

NOTES ON THE *BRÜELIA* GROUP OF MALLOPHAGA  
(FEATHER-LICE), WITH DESCRIPTIONS OF  
FOUR NEW SPECIES

BY

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(With four text figures)

Significant success has already attended the study of the relationships of different mallophaga in their bearing on the phylogeny and systematics of their avian hosts (see Clay, *JBNHS* 49: 430-443, December 1950).

The main difficulty lies in the fact that a great many mallophaga are as yet insufficiently known, or not at all. Even so there are a few groups about which our knowledge is fairly satisfactory, though in others there is still much confusion. This confusion is partly the result of faulty collecting techniques, particularly in cases where special methods are called for. For example, from the 'song birds' (passerines) we normally obtain species of *Docophorulus* (Philopterini) which in a dead bird soon make their appearance on the outer surface of the head feathers. Even in the case of a living bird with the head firmly secured and the feathers of the hindcrown turned over one by one, I have found it easy to pick up with a pair of tweezers specimens of *Docophorulus* from near the surface.

However, with *Brüelia* species this is not so easy. It had puzzled me at first as to why this genus was so poorly represented numerically among collections received from correspondents, and why the Philopterini were always so much more abundant. It was only when actually collecting myself that I discovered how difficult it was to obtain Brüeliini from the plumage of living song birds. Even in the case of dead birds Brüeliini often appear on the surface only some days after their host being killed. In fact sometimes even after days they do not show up at the surface, and they only fall out when the carcass is vigorously shaken.

For studying mallophaga one may sometimes depend on shaking out bird skins in ornithological collections in this manner to obtain the dead feather lice. By this method one may expect to get *Brüelia* spp. relatively easily. Quite the opposite is the case with the amblycerous feather lice (Colpocephalidae and Menoponidae) which try to abandon their host soon after its death. Thus they will not be found in the plumage of museum specimens so commonly.

The above method of shaking out the mallophaga from museum skins is, however, fraught with some danger of unreliability. During the course of preparation, the skin might have got 'tainted' with some mallophaga which do not belong to itself but to another bird with which it may have accidentally come in contact. Especially where single specimens of mallophaga are concerned caution becomes necessary. But even in cases where greater quantities of certain

mallophagan species are found, a suspicion still lingers that a false diagnosis might have been facilitated in this manner.

On account of their habits it is somewhat unusual to find the Brüeliini on a freshly killed bird. These often leave the plumage only after a day or two, and therefore it is necessary to put away the carcase for this time. But in that case the bird's body is likely to become useless either for skinning or for eating.

I have observed that the Brüeliini normally appear on the belly region of a dead bird. Therefore it seems reasonable to conclude that this region is the natural 'habitat' of the *Brüeliae*. Unfortunately almost nothing is known about the bionomics of the various *Brüelia* spp. Even the data concerning their occasional blood meals—based on Nitzsch's observations, which we find interspersed in Giebel's monograph—are not entirely free from doubt.

Concerning the eggs it may perhaps be useful if I quote here Pflieger's hitherto unpublished description of those of *Brüelia nebulosa*. This author found the *Brüelia* eggs on the Starling (*Sturnus vulgaris*) on the underside of the side feathers of the crop, on the upper breast, and the lower back. The eggs are attached to the radii by means of a white cement. The arrangement of the eggs is similar to that in other Brüeliini. Their shape is somewhat stretched (long and narrow). The egg-shell, including the egg-cap, is white to weak yellowish, with a surface like fine shagreen leather; the egg-cap bears a flagelliform appendix. The openings of the micropylae are placed on low pustules which stand in an irregular circle on the edge of the cap.

The systematic investigation of the Brüeliini leaves much to be desired. It is the merit of Keler to have erected the genus *Brüelia* and to have contributed in some measure towards the determination of its species. But the knowledge of forms within the genus had not been essentially widened by him. My own review (1946) cannot be interpreted otherwise than as purely tentative, as an attempt to put in order the hitherto described mallophagan species and, as far as possible, to ascribe them to the hitherto recognized genera.

The Brüeliini of the song birds are characterized by two peculiarities: first, closely related or even identical forms live on host species which, in some cases, are very different. For instance Keler 1936c reports that he was unable to distinguish *Brüelia trithorax* of *Paroaria cucullata* (a West Indies finch) from *Brüelia cyclothorax* of *Passer montanus* (the Tree Sparrow) and *Fringilla montifringilla* (the Brambling). Secondly, it has recently been found that near relations of the genus *Brüelia* (*sensu stricto*) live on some of the same birds. For instance, thrushes of the genus *Turdus* are infested, besides the genus *Brüelia*, by species of *Allobrüelia* and *Turdinirmus* also.

Further investigation of the Brüeliini is urgently needed for a proper understanding of the species. To assist such an investigation I give below the diagnoses of some new species of the *Brüelia*-relationship.

It will probably be necessary to erect some new generic groups of Brüeliini when we come to know more of the forms. Even today this is true of the differentiation of *Brüelia* and *Allobrüelia*. In some

cases it is difficult to decide if a certain species from other bird-hosts than *Turdus* spp. should be ascribed to the one genus or the other. But the allocation of mallophaga from a bird other than *Turdus* species to the genus *Allobrüelia* may, in the present state of our knowledge, be considered somewhat questionable. Therefore my ascribing to this genus the two new species described below, namely *rhinocichlae* and *museiberolinensis*, from members of the families Sturnidae and Timaliidae respectively must be treated as provisional.

*Allobrüelia museiberolinensis* spec. nov.

In the collection of the Zoologisches Museum, Berlin, from *Mino dumontii kreffti* Scl. (Fam. Sturnidae). Locality 'Bismarek-Archipelago' (slides WEC 2072).

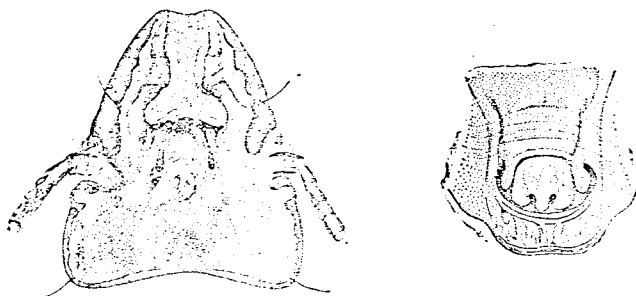


FIG. 1. Head and male genitalia of *Allobrüelia museiberolinensis* spec. nov. from *Mino dumontii kreffti*.  
Drawn by P. Reese from slide WEC 2072.

The new species, which otherwise resembles the *Allobrüelia*-type is characterized by the rather heavy thickened limbus zygomaticus (fig. 1). Holotype slide no. WEC 2072 ♂, allotype no. 2072 ♀; the others paratypes.

*Allobrüelia rhinocichlae* spec. nov.

In Mjoberg's Sumatra collection in the Riksmuseum, Stockholm, from *Rhinocichla mitrata* (*mitrata*) S. Müll. (Fam. Timaliidae) (slide WEC 2257).



FIG. 2. Head of *Allobrüelia rhinocichlae* spec. nov. from *Rhinocichla mitrata*.  
Drawn by P. Reese from slide WEC 2257.

The new species is readily distinguished from the type of *Allobrüelia amsel* by the form of the head as represented in fig. 2, as well as by the straight-sided (almost quadrangular) signature of

the clypeus. Furthermore *A. rhinocichlae* nov. spec. has the edges of the osculum more rounded, the forehead is more slender, the antennae are more thickened (whilst in *A. amsel* they are rather slim) and the sides of the hind head are more trapezoidal (in the case of *A. amsel* they are pronounced convex rounded). Holotype slide no. 2257.

***Brüelia fulmeki* spec. nov.**

From a specimen labelled '*Calornis payanensis*' [*Aplonis panayensis strigatus* Horsf. (Fam. Sturnidae)] Locality Medan (Sumatra), slide no. WEC 785.

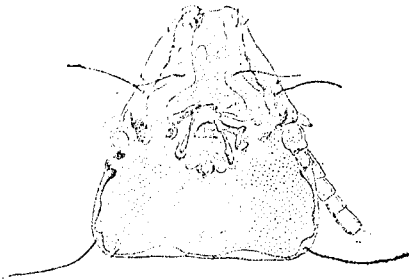


FIG. 3. Head of male of *Brüelia fulmeki* spec. nov.  
from *Aplonis panayensis strigatus*.  
Drawn by P. Rose from slide WEC 785.

The new species is characterized by its straight-sided forehead which is trapezoidal and has a narrow, rather deep osculum and a broad and vigorous limbus zygomaticus. The clavi are large and pointed. The species stands somewhat far removed from *Brüelia* (*sensu stricto*), and shows no near relationship, e.g. to *B. nebulosa*. Perhaps it would be necessary to separate the species generically. Fig. 3 shows the head of the male. Holotype slide ♂ no. 785.

***Brüelia muniae* spec. nov.**

One female only (slide no. WEC 774, holotype). Host *Munia maja* (Linn.) (Family Ploceidae, Subfamily Estrildinae). Locality Medan (Sumatra, O. K.).

The new species is characterized by the straight-sided forehead which is long-stretched and triangular. Osculum moderately deep and so narrow that the configuration of a food-channel is clearly visible. Clavi short and blunt, like trabeculae. Contrary to this, the antennae are strikingly strong and long. The species is rather remote from *Brüelia* (*sensu stricto*). Undoubtedly it will be necessary to separate it generically. Unfortunately I do not know the male. The head of the female is shown by fig. 4. Holotype ♀ 774.

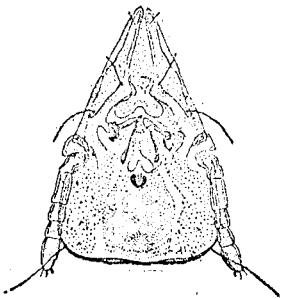


FIG. 4. Head of female of *Brüelia muniae* spec. nov. from *Munia maja*.  
Drawn by P. Rose from slide WEC 774.