

LECTOTYPES OF MOSQUITOES (DIPTERA : CULICIDAE)
IN THE BRITISH MUSEUMPART III. GENERA *Sabethes*, *Udaya* AND *Aedes*
(SUBGENERA *Paraedes*, *Cancraedes* AND *Skusea*)By P. F. MATTINGLY
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THE British Museum has many species of mosquitoes the types of which consist either of a series of two or more syntypes or of unique specimens marked as the type but not published as such. The present is the third of a series of papers in which it is hoped to remedy this situation.

Genus *SABETHES* Robineau-Desvoidy

Sabethoides confusus Theobald, 1903, *Monogr. Culic.* 3 : 328. See below under *Sabethes nitidus*.

Sabethes nitidus Theobald, 1901, *Monogr. Culic.* 2 : 347.

Theobald (1901 : 347) described this species from "several ♀'s and a single ♂". The British Museum has the ♂ and 2 of his ♀. One of the ♀ was marked by Theobald as the type but not published as such. On the previous page he described another ♀ under the name *Sabethes remipes* Wiedemann. Subsequently (Theobald, 1903 : 328) he noted that "The two ♀'s described as ♀ *remipes* and *nitidus* are both the same", and he therefore united them "under the name I now propose, viz., *confusus*". A description of "*Sabethoides confusus*" follows, at the end of which he says "I have carefully examined the types of ♀ *remipes* and ♀ *nitidus* and am sure they are the same . . .". The identity of the specimen intended by Theobald as the type of *S. nitidus* is thus not in doubt and I have marked it as the holotype of this species. That he intended the same specimen to stand as the type of *S. confusus* is also indicated by his subsequent statement (Theobald, 1910 : 584) that the type of this species is in the British Museum, although he did not, in fact, mark it as such. I have therefore marked the same specimen as the holotype of *S. nitidus* and the holotype of *S. confusus*. Data for this specimen are "Para, Dr. Durham".

Genus *UDAYA* Thurman

Paraedes subgenus *Udaya* Thurman, 1954, *Mosq. News* 14 : 83.

Genus *Udaya* Thurman of Mattingly, 1958, *Cul. Mosq. Indomalayan Area*, 3 : 4 and *Proc. R. ent. Soc. Lond.* (B) 27 : 79.

This group was proposed by Thurman as a monotypic subgenus to include *Paraedes argyrurus* Edwards, mainly because of the very distinctive male terminalia. A further study of *Paraedes* s. str. (Mattingly, 1958a : 19) has revealed so many differences from *Udaya* that I have preferred to treat the latter as a distinct genus. It appears to be annectent between *Aedes* and the sabethine

group of genera, and it is possible that when it is more fully known it may be desirable to treat it as a subgenus of *Aedes* (Mattingly, 1958b : 79). For further discussion see below under *Paraëdes*.

Paraëdes (?) *argyrurus* Edwards, 1934, in Barraud, *Faun. Brit. Ind. Dipt.* 5 : 448.

Described from 2 ♀ from the same locality, both in the British Museum. There appears to be no doubt that they are conspecific. One lacks the abdomen ; the other is in relatively good condition and more or less complete. I have therefore marked it as the holotype. I have marked the incomplete specimen as a paratype. Data for the holotype are "Nongpoh, Assam, 14.vi.1921, S. R. Christophers" and it is numbered 2674. Data for the paratype are the same except that it is dated iii.1927. It is numbered 2675.

Genus *ÆDES* Meigen

Subgenus *Paraëdes* Edwards

Paraëdes Edwards, 1934, in Barraud, *Faun. Brit. Ind. Dipt.* 5 : 446.

This was described as a distinct genus mainly because Edwards believed that the two included species both lacked a squamal fringe in both sexes. In fact the female of *Paraëdes barraudi* Edwards was unknown to him while the absence of a squamal fringe from his female specimens was an artefact (Mattingly, 1958b : 80). The female of *P. barraudi* is still unknown but other related species have been discovered and these prove to have a well developed squamal fringe in the female (though not in the male) (Mattingly, 1958a : 4). A similar form of sexual dimorphism has been found in *Aedes* subgenus *Camcraëdes* (Mattingly 1958a : 5) and the fringe is almost completely lost in males of subgenus *Rhinoskusea* (Mattingly, 1958a : 5). *Paraëdes* has thus proved to be no more than a subgenus of *Aedes*.

Paraëdes barraudi Edwards, 1934, in Barraud, *Faun. Brit. Ind. Dipt.* 5 : 447.

Described from 2 ♂ with identical data, both in the British Museum. They are undoubtedly conspecific. Both were dissected by Edwards. I have marked the better of the two as holotype and the other as a paratype. Data for both are "Coorg, Virajpet, S. India, vi.1927, J. D. Baily". The holotype is numbered 2673 and the paratype 2672.

Aioretomyia ostentatio Leicester, 1908, *Stud. Inst. med. Res. F.M.S.* 3 (3) : 193.

Described from "a series of females". These are now represented only by 2 ♀ in the British Museum, marked as cotypes. Two other ♀, not so marked, belong to a distinct new species (Mattingly, 1958a : 29). Of the two cotypes one is very incomplete. I have therefore marked the other as holotype and the incomplete one as a paratype. Data for the holotype are "Patch of jungle, 4½ miles, Pahang Rd., Kuala Lumpur, 21.ix.1903" and for the paratype "Jungle, 5th mile, Gombak Road, 5.ii.1904". This species has long been treated as a *species incertae sedis* but it is in fact a perfectly typical *Paraëdes*. *Aë. pagei* Ludlow has been regarded as synonymous but is in fact quite distinct.

Subgenus *Cancraëdes* Edwards

The suppression of the male squamal fringe has been noted above. There are also a number of very good subgeneric characters in all stages which have previously been overlooked (see Mattingly, 1958a : 42, 1958b : 80).

Aedes cancricomus Edwards, 1922, *Indian J. med. Res.* **10** : 272, 1922.

This species was originally placed in *Skusea* but was later chosen as the type species of *Cancraëdes* (Edwards, 1929 : 342). The original description was based on a holotype ♂ in the British Museum, and 1 paratype ♂ and 1 paratype ♀ said to be shared between the British Museum and the Central Malaria Bureau, Kasauli. In fact the British Museum has 1 ♂ and 2 ♀, all sent at the same time as the holotype and therefore available to Edwards at the time he made his description. One of the ♀ lacks the abdomen and may have been omitted by him for this reason. I have marked the remaining ♀ as allotype and the ♂ as a paratype. The British Museum also has a number of other ♀ and a ♂, but these were sent later and cannot have been included in the original description. (The ♂ was sent as *Aë. simplex*, but see below.) Data for the holotype and allotype are "Andaman Is., Port Blair, ix. 1915, S. R. Christophers". The paratype should probably have the same data but these were apparently not sent. This specimen is very incomplete but has associated terminalia on which Edwards apparently based his drawing. The holotype is undissected. This species is confined to the Andamans and is the only species occurring there. Other records are erroneous (Mattingly, 1958a : 44).

Ficalbia simplex Theobald, 1903, *Monogr. Culic.* **3** : 297.

Described from a unique ♂ from Ceylon, in the British Museum. I have marked this as holotype. Theobald (1910 : 541) later described 2 ♀ which he designated as allotypes although he only marked one of them as type. Both of these are in the British Museum and I have marked the one chosen by Theobald as allotype since it appears as such in the literature and seems to be conspecific with the holotype. However, its value as a type specimen seems to me very dubious. This species is confined to Ceylon and other records are erroneous (Mattingly, 1958b : 80).

Aedes curtipes Edwards, 1915, *Bull. ent. Res.* **5** : 283.

Described from, *inter alia*, "2 ♀ (including type) from the old Sarawak Museum collection". These are in the British Museum and one was marked as type by Edwards. I have marked this as the holotype. Data for both specimens are "Sarawak, Kuching (?)". Edwards also included a specimen from Membakut, N. Borneo, in his description and I have marked this and the second Sarawak specimen as paratypes. The specimen from Klang, Selangor, which Edwards included in his description belongs to a different species, described elsewhere (Mattingly, 1958a : 51).

Subgenus *Skusea* Theobald

This formerly included a number of species now otherwise disposed. It was restricted by Edwards (1929 : 340).

Stegomyia fusca Leicester, 1908, *Stud. Inst. med. Res. F.M.S.* 3 (3) : 92.

This species was relegated to the synonymy of *Aë. (Skusea) amesi* Ludlow by Knight & Hull (1952 : 158). In addition to the three cotypes which they mention, the British Museum has a fourth specimen marked as such but possibly included in the cotype series in error since its data do not agree with those attached to the other specimens or those published by Leicester. This specimen is a *Cancraëdes* (Mattingly, 1958a : 51). The other cotypes comprise 2 ♂ and 1 ♀. One of the ♂ has the abdomen missing and I have marked this as a paratype and the other as holotype. I have marked the ♀ as allotype. Data for the ♂ are "Taken among atap palms by the railway at Klang, 6.i.04" (holotype) and "Near river bank, Klang, 6.i.04" (paratype). Both bear the number 64. The allotype has the same number and bears the data "Larva from atap palm, Port Swettenham, 6.i.04".

Aedes pambaensis Theobald, 1901, *Monogr. Culic.* 2 : 235.

Described from a unique ♀ holotype which is in the British Museum.

Aedes (Skusea) fumidus Edwards, 1928, *Bull. ent. Res.* 7 : 274.

Edwards marked a ♂ as type although he did not publish it as such. I have marked this specimen as the holotype. Data are "Singapore, D. H. C. Given". The type series contains one other ♂ and 4 ♀ which I have marked as paratypes except for one ♀ marked as allotype. Data for these specimens are the same as for the holotype except that the allotype bears the additional data "Bred from fallen tree trunk".

REFERENCES

- BARRAUD, P. J., 1934, *The fauna of British India. Diptera*, 5 (*Culicidae: Megarhinini and Culicini*). London.
- EDWARDS, F. W., 1915, Diagnoses of new Bornean Culicidae. *Bull. ent. Res.* 5 : 283-5.
- 1922, A synopsis of adult oriental culicine (including megarhinine and sabethine) mosquitoes. Part I. *Indian J. med. Res.* 10 : 249-93.
- 1928, Mosquito Notes, VII. *Bull. ent. Res.* 18 : 267-84.
- 1929, Mosquito Notes, VIII. *Ibid.* 20 : 321-43.
- KNIGHT, K. L. and HULL, W. B., 1952, The *Aedes* mosquitoes of the Philippine Islands, II. *Pacif. Sci.* 6 : 157-187.
- LEICESTER, G. F., 1908, The Culicidae of Malaya. *Stud. Inst. med. Res. F.M.S.* 3 (3) : 18-261.
- MATTINGLY, P. F., 1958a, *The culicine mosquitoes of the Indomalayan area*. Part III. Genus *Aedes* Meigen, subgenera *Paraëdes* Edwards, *Rhinoskusea* Edwards and *Cancraëdes* Edwards. London : Brit. Mus. (Nat. Hist.).
- 1958b, A revision of *Paraëdes* Edwards and *Cancraëdes* Edwards (Diptera : Culicidae). *Proc. R. ent. Soc. Lond.* (B) 27 : 76-83.
- THEOBALD, F. V., 1901, *A monograph of the Culicidae or mosquitoes*, 1. London : Brit. Mus. (Nat. Hist.).
- 1903, *Ibid.* 3.
- 1910, *Ibid.* 5.
- THURMAN, D. C., 1954, The discovery of *Paraëdes (Udaya) argyrurus* Edwards, 1934, in Thailand (Diptera : Culicidae). *Mosquito News.* 14 : 83-86.

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