# Two new Mallophaga from the large white-rumped swift *Apus pacificus pacificus* (LATHAM), 1801

BY

Hiroshi NAKAGAWA

1959 年 8 月

衛生動物第10巻第3号別刷

*Reprinted from* Japanese Journal of Sanitary Zoology
Vol. 10 No. 3, August 1959

# Two new Mallophaga from the large white-rumped swift *Apus pacificus pacificus* (LATHAM), 1801[1)]

BY

Hiroshi NAKAGAWA[2)]

The Mallophagan genera *Dennyus* and *Eureum*, which infest only swifts or Apodi, are found on the large white-rumped swift, *Apus pacificus pacificus* (LATHAM) from Japan. The genus *Dennyus* from the Japanese swifts has been previously known by two species, *Dennyus truncatus* UCHIDA, 1926 (*nec* OLFERS, 1816) and *Takamatsuia major* UCHIDA, 1926 and recently I redescribe and figure the latter as a subgenus of *Dennyus* (see NAKAGAWA, 1959). The genus *Eureum*, which is extremely rare in collecting, is still an unknown genus from Japan.

My best thanks are due to Drs. K. ASANUMA, S. UCHIDA and Prof. H. SAWADA for their guidance and encouragement. I am equally thankful to Mr. M. HASEGAWA and Dr. Th. CLAY for their generous help during the preparation of this paper. The material examined have been collected through the co-operation of Messrs. T. TAKADA and T. KAWAI. The specimen is in the author's collection.

## *Dennyus clayae* new species

Type host: *Apus pacificus pacificus* (LATHAM), 1801

*Diagnosis*: *Dennyus clayae*, n. sp. is closely related to *D. hirundinis* (LINN.) and *australis* EWING from the host belonging to the avian genus *Apus*, but from the related species this new species is easily separable as follows:

*D. clayae* differs from *hirundinis* in the arrangement of the lateral setae group (or coarsely extra patch) of sternite VII in both sexes (in the female, that of confused sternites VII-VIII) and by the shape of the male genitalia.

In the present species the setae group of sternite VII consisting of only four setae which distributed in 1-0-3; and the basal lateral margin of the basal plate is straight, without lateral lobe; while in *hirundinis* the setae group of the sternite consisting of 6-9 setae which distributed in 2-1(2)-3 in the male and in 1(2)-2-2-3 in the female; and in genitalia the lateral margin of the plate forms a distinct lateral lobe on each side.

*D. clayae* also differs from *australis* in the shape of the head and the chaetotaxy of the head and thorax. In *D. clayae*, the forehead flatly incurved in front and distinctly angulate laterally, the temple each bearing four longer setae, the lateral pronotal lobes of the prothorax bearing one long seta and two spines; while in *australis* the forehead strongly arched in front and slightly angulate laterally, the temple bearing two longer setae (inner pairs just developed), the lateral pronotal lobes bearing two long setae and two spines. Male genitalia confused with each other, not separable by it.

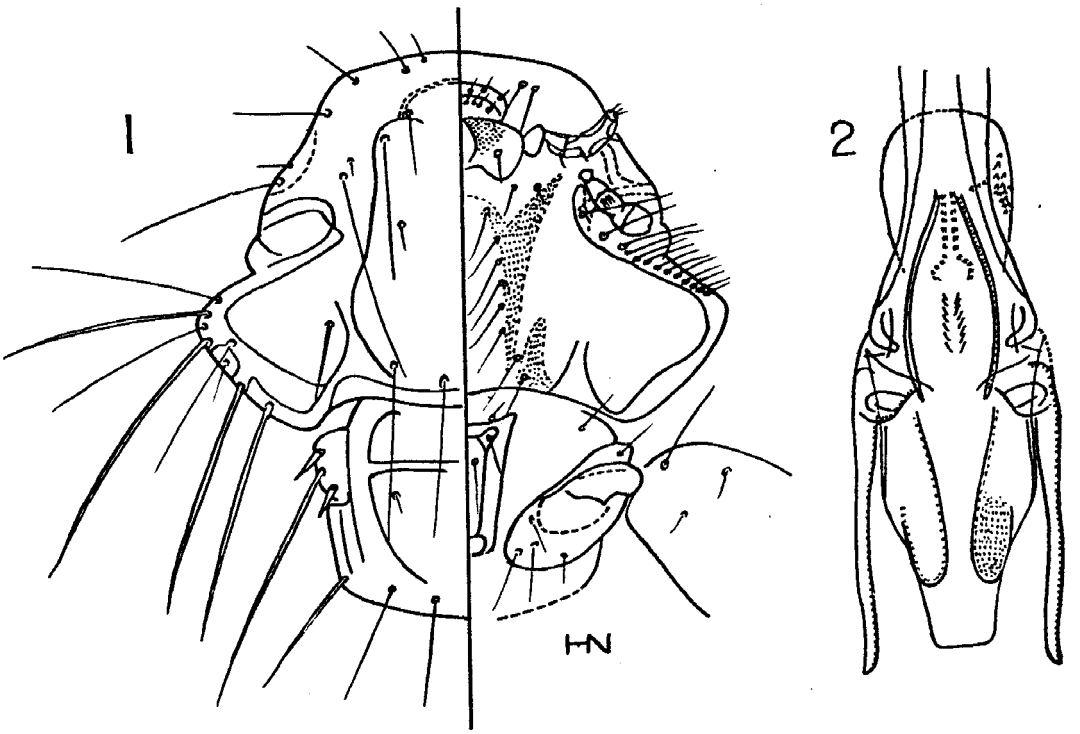
EWING (1930) showed the prosternal plate of *australis* in text-figure 7, b in which there are three setae in the lateral band and three in the clear area. As pointed out by CARRIKER (1954), however, in additional specimen of the species the setae arranged in the same manner as in *hirundinis* and in *clayae*, so that the author omits this character from the diagnosis.

In addition to the diagnosis given and the figures, a short description seems necessary.

*Types*: Holotype male from the type host collected in Hokkaido, 1958 July by K. KAWAI, allotype female and paratype female from the same host (No. 1628 of TAKADA Collection) collected in Nara Pref. 1956 by T. TAKADA. Besides the types, two youngs

1 Contribution from the Research Institute for Natural Resources, Tokyo, No. 938.

2 中川宏 Research Institute for Natural Resources.




*Dennyus clayae* n. sp., Dorsal and ventral view of male;
1. head and prothorax. 2. genitalia.

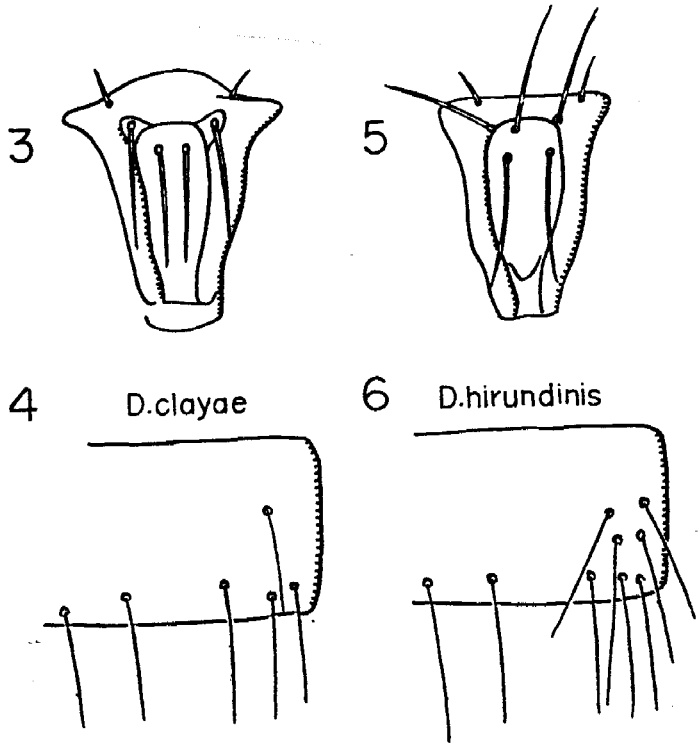
examined from the host collected at Aogashima and Hachijo in the Izu Seven Islands in 1958.

*Description*: Head broader than long, forehead flatly incurved in front and distinctly angulated laterally, temples quadrangular, with posterior angles rounded. Eyes with fused double corneas. Temporal lobe bearing four long setae which consisted of posteroapical, posterosubapical and two inner pairs. These setae much longer than the other cephalic setae. Occipital setae equally spaced and outer pair over two-thirds as long as the prothorax, while inner pair half as long as it. Gular plate having two rows of 7-8 slender setae along each lateral inner margins and one or two setae outside each posterior lateral angle.

Prothorax broader than long; lateral pronotal lobes pronounced, each bearing one long seta and two spines. Prosternal plate long and narrow posteriorly, with heavy lateral broader and bearing four moderate setae set in two rows in clear area, and two setae in lateral band, in addition to the anterior pair of minute setae. Mesothorax separated from the metathorax by a definite dorsal suture which is outwardly rounded behind. There is no dorsal seta except for one pair of marginal microsetae. Metathorax is nearly four times as wide as long, with posterior margin flatly pointed medially. It bears three pairs of short dorsal discal setae, of which posteriormost rather longer than the other two; a row of 6-7 long setae along posterior margin per side; and one setae and two spines on each postero-lateral angles.

Legs are normal for the genus, but the third pair of the femora are slender than in *hirundinis*, and each patch of setae extending for over two-thirds the length of the segment.

Setae at the lateral angles of tergites II to VII are long, there being two or three in each angles which are longer than the others. The dorsal chaetotaxy of tergites II to VII sparsely set as in the related




Prosternal plate and chaetotaxy of sternite VII of male; 3, 4. *D. clayae* n. sp. 5, 6. *D. hirundinis* (Linn.).

species and mostly longer the succeeding segments. Short, thick setae are scattered irregularly over the sternites. Sternites V and VI having the closely set patch of setae; while that (or lateral group of setae) of sternite VII (or VII-VIII complex) is very coarsely, it consists of only four setae arranged in 1-0-3 in both sexes.

Male Genitalia: Paramere are slender and slightly incurved apically. One pair of rods of the basal plate is moderate size, reaching to three-fifths the length of the plate. The shape of basal portion of the plate is the same type of that of *D. australis* in which there are no lateral lobes of basal portion.

*Remarks*: Dr. UCHIDA in 1926 recorded under the name of "*Dennyus truncatus* OLFERS" a series from *Apus pacificus* collected at Nagano Pref. This is the first record of the genus from Japan. *D. truncatus* (Sym. *hirundinis*) is only found on the European swift, *Apus apus* and we are recognized that the *Dennyus* population from *Apus pacificus* is a valid species, so that in all probability UCHIDA's material is not "*truncatus*", but *D. clayae* n. sp. described above.

The species has been named after Dr. Th. Clay for her kindness, especially in presenting the neoparatype of *D. hirundinis* compared with new species, thereby established the identification beyond question.

### *Eureum hasegawai* new species

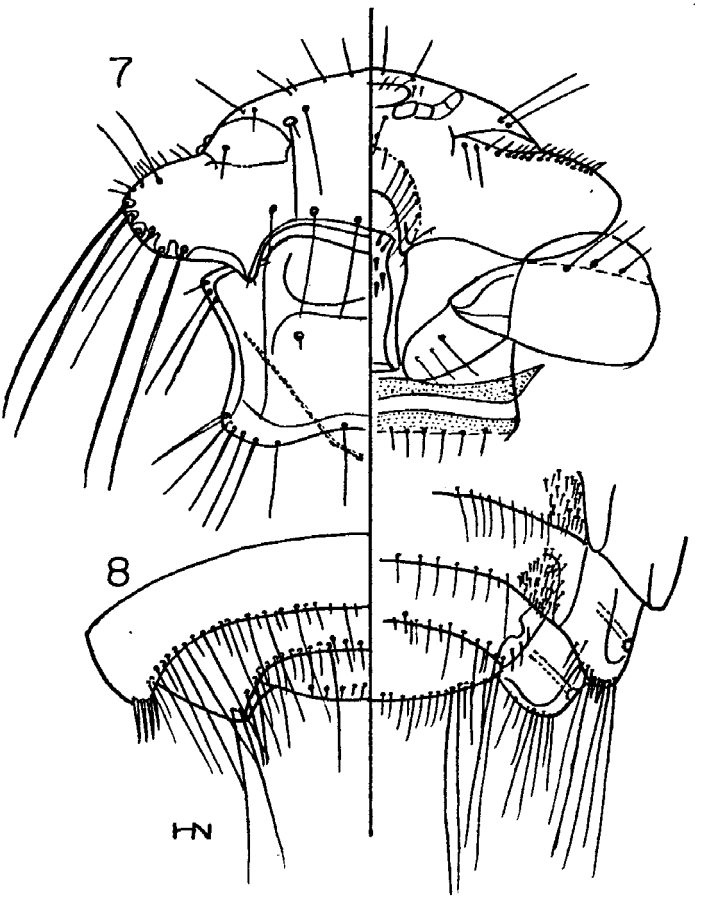
Type host: *Apus pacificus pacificus* (LATHAM). 1801

*Diagnosis*: *Eureum hasegawai*, n. sp., is related to the species from the host in the avian genus *Apus* and *Callocalia*, especially to *E. cimicoides* (Linn.), the type species of the genus, from the European swift, *Apus apus apus*. But this new species separable from the related species by the wider head (about 3 cephalic index), the chaetotaxy

of prosternal plate and the shape of male genitalia, in which the basal plate have a narrower posterior margin and comparatively larger rods.

*Type*: Holotype male from the type host collected in Nara Pref., 1956 by T. TAKADA.

*Description*: Head ~~thirds~~ size as broad as long, the frons being broadly, slightly pointed medially, and with a noticeable swelling at each side. In the dorsal chaetotaxy, setae scarce shown as in figure. Temples greatly expanded, the posterior margins of the temple bearing five or six longer setae, of which four reaching almost to the posterior angle of the metathorax. Posterior angles of the temple sharply produced backwards, so at glance they suggest the appendiculate ones, armed with two microsetae. Occipital margin strongly concaved; three pairs of setae equally spaced and outer pair of which fairly shorter than other two. Gular plate is an usual form of the genus, being deeply emarginate at posterior end, and bears along each side a series of about nine setae of considerable length, very slender apically.

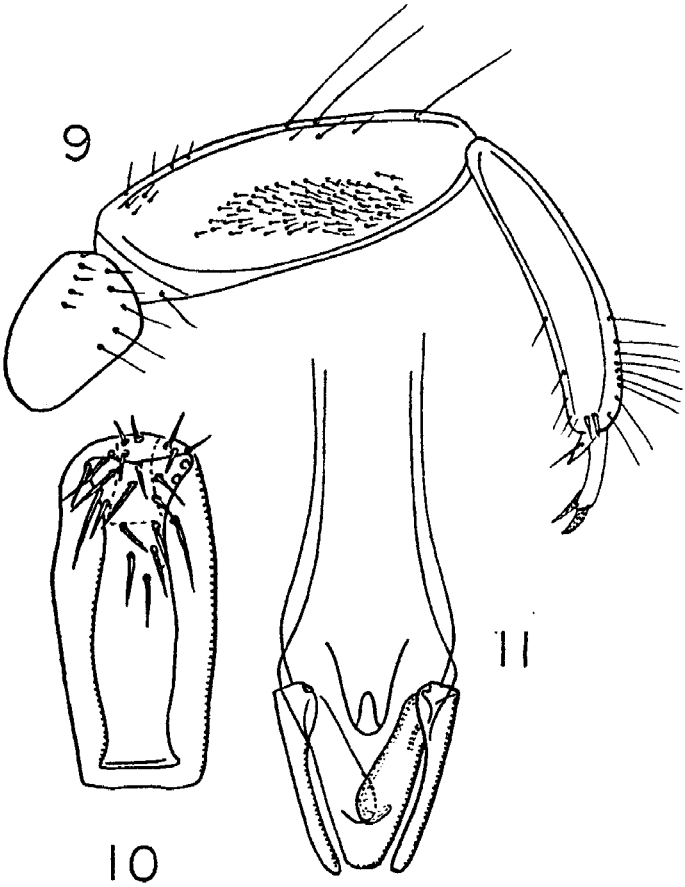



*Eureum hasegawai* n. sp. Dorsal and ventral view of male; 7. head and prothorax. 8. terminal segments.

Prothorax twice as broad as long; lateral pronotal lobes pronounced; bearing one spine and two slender setae on each side. Prosternal plate narrower rectangular in shape, with heavy lateral broader; set twenty short, peglike spines and three (?) moderate setae, thicker in anterior portion as figured. There being six strong setae around the rounded posterior angles of the prothorax and one slender seta on each side of the median notch. Mesothorax short, separable from the metathorax by a distinct suture: and overlapped by the posterior projection of the prothorax. Ventral surface of femora I without spine, but with some slender setae; femora III comparatively stout, possessing a ventral thick patch of setae which extending ~~for~~ over two-thirds the length of the segment. Tibiae II, III with nine setae on outer apical portion.

Abdomen short and broad, being about three-fourth as broad as long. It occurs a mixed row of medium-length setae and shorter one on the posterior margin of the tergites; a row of slender setae of uniform length on the posterior margin of the sternites except of terminal segments. A thicker patch in the postero-lateral angle of sternites V, VI & VII consisting of fine setae, but a patch of sternites VIII consisting of longer setae.

Male Genitalia: Basal portion of the basal plate is triangular-shaped, with a narrower straight posterior margin and bears slender, almost straight parameres which reaching a level of the tip of the plate. Rods comparatively larger and over-




*Eureum hasegawai* n. sp.

9. hind leg. 10. prosternal plate. 11. genitalia.

lap each other their inner posterior edges.

*Remarks*: There may be some doubt about the determination of this species, since *E. cimicoides* in the collection of British Museum is a *headless* male and a female (Dr. CLAY *in lett.*), while Japanese specimen consists of a male only and the female is still unknown. It is however, possible to say that *E. hasegawai* is a good species from the difference in male genitalia and more from the fact that the associated parasite, *D. clayae* is a valid species.

The species has been named after Mr. M. HASEGAWA for his kindness, especially for loan of a fine lot of reprints on Mallophaga.

## REFERENCES

1) Carriker, M. A. Jr. (1949): Proc. U. S. Nat. Mus., **100**: 1-24.—2) Carriker, M. A. Jr. (1954): Ibid., **103**: 533-549.—3) Clay, Th. and Hopkins, G. H. E. (1950): Bul. Brit. Mus, (Nat. Hist.), Entm., **1** (3): 223-272.—4) Emerson, K. C. and Pratt, H. D. (1956): J. Kansas Ent. Soc., **29** (1): 21-28.—5) Ewing, H. E. (1930): Proc. U. S. Nat. Mus., **77** (20): 1-16.—6) Nakagawa, H. (1959): J. Agric. Sci., **5** (1): 1-5.—7) Uchida, S. (1926): J. Coll. Agric. Tokyo, **9**: 31-32.