NOTES ON THE BRÜELIA GROUP OF MALLOPHAGA
(Feather-Lice), WITH DESCRIPTIONS OF
FOUR NEW SPECIES

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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 Docophorus (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 hinder crown turned over one by one, I have found it easy to pick up with a pair of tweezers specimens of Docophorus 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
Brüelini 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 Brüelini 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 Pfeiler'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 Brüelini. 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 Brüelini 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 (1936) 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 Brüelini 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
trilhorax of Puroaria cucullata (a West Indies finch) from Brüelia
cyclohorax 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
Turdiniorus also.

Further investigation of the Brüelini 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 Brüelini 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 rhinocichlæ 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 Sel. (Fam. Sturnidae). Locality ‘Bismarck-Archipelago’ (slides WEC 2072).

![Fig. 1. Head and male genitalia of Allobrüelia museiberolinensis spec. nov. from Mino dumontii kreffti.](image)

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 rhinocichlæ spec. nov.**

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

![Fig. 2. Head of Allobrüelia rhinocichlæ spec. nov. from Rhinocichla mitrata.](image)

The new species is readily distinguished from the type of Allobrüelia amset 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. ansel* they are rather slim) and the sides of the hind head are more trapezoidal (in the case of *A. ansel* they are pronounced convex rounded). Holotype slide no. 2257.

**Büelia fulmeki** spec. nov.

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

![Fig. 3. Head of male of Büelia fulmeki spec. nov. from Aplonis payanensis striatus.](image)

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 zygomatisicus. The clavi are large and pointed. The species stands somewhat far removed from Büelia (*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 of no. 785.

**Büelia 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 Büelia (*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.