarely if ever used in the literature since it was first published 88 years ago, whereas *patellatus* is a well established name. For these reasons application will be made to the International Commission to have the name *Colpocephalum numenii* RUDOW added to the Official Index so that it can never be used again. While the name is under consideration by the Commission it should not be used to replace *patellatus*.

Colpocephalum polybori RUDOW

(1869 b: 397)

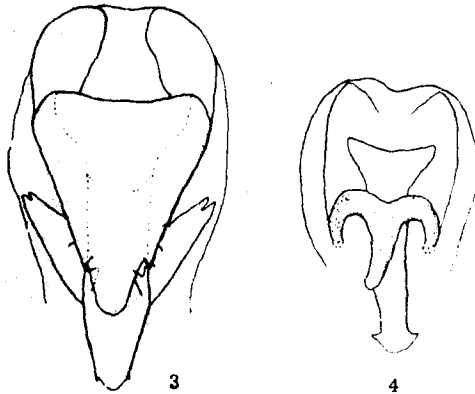
Type host: *Polyborus tharus* = *Polyborus p. plancus* (J. F. MILLER).Hamburg Museum: 1 tube labelled *Colpocephalum maculatus* PIAGET containing 3 ♂♂ *Colpocephalum* (now mounted) and 2 nymphs *Ischnocera*; 1 tube labelled *Colpocephalum* containing 1 ♀ *Colpocephalum* (probably from one of the Ciconiiformes), 1 ♂ *Austromenopon* and 1 ♂ *Ciconiphilus* (all now mounted). Both tubes from the type host.

The three *Colpocephalum* males labelled *C. maculatum* PIAGET are the same as authenticated material from *Polyborus* and are assumed to be the original type material. There are two forms of *Colpocephalum* found on



Figures 1—2. Terminal segment (dorsal) of *Colpocephalum* males.
 1. *C. polybori* RUDOW, lectotype.
 2. *C. maculatum* PIAGET, lectotype.

Polyborus which can be distinguished from other known *Colpocephalum* on the Falconiformes by the form of the sclerite in the male genital sac (fig. 4). For convenience the males of *Colpocephalum* species from the Falconiformes can be divided into two main groups by the absence (*flavescens*-group, fig. 2) or presence (*oxyurum*-group, fig. 1) of setae on the dorsal surface of the last abdominal segment. One of the forms from *Polyborus* in this character falls into the *flavescens*-group and the other into the *oxyurum*-group. According to a rather small number of males (15 from *P. plancus* and 21 from *P. cheriway*) the former is found on *plancus* and the latter on *cheriway*. It was assumed



Figures 3—4. Sclerites of genital sac of male genitalia of *Colpocephalum* species
 3. *C. flavescens* (HAAN), neotype.
 4. *C. polybori* RUDOW, lectotype.

that PIAGET'S *maculatum* and RUDOW'S *polybori* both said to be from *Polyborus plancus* were synonyms, however, now that the type material of both is available it is found that *maculatum* belongs to the *flavescens*-group and *polybori* to the *oxyurum*-group. *C. maculatum* which according to available material is found on *P. plancus*, is distinguished in the male from *C. flavescens* (HAAN) (see HOPKINS, 1949: 51) by the form of the sclerite in the genital sac (figs 3—4), by the post-spiracular setae of IV and V being shorter and thinner than III, and the dorsal marginal setae of each segment

being all approximately the same size. From *C. impressum* RUDOW, *maculatum* is distinguished by the form of the sclerite of the genital sac. *C. polybori* is separated in the male from other species of the *oxyurum* group by the form of the sclerite of the genital sac, by having the marginal dorsal setae of segment VIII not reaching below the end of the abdomen, by having more than two rows of dorsal setae on segment I and by having the post-spiracular setae of II, III, VI and VII long and stout. It is possible that the true host of *C. polybori* RUDOW is *Polyborus cheriway*.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Colpocephalum polybori* RUDOW, 1869.

Colpocephalum unicolor RUDOW

(1866 b: 470 and 1869 b: 390)

Type host: *Carpophaga samoensis*. ERROR.

Hamburg Museum: 3 ♂♂, 7 ♀♀ *Gruimenopon* (3 ♂♂, 3 ♀♀, now mounted) from type host.

This species must be discussed with *Menopon quinqueguttatum* (see above). Both species have the same type host and it was assumed that the same specimens were described by Rudow as *Menopon* and *Colpocephalum*. However there are in the Hamburg Museum two tubes labelled with the respective species and both contain what appears to be the same species of *Gruimenopon*.

As the specimens are obviously stragglers on the alleged type host these facts are difficult to explain. It is possible that RUDOW himself divided them into two lots thinking that two species were represented.

The whole material is in poor condition and will be difficult to identify with certainty, the host is wrong and as it had been impossible to identify the two species even generically from the totally inadequate descriptions the names have never been used in the literature. For these reasons application will be made to the International Commission to have the names *Menopon quinqueguttatum* RUDOW, 1869 and *Colpocephalum unicolor* RUDOW, 1866 placed on the Official Index. In the meantime they should not be used.

Goniodes cupido RUDOW

(1870: 482)

Type host: *Tetrao cupido* = *Tympanuchus cupido* (LINN.).

Hamburg Museum: 4 ♂♂, 3 ♀♀, 7 nymphs and various pieces (3 ♂♂, 2 ♀♀ now mounted) of *Goniodes* labelled *Goniodes cupido* GIEBEL from the type host.

This material is presumably some of that on which RUDOW based his description and which was re-labelled by TASCHEBERG as *Goniodes cupido* GIEBEL (a n o m e n n u d u m until 1874). These specimens are the *Goniodes* normally found on *Tympanuchus cupido* (see CLAY, 1940: 45); the neotype erected in the latter paper now has no standing. The species was also re-described and figured by KÉLER (1939: 90) from GIEBEL'S specimens in the Halle collection; these specimens which are referred to as types, are types of *Goniodes cupido* GIEBEL, 1874 which is both a synonym and homonym of *G. cupido* RUDOW, 1810.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Goniodes cupido* RUDOW, 1870.

Goniodes diversus RUDOW

(1870: 484)

Type host: *Penelope nigra* = *Penelopina nigra* (FRASER).

Hamburg Museum: 2 ♀♀ (now mounted) and 1 nymph *Chelopistes* from type host.

No authenticated specimens of *Chelopistes* from the type host have been seen so that it is not possible to say whether this is the species normally found on *Penelopina nigra*.

The status of *Goniodes rotundus* RUDOW, 1869 a: 28 from the same host must also be discussed. This species which is virtually unrecognizable from the description, was never mentioned since its original publication by any of the late 19th century authors. Recent authors have attempted to clear up its status, but without reaching any unanimity: KÉLER (1939: 184) considered it unrecognizable; CLAY (1941: 129) did not think it necessarily the same as *diversus*; HOPKINS (1942: 116—118) thought that the two species were the same; CARRIKER (1945: 395) discarded *rotundus* as unrecognizable; HOPKINS and CLAY (1952: 68) treated *diversus* as an unnecessary nomen novum for *rotundus*. The most satisfactory solution would seem to be to treat *Goniodes rotundus* RUDOW, 1869 as a nomen dubium and to apply to the International Commission for its inclusion in the Official Index of Rejected and Invalid Names.

Lectotype of *Goniodes diversus* RUDOW: ♀ in the Hamburg Museum.

Present status: *Chelopistes diversus* (RUDOW), 1870.

Goniodes eximius RUDOW

(1869 a: 25 and 1870: 487)

Type host: *Oreophasis derbyanus* = *Oreophasis derbianus* G. R. GRAY.

Hamburg Museum: 3 ♂♂, 3 ♀♀, and 10 nymph *Chelopistes* (3 ♂♂, 2 ♀♀ now mounted) from type host.

This species was discussed and figured by TASCHENBERG (1882: 35) and KÉLER (1939: 184), the latter author probably using the same material as used by TASCHENBERG. The specimens now in the Hamburg Museum are presumably the remains of the original type material.

Lectotype: ♂ in the Hamburg Museum which agrees with KÉLER'S figures (1939: 186, fig. 5). The specimens in the Halle Museum are paratypes.

Present status: *Chelopistes eximius* (RUDOW), 1869.

Goniodes flavus RUDOW

(1869 a: 27 and 1870: 486)

Type host: *Phaps chalcoptera* (LATHAM).

Hamburg Museum: 17 *Campanulotes* (2 ♂♂ 1 nymph now mounted) from type host.

Both TASCHENBERG (1882: 101) and KÉLER (1939: 162) have redescribed and figured this species from part of RUDOW'S type material.

Lectotype: ♂ in the Hamburg Museum. This is the same species as figured by KÉLER (1939: 163, fig. 93).

Present status: *Campanulotes flavus* (RUDOW), 1867.

Goniodes longus RUDOW

(1869 a: 26 and 1870: 481)

Type host: *Gallus ignitus* = *Lophura ignita* (SHAW).Hamburg Museum: 1 ♂, 2 ♀♀ (now mounted) and 2 nymph *Goniodes* from the type host labelled *Goniodes latifasciatus* PIAGET from *Euplocomus ignitus*.

There seems to be little doubt that these specimens belong to the original RUDOW type material of *longus* and were seen by TASCHEBERG (1882: 28). This latter author states that RUDOW'S specimens are the same as *Goniodes latifasciatus* PIAGET and that the host was *Euplocomus ignitus* and presumably the label was altered to agree with this view. KÉLER (1939: 52) re-described and figured this species partly from specimens taken from the type host and partly from those from *Houppifer erythrophthalmus*. The specimens described and figured as *longus* by CLAY (1940: 68) are RUDOW'S species.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Goniodes longus* RUDOW, 1869.*Goniodes mamillatus* RUDOW

(1870: 483)

Type host: *Pelecanus ruficollis*. Error.Hamburg Museum: 1 ♂, 1 ♀ (now mounted) and 1 nymph *Goniodes* from type host.

TASCHEBERG (1882: 25) and KÉLER (1939: 88) discussed and figured what they presumed to be this species. TASCHEBERG had seen the original type material, but KÉLER only the specimens from *Ortyx californicus* identified as *mamillatus* by TASCHEBERG. Through the kindness of the authorities of the Halle Museum it has been possible to examine these latter specimens and to compare them with RUDOW'S type specimens. Unfortunately they are not the same species. RUDOW'S type male differs from these specimens and others from *Lophortyx californica* in the smaller and differently shaped head, in the broader marginal carina and in the characters of the male genitalia. These latter structures are not easily seen in the single male specimen and the exact identification of this species may be difficult. Even if it was possible to identify the true host of this species it would, as the name has long been accepted for the *Goniodes* from *Lophortyx californica*, cause much confusion to transfer the name to a related species of *Goniodes* from another host. It will, therefore, cause the least confusion to re-name the species described by KÉLER as *mamillatus* and to apply to the International Commission to have that name *Goniodes mamillatus* RUDOW, 1870 placed on the Official Index.

Goniodes stefani n. o. m. n. o. v. for *Goniodes mamillatus* KÉLER 1939: 88, figures 45—46 n. e. c. RUDOW, 1870. Named in honour of Dr. STEPHAN VON KÉLER whose excellent figures and descriptions are in such marked contrast to those of RUDOW.

Goniocotes fissus RUDOW

(1869 a: 23 and 1870: 477)

Type host: *Telegallus Lathamii* = *Alectura l. lathamii* J. E. GRAY.Hamburg Museum: 1 ♂, 1 ♀ (now mounted) *Goniodes*, from type host.

This species was discussed and figured by TASCHEBERG (1882: 84) who saw what was almost certainly a male of RUDOW'S type material and by KÉLER (1939: 123) who saw the female specimen mentioned by TASCHEBERG as having been collected by Dr. REY. KÉLER made this female into the neotype, which as the original type material has been found, now has no standing. This female is, however, true *fissus*. CLAY (1940: 110) gave further figures of this species from specimens which are also true *fissus*.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Goniodes fissus* (RUDOW), 1869.

Goniocotes rotundatus RUDOW

(1869 a: 22)

Type host: *Rhynchotus rufescens* (TEMMINCK).

Hamburg Museum: 1 ♂, 1 ♀ (now mounted) *Heptapsogaster*, from *Tinamus rufescens*.

This species was discussed by TASCHEBERG (1882: 48) and by KÉLER (1939: 187), the latter author figured the female. There seems little doubt that the two specimens now in the Hamburg Museum are part of the original type material. The female in the Hamburg Museum is as figured in KÉLER. 1939: 189, and the male appears to be the same species as that described as *Tinamicola rotundata* (RUDOW) by CARRIKER, 1936: 159.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Heptapsogaster rotundatus* (RUDOW), 1869.

Nirmus alchatae RUDOW

Nirmus paradoxus RUDOW

(1869 a: 18)

Type hosts: *Syrrhaptus paradoxus* (PALLAS) and *Pterocles alchata* (LINN.).

Lipeurus alchatae RUDOW

(1869 a: 36)

Type host: *Pterocles alchata* (LINN.).

Nirmus alchatae RUDOW

(1870: 472)

Type hosts: *Pterocles alchata* (LINN.) and *Syrrhaptus paradoxus* (PALLAS).

The possible identity of these three species has already been discussed by one of us (HOPKINS, 1944: 227—229) and the argument need not be repeated here. The conclusions reached were that *Nirmus alchatae* (1870) is a composite species, but that the description refers primarily to the species described under *Nirmus paradoxus* (1869), a round-headed form perhaps the same as *Syrrhaptococcus brevifrons* WATERSTON, 1928, and that *Lipeurus alchatae* (1869) can be interpreted as the species redescribed by WATERSTON (1928: 344) under the name *Syrrhaptococcus alchatae* (RUDOW).

These conclusions were deduced from RUDOW'S confusing published statements. Unfortunately the specimens in the collection do not assist greatly in clarifying the matter. There is one tube labelled *Nirmus alchatae* RUDOW from *Syrrhaptus paradoxus* containing 52 specimens (3 ♂♂, 3 ♀♀ now mounted of *Syrrhaptococcus bedfordi* WATERSTON, the species which normally

occurs on *Syrrhaptēs paradoxus*. The second tube, also labelled *Nirmus alchatae*, is from *Pterocles alchata* and contains 112 specimens (8 ♂♂, 6 ♀♀ now mounted) of *S. bedfordi* WATERSTON and *S. alchatae* sensu WATERSTON, 1928: 344. This last species is the one normally found on *Pterocles alchata*. Making deductions from the experience gained in examining the rest of the collection, the names of the hosts are probably those used by RUDOW, while the names of the parasites may or may not have been changed. If we assume that RUDOW'S descriptions are comparatively accurate (a highly improbable assumption) then we must believe that he had a third species (*Nirmus paradoxus* and (in part) *Nirmus alchatae*) with a more rounded head, the identity of which can now never be decided. In this case both *Nirmus paradoxus* and *Nirmus alchatae* should be discarded as *n o m i n a d u b i a*. Alternatively, we can presume that he had only the two species now represented in the collection and that some of the specimens appeared to him to be more round-headed than others. If this was the case then both *N. paradoxus* and *N. alchatae* (1870) are composite and cannot now be identified, while *Lipeurus alchatae* (1869) is no doubt the species later re-described by WATERSTON. Fortunately, whichever view is taken it entails no alteration of the established names. Application will be made to the International Commission to have the names *Nirmus paradoxus* RUDOW, 1869 and *Nirmus alchatae* RUDOW, 1870 placed on the Official Index as *n o m i n a d u b i a*.

Lectotype of *Lipeurus alchatae* RUDOW, 1869: ♂ in the Hamburg Museum which agrees with the re-description and figures of *Syrrhaptococcus alchatae* (RUDOW) in WATERSTON, 1928: 344, fig. 1 a.

Nirmus fasciatus RUDOW

(1869 a: 20 and 1870: 468)

Type host: *Falco islandicus* = *Falco rusticolus islandus* BRÜNNICH.

Hamburg Museum: 1 tube labelled *Nirmus fuscus* N. with 3 ♂♂, 3 ♀♀ and 8 nymphs *Degeeriella* (3 ♂♂, 3 ♀♀ now mounted) from the type host.

Although this tube is wrongly labelled there is no reason to believe that this is not RUDOW'S type material re-labelled by a subsequent worker. The specimens are the same as authenticated material from the type host.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Degeeriella fasciata* (RUDOW), 1869.

Nirmus quadraticollis

(1870: 469)

Type host: *Falco rufipes* = *Falco vespertinus* LINN.

Hamburg Museum: Many specimens of *Degeeriella* (5 ♂♂, 3 ♀♀ now mounted) labelled *Nirmus fuscus* NITZSCH from the type host.

The presence in this tube of specimens of *Nosopon* also described from *Falco rufipes* by RUDOW under the name *Menopon lucidum* (see above) suggests that both the *Nosopon* and the *Degeeriella* are part of RUDOW'S type material of the two species.

These specimens are the same as authenticated material from the type host.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Degeeriella quadraticollis* (RUDOW), 1870.

Nirmus tenuis (RUDOW)

(1870: 471)

Type host: *Cacatua eos* = *Kakatoe roseicapilla* (VIEILLOT).

Hamburg Museum: 1 nymph (now mounted).

This is a first or second stage nymph with complete marginal and ventral carinae. It is not possible at the present time to place this specimen even generically, and it can never be determinable to the species. The name therefore should be rejected as a *nomen dubium*. GIEBEL, 1874: 181 renamed this species *Nirmus eos*, *tenuis* being preoccupied by *Nirmus tenuis* BURMEISTER, 1838; GIEBEL had seen no specimens, merely copying part of RUDOW'S description. Application will be made to the International Commission to have names *Nirmus tenuis* RUDOW, 1870 and *Nirmus eos* GIEBEL, 1874 placed on the Official Index.

Docophorus eos RUDOW

(1869 a: 15 and 1870: 451)

Type host: *Cacatua eos* = *Kakatoe roseicapilla* (VIEILLOT).Hamburg Museum: 23 *Psittoecus* (4 ♂♂, 4 ♀♀ now mounted) from type host.

These specimens of *Psittoecus* (a genus probably not separable from *Echinophlopterus*) are similar to the species described by Guimarães (1942: 90) from *Kakatoe* sp. but differ in the characters of the male genitalia.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Psittoecus eos* (RUDOW), 1869.*Docophorus javanicus* RUDOW

(1869 a: 12 and 1870: 455)

Type host: *Buceros ruficollis* = *Aceros plicatus ruficollis* (VIEILLOT).Hamburg Museum: 2 ♂♂ (now mounted) and 2 nymph *Anatoecus* from BUCEROS sp.

These specimens of *Anatoecus* are obviously stragglers from one of the Anatidae. The host is given as *Buceros* sp. only, and it seems unlikely that these specimens are those from which Rudow made his original description. In the rather longer description published in 1870: 455 he compares the species to *Nirmus turmalis*, presumably using DENNY'S plate 6, fig. 10. This suggests that RUDOW'S specimens belonged to *Buceronirmus* (probably not *Paronco-phorus* as listed in HOPKINS & CLAY, 1952: 265). Until these genera are revised it will not be possible to say whether or not *javanicus* RUDOW is identifiable.

Docophorus microceras RUDOW

(1869 a: 13 and 1870: 453)

Type host: *Numenius linearis* = *Numenius arquata occidentalis* (BREHM).Hamburg Museum: 5 ♂♂, 4 ♀♀, 1 nymph *Cummingsiella* (2 ♂♂, 2 ♀♀ now mounted) from type host.

These are conspecific with the neotypes of *Cummingsiella ovalis* (SCOPOLI) see CLAY and HOPKINS 1951: 21.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Cummingsiella ovalis* (SCOPOLI), 1763.

Lipeurus alchatae RUDOW

(1869 a: 36)

Type host: *Pterocles alchata* (LINN.).Hamburg Museum: 112 specimens of *Syrrhaptoecus* labelled *Nirmus alchatae* from *Pterocles alchata*.These specimens are discussed under *Nirmus alchatae* (see above).Present status: *Syrrhaptoecus alchatae* (RUDOW), 1869.*Lipeurus angustus* RUDOW

(1869 a: 34 and 1870: 137)

Type host: *Phaps chalcoptera* (LATHAM).Hamburg Museum: 5 ♂♂, 2 ♀♀ (now mounted) and 10 nymphs *Columbicola* labelled *Lipeurus baculus* N. from type host.

These specimens were presumably re-labelled *L. baculus* (= *L. columbae* Linn.) by TASCHEBERG, who considered that *angustus* was the same species (see 1882: 123). The five males and two females belong to two different species: Three of the males and probably the two females appear to be true *columbae* the remaining two males are quite distinct and are the same as males in the British Museum (Natural History) collection from a specimen of the type host which died in the London Zoological Gardens. It can be presumed with reasonable certainty that *Phaps chalcoptera* is the true host of these two males. One of them will be selected as lectotype.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Columbicola angustus* (RUDOW), 1869.*Lipeurus asymmetricus* (RUDOW)

(1869 a: 34 and 1870: 132)

Type host: *Chenalopex aegypticus* = *Alopochen aegyptiaca* (LINN.).Hamburg Museum: 1 ♂, 1 ♀ (mounted) and various pieces of *Anaticola* from type host.

The male and female specimens are not conspecific. The male seems to be the same as *Anaticola australis* RUDOW and the female, although in poor condition for comparison, is apparently the species usually found on *Alopochen aegyptiaca*. In the 1870 description RUDOW states that he saw females only and it is, therefore, possible that the male was put into the tube by mistake by a subsequent worker. The female will be designated as lectotype which means that *asymmetricus* can be used in its usually accepted sense. The name was originally (1869: 34) spelt „*assymmetricus*“, but this in an obvious spelling error on RUDOW'S part and the name was emended to „*asymmetricus*“ by GIEBEL (1874: 241) and by PIAGET (1880: 350).

Lectotype: ♀ in the Hamburg Museum.

Present status: *Anaticola asymmetricus* (RUDOW), 1869.*Lipeurus australis* RUDOW

(1869 a: 38 and 1870: 130)

Type host: *Cereopsis novae Hollandiae* = *Cereopsis novae-hollandiae* (LATHAM).Hamburg Museum: 2 ♂♂, 8 ♀♀, 12 nymphs *Anaticola* (2 ♂♂, 4 ♀♀, now mounted) from type host.

These specimens are the same as authenticated material from the type host.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Anaticola australis* (RUDOW).

Lipeurus candidus RUDOW

(1869 a: 39 and 1870: 135)

Type host: *Phoenicopterus ruber* LINN.

Hamburg Museum: 1 ♂, 1 ♀ (now mounted) and 5 nymphs *Anaticola* from the type host.

Rudow's specimens belong to the species *A. phoenicopteri* (COINDE), 1859 from *Phoenicopterus antiquorum*, but with the present material it is not possible to say whether or not these specimens are subspecifically distinct.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Anaticola phoenicopteri candidus* (RUDOW), 1869.

Lipeurus cinereus RUDOW

(1869 a: 38)

Type host: *Nyroca australis* EYTON.

Hamburg Museum: 1 ♂ *Anaticola* (now mounted) labelled *Lipeurus squalidus* NITZSCH from type host.

This specimen is presumably the specimen seen by TASCHENBERG (1882: 163) and identified as *L. squalidus*. It seems to be subspecifically distinct from *crassicornis*, but its exact status must wait for adequate material from the type host and a revision of the genus *Anaticola*. It is most probable that RUDOW re-described the same specimen again under *Lipeurus nyrocae* (1870: 128) see TASCHENBERG, 1882: 163. As *L. cinereus* is invalidated by *L. cinereus* NITZSCH, 1866, the name *nyrocae* can be used for this species.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Anaticola crassicornis nyrocae* (RUDOW), 1870.

Lipeurus cygnopsis RUDOW

(1869 a: 37 and 1870: 129)

Type host: *Cygnopsis cygnoides* — *Cygnopsis cygnoid* (LINN.).

Hamburg Museum: 28 *Anaticola* (4 ♂♂, 4 ♀♀ now mounted) from the type host labelled *Lipeurus jejunos* NITZSCH.

There is little doubt that these specimens are part of RUDOW'S original material of *Lipeurus cygnopsis* relabelled by TASCHENBERG (see 1882: 164). No authenticated material from the type host has been seen, so that it is not possible to say whether this is the species normally found on *Cygnopsis cygnoid*. It is however distinct from both *Anaticola crassicornis* (SCOPOLI) and *A. anseris* (LINN.).

Our investigations on this species have shown up a long-standing error which we can now correct. HARRISON (1916: 113) listed an *Esthiopterus cygnoides* RUDOW, stated to be described in Z. ges. Natwiss. 35 (which should be 36), 1870, p. 129. HOPKINS, then in Uganda and without access to this periodical, asked a correspondent to check the paper for him and was informed that *cygnoides* was described and was the same as *cygnopsis*, and the name was therefore included in our Check-list. Actually there is no louse

called *cygnoides*: GIEBEL (1866: 385) mentioned, among a group of *Lipeurus* with narrow paired pale, elongate spots on the underside, one (unnamed) from *Anser cygnoides* as present in NITZSCH'S collection. RUDOW (1870: 129) described *L. cygnopsis* from *Cygnopsis cygnoides* but there was no mention of a *Lipeurus cygnoides*; he remarks that GIEBEL'S specimens with paired pale spots could not be the same as his unspotted species. GIEBEL (1874: 240) placed *cygnopsis* RUDOW as a synonym of *serratus* NITZSCH and (:241) declared as he had found among NITZSCH'S material from *Anser cygnoides* a male with unspotted abdomen, "RUDOW'S *L. cygnoides*" from this host must be a synonym. The name *Lipeurus cygnoides*, therefore, dates from GIEBEL 1874 and is a lapsus calami and a nomen nudum.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Aniticola cygnopsis* (RUDOW), 1869.

Lipeurus maximus RUDOW

(1869 a: 37 and 1870: 122)

Type host: *Balearica pavonina* (LINN.).

Hamburg Museum: 1 ♀ *Esthiopterum* (mounted) labelled *Lipeurus hebraeus* N. from type host.

This specimen is no doubt RUDOW'S type re-labelled by TASCHENBERG (see 1882: 133). The population found on *Balearica pavonina*, to which this single female appears to belong, is at least subspecifically distinct from *Esthiopterum gruis* (LINN.), found on *Grus grus*.

Lectotype: ♀ in the Hamburg Museum.

Present status: *Esthiopterum maximum* (RUDOW), 1869.

Lipeurus meridionalis RUDOW

(1869 a: 32 and 1870: 123)

Type host: *Diomedea fuliginosa* = *Phoebetria palpebrata* (FORSTER).

Hamburg Museum: 1 nymph labelled *Lipeurus tricolor* PIAGET from the type host.

This specimen is doubtless that seen by TASCHENBERG (1882: 149), who considered it to be identical with *Lipeurus tricolor* PIAGET. In the original description both male and female are mentioned so that there must have been other material no longer in the collection even at the time when TASCHENBERG saw it. The single nymph is in poor condition and does not appear to belong to any of the genera found on petrels. *Lipeurus meridionalis*, which is completely unidentifiable from the original description, has been regarded since TASCHENBERG'S statement, as the same as *tricolor* PIAGET, itself a synonym of *Perineus diomedae* (FABRICIUS), 1775. This nymph which may not even be congeneric with the lost portion of the type material can never be identified specifically and the only reasonable course, therefore, is to apply to the International Commission to have the name *Lipeurus meridionalis* RUDOW, 1869 placed on the Index of Invalid Names.

Lipeurus nyrocae RUDOW

(1870: 128)

Type host: *Nyroca australis* EYTON.

This name has been discussed above under *Lipeurus cinereus*, for which it seems to be almost certainly a new name. *L. cinereus* RUDOW, 1869 being

preoccupied by *L. cinereus* NITZSCH, 1866, the name *nyrocae* RUDOW can be used for the former species.

Present status: *Anaticola crassicornis nyrocae* (RUDOW), 1870.

Lipeurus polybori RUDOW

(1869 a: 30 and 1870: 126)

Type host: *Polyborus tharus* = *Polyborus p. plancus* (J. F. MILLER)

Hamburg Museum: 1 ♂, 1 ♀ *Falcolipeurus* (now mounted), 1 ♂, 1 ♀ *Ardeicola* (labelled *Lipeurus* only) from type host.

TASCHENBERG (1882: 110) says that there were no specimens from *Polyborus tharus* in the Hamburg collection, but he saw a drawing of *Lipeurus polybori* which he says showed that it did not belong to the „sexguttati“ [*Falcolipeurus*] division of *Lipeurus*. RUDOW himself compared it in 1869 a: 35 to *Lipeurus punctulatus* and in 1870 (: 127) to *Lipeurus tadornae* both now referred to *Anaticola*, so that it seems extremely probable that the specimens of *Falcolipeurus* in the present collection are a later addition. The male is certainly not, and the female probably not, the same species as is usually found on *Polyborus plancus*. Furthermore, these specimens have no specific name label and there is no evidence that RUDOW ever saw them. As the name *Lipeurus polybori* has always been taken to apply to a straggling and quite unidentifiable *Anaticola* it has never been used since RUDOW's time. Application will, therefore, be made to the International Commission to have the name *Lipeurus polybori* RUDOW, 1869 placed on the Official Index. The name was originally spelt *polypori*, but this was obviously an inadvertent error and was corrected to *polybori* by RUDOW in 1870.

Lipeurus punctulatus RUDOW

(1869 a: 35 and 1870: 137).

Type host: *Oedemia fusca* = *Melanitta fusca* (LINN.).

Hamburg Museum: 6 nymph *Anaticola* (2 now mounted).

It can be assumed that these are nymphs of the population normally found on *Melanitta fusca*; the exact status of this species must await a revision of *Anaticola*.

Lipeurus rubromaculatus RUDOW

(1869 a: 43 and 1870: 128).

Type host: *Platypus mollissima* = *Somateria mollissima* (LINN.).

Hamburg Museum: 10 ♂ ♂, 6 ♀ ♀, 12 nymphs *Anaticola* (6 ♂ ♂, 4 ♀ ♀ now mounted) from type host.

These specimens are the same as authenticated material from the type host.

Present status: *Anaticola rubromaculatus* (RUDOW), 1869.

Lectotype: ♂ in the Hamburg Museum.

Lipeurus sulae RUDOW

(1869 a: 43 and 1870: 134).

Type host: *Sula fiber* = *Sula leucogaster plotus* FORSTER.

The only specimens labelled *Lipeurus* from *Sula fiber* in the collection are 3 males (now mounted) and seven nymphs of *Pseudonirmus*, labelled

Lipeurus lugubris TASCHEBERG. It is almost certain that these are syntypes of *L. lugubris* and they are possibly also syntypes of *sulae* as TASCHEBERG suggests (1882: 154). It is not possible to say with any certainty to what genus RUDOW's description of *sulae* refers; parts of the description could apply to a *Pseudonirmus* and parts to a *Pectinopygus*. However, the name has invariably been used for the species of *Pectinopygus* found on the type host (WATERSTON, 1923: 289, 1928: 82, FERRIS 1932: 64; THOMPSON 1937: 540, 1939: 211, 1940: 52; HOPKINS and CLAY, 1952: 270). It would, therefore, cause considerable confusion to assume (and it can be no more than conjecture) that these specimens are the syntypes of *sulae* as well as of *lugubris* since this would mean using *sulae* for a petrel parasite whereas it has always been used in a different genus for a parasite of *Sula*. It would also mean unnecessary name changing to discard the name *sulae* altogether and to refer to the species of *Pectinopygus* from *Sula leucogaster* by some other name, and the most satisfactory course is to assume that RUDOW's original material was, a *Pectinopygus* and to fix the name *sulae* by the erection of a neotype, as is done below.

It has always been assumed that *Lipeurus lugubris* TASCHEBERG, 1882 was the same species as *L. gurlti* TASCHEBERG, 1882, but the syntypes show that *lugubris* is the species normally found on *Thalassoica antarctica* and which was described by HARRISON, 1937 as *Pseudonirmus antarcticus*, whereas *gurlti* is the species normally found on *Daption capense*. TASCHEBERG, in his original description of *lugubris*, correctly pointed out the differences between these two species, and his figure of *lugubris* shows one of the most characteristic differences between the males of the two species — that in *lugubris* the temporal carinae are indefinite in appearance and merge into the general colour of the head which is darker than in *gurlti* (in specimens over-treated with caustic potash they may not be apparent at all), while in *gurlti* they stand out conspicuously. As the name *Pseudonirmus antarcticus* HARRISON, 1937 is preoccupied by *P. antarcticus* (VALETTE), 1913 (*P. charcoti*) the name *lugubris* can be used for the species of *Pseudonirmus* from *Thalassoica antarctica*.

Lectotype of *Lipeurus lugubris* TASCHEBERG, 1882: ♂ in the Hamburg Museum.

Neotype of *Lipeurus sulae* RUDOW, 1869

MALE. General appearance as figured by FERRIS (1932:65, fig. 16 b from a specimen taken from *Sula sula websteri*). Tergal chaetotaxy as shown by FERRIS (ibid) but segment II (1st apparent segment) has 1 + 1 anterior and 2 + 2 posterior setae; ventral setae as in same figure, but the setae are longer than shown and there are 2 + 2 metasternal setae, the longest of which reaches to the posterior margin of abdominal segment II. Ventral chaetotaxy of terminal segments (frequently a useful specific character in *Pectinopygus*) shown in fig. 5. It has not been possible, with the available material to give a detailed reconstruction of the male genitalia, but figure 6 shows the form of the parameres which are probably diagnostic for the species.

FEMALE. This sex is distinguished from other species by the proportions of the head, shape of the genital plate and the chaetotaxy of the genital region (fig. 7).

Measurements in mm.

	Male.		Female.	
	Length.	Breadth.	Length.	Breadth.
Head.	0.70	0.50	0.70	0.55
Anterior plate.	0.20		0.18	
Prothorax.		0.36		0.37
Pterothorax		0.43		0.48
Abdomen		0.53		0.72
Total	2.78		2.94	
Genitalia.	0.51			

Neotype of *Lipeurus sulae* RUDOW, 1869:♂ (as described above) in the British Museum (Natural History), slide no. 13438 a from *Sula leucogaster plotus* FORSTER, from Java; allotype: ♀ and neoparatypes: 1 ♂, 5 ♀♀ with the same host data.

Lipeurus suturalis RUDOW

(1869 a: 44 and 1870: 136)

Type host: *Aquila fulva* = *Aquila chrysaetos* (LINN.).

Hamburg Museum: 1♂, 1♀ (now mounted) and 12 nymphs *Falcolipeurus* labelled *Lipeurus* 4 — *pustulatus* NITZSCH from the type host.

The two adult specimens are in poor condition, but the male is certainly not the same as authenticated material from the type host. As the name *suturalis* has always been applied to the *Falcolipeurus* from *Aquila chrysaetos*. and as it is not certain that these specimens are RUDOW'S types, it does not seem reasonable to base the interpretation of *suturalis* on them and to change the name of the species from this host. It will, therefore, be presumed that these specimens are not those from which RUDOW made his original description and a neotype for *L. suturalis* will be designated by Mr. B. K. TANDAN who is at present revising the genus *Falcolipeurus*.

Lipeurus trapezoideus RUDOW

(1869 a: 42 and 1870: 131)

Type host: *Phoenicopterus antiquorum* TEMMINCK.

Hamburg Museum: 2 ♂♂, 3 ♀♀ and 3 nymph *Anaticola* (2 ♂♂, 2 ♀♀ now mounted) labelled *Lipeurus subsignatus* GIEBEL from the type host.

These are probably RUDOW'S specimens of *L. trapezoideus* relabelled as a result of TASCHENBERG'S opinion (see 1882:128) that this species was the same as *L. subsignatus*. RUDOW'S specimens are the normal *Anaticola* species found on *Phoenicopterus antiquorum*, the earliest name for which is *Anaticola phoenicopteri* (COINDE), 1859.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Anaticola p. phoenicopteri* (COINDE), 1859.

Metopeuron punctatum RUDOW

(1870: 139)

Type host: *Cygnus musicus* = *Cygnus cygnus* (LINN.).

Hamburg Museum: 3 ♀♀ (now mounted) and 5 nymph *Ornithobius* labelled *Ornithobius bucephalus* from type host.

These are most probably RUDOW'S original specimens labelled by TASCHEBERG (see 1882: 192). RUDOW'S specimens are the same species as that usually found on the type host, and which was redescribed as *O. cygni* (LINN.), by CLAY and HOPKINS (1950: 235). The neotype of *O. punctatus* (RUDOW) erected in this same paper (:239) now has no standing.

Lectotype: ♀ in the Hamburg Museum.

Present status: *Ornithobius cygni* (LINN.), 1758.

Ornithobius rostratus RUDOW

(1866 b: 465, 1869 a: 46 and 1870: 141)

Type host: *Chenalopex aegypticus*: *Alopochen aegyptiaca* (LINN.).

Hamburg Museum: 2 nymphs (now mounted) *Acidoproctus* labelled *Ornithobius (Acikoproctus) rostratus* RUDOW from *Anser aegyptiacus*.

HOPKINS (1938: 192) has discussed the synonymy in the genus *Acidoproctus* and has shown that there are two African species, one of which he calls the "duck-species" found on *Dendrocygna* and the other the "goose-species" found on *Alopochen* and *Plectropterus*. The two nymphs now in the RUDOW collection at Hamburg have been compared with nymphs of the same body length from *Dendrocygna* and *Plectropterus* and there is no doubt that they belong to the "goose-species"; this is also true of the specimen from the RUDOW Collection drawn by TASCHEBERG (1882, pl. 7, fig. 3). TASCHEBERG was, therefore, wrong in saying (:197) that this specimen was the same as PIAGET'S *marginatus*, another nymphal *Acidoproctus* which belongs to the "duck-species" as is at once apparent from PIAGET'S figure (1878, pl. 12, fig. c) and confirmed by an examination of the type in the British Museum. At the time that HOPKINS revised the synonymy of the genus, it was believed that the RUDOW collection was lost except for some specimens with the NITZSCH, GIEBEL and TASCHEBERG material in the Halle Museum. There was one nymph at Halle (now destroyed with the bulk of the NITZSCH collection) of the original RUDOW material and this according to Dr. VON KÉLER was an undoubted member of the "duck-species" (see HOPKINS, 1938: 194). It would, therefore, appear that RUDOW must have had specimens of both the duck-and goose-species which is quite possible as the collection was made mainly from skins, and the two hosts might easily be collected on the same day.

As subsequent workers have followed HOPKINS, 1938 as the first reviser and used the name *rostratus* RUDOW for the species found on *Dendrocygna*, and as a neotype from *Dendrocygna viduata* (LINN.), has been designated (CARRIKER, 1949: 378), *rostratus* can and should be used in this sense. In case some future worker feels moved to upset this established synonymy application will be made to the International Commission on Zoological Nomenclature to have the name *Acidoproctus rostratus* (RUDOW), 1866 added to the Official List of Specific Names in Zoology for use for the species of *Acidoproctus* found on *Dendrocygna viduata* as described by CARRIKER, 1949: 377—380, figure 44 a—c.

Neotype as erected by CARRIKER, 1949: 378: ♂ in the British Museum, slide No. 440 from *Dendrocygna viduata* (LINN.), from Rustenberg Dist., Transvaal, S. Africa; ex HOPKINS collection.

Present status: *Acidoproctus rostratus* (RUDOW), 1866.

Trichodectes breviceps RUDOW

(1866 a: 110, pl. 5, fig. 2)

Type host: *Auchenia Llama*: *Lama huanaca glama* (LINN.).

Hamburg Museum: 14 ♀♀ (3 now mounted) *Damalinea* from type host.

This species was discussed and figured by TASCHENBERG (1882: 215) and KÉLER (1938: 453) both of whom saw material from the Hamburg Museum which was presumably also part of the original type material.

Lectotype: ♀ in the Hamburg Museum.

Present status: *Damalinea (Lepikentron) breviceps* (RUDOW), 1866.

Trichodectes longiceps RUDOW

(1866 a: 110, pl. 6, fig. 1)

Type host: *Antilope arabica* *Gazella arabica* LICHTENSTEIN.

Hamburg Museum: 1 ♂, 1 ♀ (mounted) *Damalinea* labelled *Trichodectes cornutus* GV. from type host.

These specimens are presumably the pair of *longiceps* from which TASCHENBERG (1882: 220) made his description and figures of *cornutus* GERVAIS, and which he re-labelled with this latter name. Apart from these specimens there is no record in the literature of a Trichodectid from *Gazella arabica*, and no subsequent author seems either to have seen GERVAIS' material or fresh material from *Gazella dorcas*, the type host of his species. In these circumstances it is impossible to say whether *longiceps* is a synonym of *D. cornuta* or whether it is the species which occurs normally on *Gazella arabica*. RUDOW'S syntypes show that *longiceps* resembles *spinifer* HOPKINS most nearly among known species.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Damalinea (Tricholipeurus) longiceps* (RUDOW), 1866.

Trichodectes mambricus RUDOW

(1866: 111, pl. 6, fig. 2)

Type host: *Hircus mambricus* aus Westafrika *Capra hircus* LINN.

In the Hamburg Museum there are five specimens labelled *Trichodectes climax* N., of which the single male is *Damalinea limbata* (GERVAIS) *sensu* WERNECK, 1936: 545—550. The host is given as *Capra hircus* and there is no reason to believe that these are part of RUDOW'S type material of *mambricus*. Whatever name had been given to the parasite by subsequent workers it is unlikely that the name of the host would have been changed. These specimens will not, therefore, be regarded as syntypes of *mambricus* and this name can remain in the synonymy of *caprae* where it is usually placed.

Trichodectes mexicanus RUDOW

(1866: 109, pl. 5, fig. 1)

Type host: *Cercolabes mexicanus* *Coendou mexicanum* (KERR).

Hamburg Museum: 2 nymphs (1 mounted).

These are presumably the two specimens seen by TASCHEBERG (1882: 221) which he referred to as males although his figures (p. 7, fig. 8) shows a nymph. WERNECK (1945: 123—127) has redescribed and figured this species from adult males and females.

Lectotype: Nymph in the Hamburg Museum.

Present status: *Eutrichophilus mexicanus* (RUDOW), 1866.

Trichodectes solidus RUDOW

(1866: 112, pl. 7, fig. 2)

Type host: Ziege von Guinea — *Capra hircus* LINN.

Hamburg Museum: 43 specimens (5 ♂♂, 4 ♀♀ mounted) of *Damalinea* from *Capra* sp., Guinea labelled *Trichodectes climax* N.

There is little doubt that these specimens are part of the type material of *T. solidus* RUDOW, probably re-labelled by TASCHEBERG who considered (1882: 213) *T. solidus* to be a synonym of *T. climax* (= *caprae* GURLT). These specimens are mixed *T. caprae* and *T. limbatus* and following TASCHEBERG'S restriction of this species as a synonym of *caprae* a male of this latter species will be selected as lectotype. As females of *T. caprae* and *limbatus* cannot be distinguished it is not possible to make female paratypes.

Lectotype: ♂ in the Hamburg Museum which agrees with WERNECK'S figures (1936, figures 176 and 178) of *Damalinea caprae*.

Present status: *Damalinea (Bovicola) caprae* (GURLT), 1843.

APPENDIX

Lipeurus ischnocephalus TASCHEBERG

(1882: 173, pl. 6, fig. 8)

Type host: *Talegallus lathami* — *Alectura lathami* J. E. GRAY

Hamburg Museum: 1 ♂ (mounted) *Oxylipeurus* from type host.

This male is no doubt one of the two males mentioned by TASCHEBERG in his original description. The other specimen was in the Halle Collection (see CLAY, 1938: 161) and was presumably destroyed with the greater part of that collection. This specimen is the same as authenticated material from the type host.

Lectotype: ♂ in the Hamburg Museum.

Present status: *Oxylipeurus ischnocephalus* (TASCHEBERG), 1882.

Summary

A collection of Mallophaga in spirit recently found in the Hamburg Museum is believed to be mainly type material of species described by RUDOW. These and other species discussed in the present paper are listed below together with their present status. Application will be made to the International Commission on Zoological Nomenclature to have those species marked in this list as rejected, placed on the Official Index of Rejected and Invalid Specific Names in Zoology. The collection also contains syntypes of two TASCHEBERG species. A neotype is designated for *Lipeurus sulae* RUDOW and a new name proposed for *Goniodes mamillatus* KÉLER n e c RUDOW.

Original Name	Present Status
<i>Menopon giganteum</i> RUDOW, 1869	<i>Ancistrona vagelli</i> (J. C. FABRICIUS), 1787
<i>Menopon lucidum</i> RUDOW, 1869	<i>Nosopon lucidum</i> (RUDOW), 1869
<i>Menopon numenii</i> RUDOW, 1869	<i>Austromenopon crocatum</i> (NITZSCH), 1866
<i>Menopon quinqueguttatum</i> RUDOW, 1869	Rejected
<i>Colpocephalum commune</i> RUDOW, 1866	Rejected
<i>Colpocephalum flavum</i> RUDOW, 1866	<i>Menacanthus flavus</i> (RUDOW), 1866
<i>Colpocephalum impressum</i> RUDOW, 1866	<i>Colpocephalum impressum</i> RUDOW, 1866
<i>Colpocephalum longicorne</i> RUDOW, 1869	<i>Colpocephalum longicorne</i> RUDOW, 1869
<i>Colpocephalum numenii</i> RUDOW, 1866	Rejected
<i>Colpocephalum polybori</i> RUDOW, 1869	<i>Colpocephalum polybori</i> RUDOW, 1869
<i>Colpocephalum unicolor</i> RUDOW, 1866	Rejected
<i>Goniodes cupido</i> RUDOW, 1870	<i>Goniodes cupido</i> RUDOW, 1870
<i>Goniodes diversus</i> RUDOW, 1870	<i>Chelopistes diversus</i> (RUDOW), 1870
<i>Goniodes eximius</i> RUDOW, 1869	<i>Chelopistes eximius</i> (RUDOW), 1869
<i>Goniodes flavus</i> , RUDOW, 1869	<i>Campanulotes flavus</i> (RUDOW), 1869
<i>Goniodes longus</i> RUDOW, 1869	<i>Goniodes longus</i> RUDOW, 1869
<i>Goniodes mamillatus</i> RUDOW, 1870	Rejected
<i>Goniodes rotundus</i> RUDOW, 1869	Rejected
<i>Goniocotes fissus</i> RUDOW, 1869	<i>Goniodes fissus</i> (RUDOW), 1869
<i>Goniocotes rotundatus</i> RUDOW, 1869	<i>Heptapsogaster rotundatus</i> (RUDOW), 1869
<i>Nirmus alchatae</i> RUDOW, 1870	Rejected
<i>Nirmus fasciatus</i> RUDOW, 1869	<i>Degeeriella fasciata</i> (RUDOW), 1869
<i>Nirmus paradoxus</i> RUDOW, 1869	Rejected
<i>Nirmus quadraticollis</i> RUDOW, 1870	<i>Degeeriella quadraticollis</i> (RUDOW), 1870
<i>Nirmus tenuis</i> RUDOW, 1870	Rejected
<i>Docophorus eos</i> RUDOW, 1869	<i>Psittocus eos</i> (RUDOW), 1869
<i>Docophorus microceras</i> RUDOW, 1869	<i>Cummingsiella ovalis</i> (SCOPOLI), 1763
<i>Lipeurus alchatae</i> RUDOW, 1869	<i>Syrnhaptoecus alchatae</i> (RUDOW), 1869
<i>Lipeurus angustus</i> RUDOW, 1869	<i>Columbicola angustus</i> (RUDOW), 1869
<i>Lipeurus asymmetricus</i> RUDOW, 1869	<i>Anaticola asymmetricus</i> (RUDOW), 1869
<i>Lipeurus australis</i> RUDOW, 1869	<i>Anaticola australis</i> (RUDOW), 1869
<i>Lipeurus candidus</i> RUDOW, 1869	<i>Anaticola phoenicopteri candidus</i> (RUDOW), 1869
<i>Lipeurus cinereus</i> RUDOW, 1869	<i>Anaticola crassicornis nyrocae</i> (RUDOW), 1870
<i>Lipeurus cygnopsis</i> RUDOW, 1869	<i>Anaticola cygnopsis</i> (RUDOW), 1869
<i>Lipeurus lugubris</i> TASCHENBERG, 1882	<i>Pseudonirmus lugubris</i> (TASCHENBERG), 1882
<i>Lipeurus ischnocephalus</i> TASCHENBERG, 1882	<i>Oxylipeurus ischnocephalus</i> (TASCHENBERG), 1882
<i>Lipeurus maximus</i> RUDOW, 1869	<i>Esthiopterum maximum</i> (RUDOW), 1869
<i>Lipeurus meridionalis</i> RUDOW, 1869	Rejected
<i>Lipeurus nyrocae</i> RUDOW, 1870	<i>Anaticola crassicornis nyrocae</i> (RUDOW), 1870
<i>Lipeurus polybori</i> RUDOW, 1869	Rejected
<i>Lipeurus punctulatus</i> RUDOW, 1869	<i>Anaticola punctulatus</i> (RUDOW), 1869

Original Name	Present Status
<i>Lipeurus rubromaculatus</i> RUDOW, 1869	<i>Anaticola rubromaculatus</i> (RUDOW), 1869
<i>Lipeurus sulae</i> RUDOW, 1869	<i>Pectinopygus sulae</i> (RUDOW), 1869
<i>Lipeurus suturalis</i> RUDOW, 1869	<i>Falcolipeurus suturalis</i> (RUDOW), 1869
<i>Lipeurus trapeziodeus</i> RUDOW, 1869	<i>Anaticola p. phoenicopteri</i> (COINDE), 1859
<i>Metopeuron punctatum</i> RUDOW, 1870	<i>Ornithobius cygni</i> (LINN.), 1758
<i>Ornithobius rostratus</i> RUDOW, 1866	<i>Acidoproctus rostratus</i> (RUDOW), 1866
<i>Trichodectes breviceps</i> RUDOW, 1866	<i>Damalinia (Lepikentron) breviceps</i> (RUDOW), 1866
<i>Trichodectes longiceps</i> RUDOW, 1866	<i>Damalinia (Tricholipeurus) longiceps</i> (RUDOW), 1866
<i>Trichodectes mexicanus</i> RUDOW, 1866	<i>Eutrichophilus mexicanus</i> (RUDOW), 1866
<i>Trichodectes solidus</i> RUDOW, 1866	<i>Damalinia (Bovicola) caprae</i> (GURLT), 1843

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