

**Taxonomic Note on *Colocasiomyia cristata* DE MEIJERE
(Diptera, Drosophilidae) with Generic Synonymy**

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Synopsis

OKADA, T. 1988—Taxonomic note on *Colocasiomyia cristata* DE MEIJERE (Diptera, Drosophilidae) with generic synonymy. *Proc. Japn. Soc. syst. Zool., Tokyo*, No. 37: 34-39.

The genus *Drosophilella* DUDA, 1923 is synonymised with the genus *Colocasiomyia* DE MEIJERE, 1914. Supplementary description of *Colocasiomyia cristata* DE MEIJERE, the type species, is made.

The genus *Colocasiomyia* was established by DE MEIJERE (1914) in the family Borboridae (Sphaeroceridae) for a single species, *cristata* DE MEIJERE, 1914. DUDA (1923) placed this genus in the family Drosophilidae and WHEELER (1981) ranked it as an unplaced genus of Drosophilidae neither in Drosophilinae nor in Steganinae. BÄCHLI (1987) listed six syntypes (2♀♀, 4♂♂) of *C. cristata* as preserved in the collections of the Zoological Museum of Amsterdam.

Through courtesy of Dr. Ben BRUGGE of the Zoological Museum of Amsterdam, I was able to borrow a male syntype of *C. cristata*. The examination resulted in the finding that the genus *Drosophilella* DUDA, 1923 is a junior synonym of *Colocasiomyia*. Supplementary description of *C. cristata* is given in this report together with establishing the generic synonymy.

Generic Synonymy

Colocasiomyia DE MEIJERE, 1914. Tijdschr. Ent., 57: 272. Type: *Colocasiomyia cristata* DE MEIJERE, 1914 (monotypy).

Colocasiomyia: DUDA, 1924. Archiv Naturgesch., 90 A(3): 177; MCALPINE, 1986. Canad. Ent., 100: 516.

Drosophilella DUDA, 1923. Anns Mus. natn. hung., 20: 25. Syn. nov. Type: *Drosophilella seminigra* DUDA, 1923 (monotypy).

Diagnosis. Eye with pile. Arista pubescent. Ocellars outside ocellar triangle. Carina large, reaching buccal margin. Anterior dorsocentrals near suture. Second tarsal joint of fore leg prolonged over third and with a few black bristles. Sixth abdominal sternite often with caudal projection.

Supplementary Description ✓

Colocasiomyia cristata DE MEIJERE

(Fig. 1)

Colocasiomyia cristata DE MEIJERE, 1914. Tijdschr. Ent., 57: 273 (ex spadix of *Colocasia esculenta* SCHOTT) (Java).

Colocasiomyia cristata: DUDA, 1924. Arch. Naturgesch., 90 A(3): 177; DUDA, 1924b. Tijdschr. Ent. 64: 146 (fig. wing of cotype) (Java).

♂. Body about 2.5 mm in length. Arista (Fig. 1A) slightly longer than antenna. Palpus brown, slender. Ocellars outside ocellar triangle, somewhat behind anterior ocellus. Cheek greyish yellow, about 1/3 as broad as greatest diameter of eye. Anterior reclinate orbital fine, posterior reclinate nearer to proclinate than to inner vertical. Acrostichal hairs in four rows (two in DUDA, 1924), anteriors near suture. Lateral scutellars divergent, somewhat nearer to each other than to laterals. Legs orange brown, femora and tibiae dark brown, without strong bristles; second tarsal joint of fore leg with a few black short bristles. Wing (Fig. 1B) with costal fringe weak; costal chaetotaxy in type B₁ (HACKMAN & VÄISÄNEN, 1985; OKADA, 1986b). C-index 2.0; 4V-index

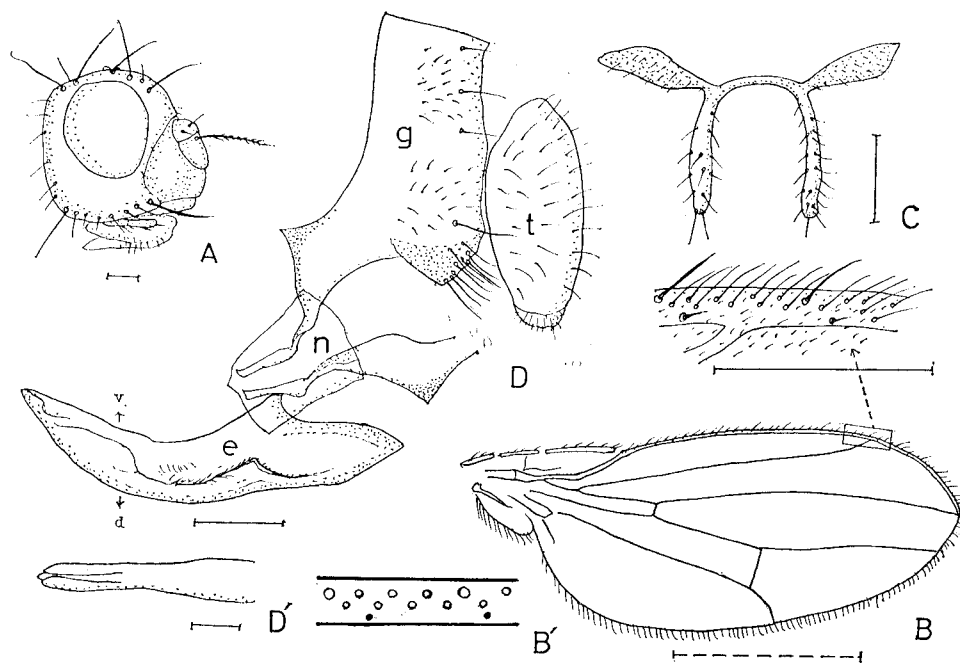


Fig. 1. *Colocasiomyia cristata* DE MEIJERE, male syntype. A. Head; B. wing; B', costal chaetotaxy; C, sixth abdominal sternite; D, periphallie and phallic organs; D', aedeagus, dorsal aspect. e, aedeagus; g, epandrium; n, novasternum; t, cercus. Scales 1.0 mm for wing, 0.1 mm for other figures.

1.5; 4C-index 1.1; 5x-index 1.0; Ac-index 4.0. Sixth abdominal sternite (Fig. 1C) with a deeply bifurcate setigerous process. Epandrium (Fig. 1C) shaggy below, with dorsal process short, triangular. Surstylus absent. Cercus oval, finely hairy along ventral margin. Aedeagus robust, without subbasal dorsal process. Novasternum quadrate.

Specimen examined. Syntype ♂, labelled "uit Bloemkolven v. *Colocasia antiquorum*, Java, JACOBSON" (Nongokdjadjar, Jan. 1911).

Remarks. This species resembles *Drosophilella diconica* TODA & OKADA especially in the shape of deeply bifurcate process of the sixth abdominal sternite of male, suggesting pistilicolous larval habit. In the original description of *Colocasiomyia*, DE MEIJERE stated that the legs have no special bristles. This statement is probably based on the comparison to bristly legs of most species of Spherooceridae. He seems not to have referred to the strong bristles of the second tarsal joint of fore leg. This special character had been overlooked before WHEELER (1969).

A list of *Colocasiomyia* species

All the species originally described under the genus *Drosophilella* are newly combined with the genus *Colocasiomyia*.

- ✓ *Colocasiomyia alocasiae* (OKADA, 1976) **n. comb.** (Taiwan, Okinawa, China)
- ✓ *C. arenga* (OKADA, 1987) **n. comb.** (Java)
- ✓ *C. baechlii* (OKADA, 1986a) **n. comb.** (Malaya)
- ✓ *C. bogneri* (OKADA, 1986a) **n. comb.** (Malaya)
- ✓ *C. colocasiae* (DUDA, 1924) **n. comb.** (Java, Thailand, Burma, Sri Lanka)
- Drosophilella monoconica* TODA et OKADA, 1983.
- ✓ *C. cristata* DE MEIJERE, 1914 (Java)
- ✓ *C. diconica* (TODA et OKADA, 1988) **n. comb.** (Java, Thailand, Burma)
- C. gigantea* (OKADA, 1987) **n. comb.** (Java)
- C. iskandari* (OKADA, 1986a) **n. comb.** (Java)
- C. pistilicola* (CARSON et OKADA, 1980) **n. comb.** (Papua New Guinea)
- C. seminigra* (DUDA, 1923) **n. comb.** (Papua New Guinea)
- C. stamenicola* (CARSON et OKADA, 1980) **n. comb.** (Papua New Guinea)
- C. toshiokai* (OKADA, 1983) **n. comb.** (Philippines)
- C. xenalocasiae* (OKADA, 1975) **n. comb.** (Taiwan, Okinawa, China)
- C. zeylanica* (OKADA, 1986b) **n. comb.** (Sri Lanka)

Key to species of the genus *Colocasiomyia*

Basing on twelve diagnostic characters (A, A', B, D', E', F, G, H, H', K, U, V), a dendrogram of the species of the genus *Colocasiomyia* is

established by means of S_{sm} proximity analysis and UPGMA cluster analysis. From the dendrogram (Fig. 2) a key to species is automatically provided. *C. seminigra* is excluded due to insufficient information.

Costal bristles strong at least partially (A) or fine (a); arista plumose (A') or pubescent (a'); tarsal joints of fore leg elongate (B) or compressed (b); conical process of male sixth sternite absent (D') or present (d'); male cercus ventrally not prolonged (E') or prolonged (e'); caudoventral corner of epandrium rectangular (F) or acute-angular (f); surstylus present (G) or absent (g); basal process of aedeagus absent (H) or present (h); paramere absent (H') or present (h'); ovipositor broad, blade-like (K) or narrow especially distally (k); prescutellars absent (U) or present (u); stout bristles of second tarsal joint of fore leg absent (V) or present (v).

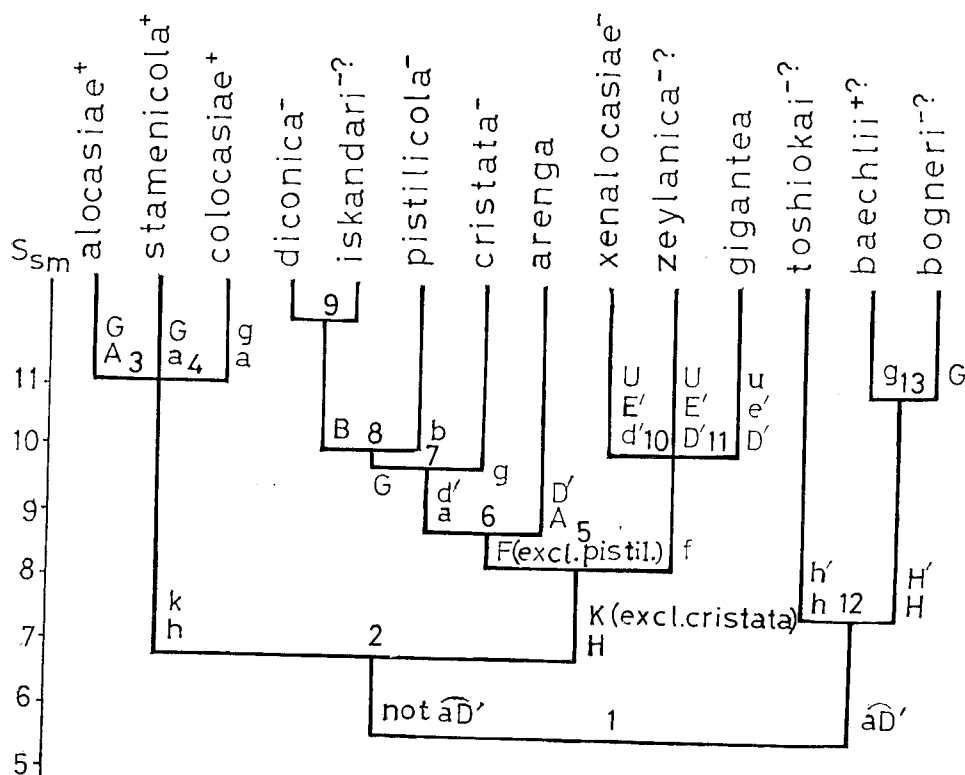


Fig. 2. A dendrogram of *Colocasiomyia* species, constructed by means of S_{sm} proximity analysis and UPGMA cluster analysis. Alphabetical signs on the branches show character states; numerical figures at the branching points correspond to the orders of key couplets; + stamenicolous, - pistilicolous in larval habits.

1. Not simultaneously costal bristles fine and conical process of male sixth abdominal sternite absent (not aD') 2
- Costal bristles fine and conical process of male sixth abdominal sternite absent (aD') 12
2. Basal process of aedeagus present (h); ovipositor narrow especially distally (k) 3
- Basal process of aedeagus absent (H); ovipositor broad, blade-like (K; NC in *cristata*) 5
3. Costal bristles strong at least partially (A); surstylus present (G) *alocasiae*
- Costal bristles fine (a) 4
4. Surstylus present (G) *stamenicola*
- Surstylus absent (g) *colocasiae*
5. Caudoventral corner of epandrium rectangular (F. excl. *pistilicola*) 6
- Caudoventral corner of epandrium acute-angular (f) 10
6. Costal bristles strong at least partially (A); conical process of male sixth abdominal sternite absent (D') *arenga*
- Costal bristles fine (a); conical process of male sixth abdominal sternite present (d') 7
7. Surstylus absent (g) *cristata*
- Surstylus present (G) 8
8. Tarsal joints of fore legs compressed (b) *pistilicola*
- Tarsal joints of fore legs elongate (B) 9
9. Sternal process of male abdomen bifurcate *diconica*
- Sternal process of male abdomen simple *iskandari*
10. Conical process of male sixth abdominal sternite present (d'); male cercus ventrally not prolonged (E'); prescutellars absent (U) *xenalocasiae*
- Conical process of male sixth abdominal sternite absent (D') 11
11. Male cercus ventrally not prolonged (E'); prescutellars absent (U) *zeylanica*
- Male cercus ventrally prolonged (e'); prescutellars present (u) *gigantea*
12. Basal process of aedeagus present (h); paramere present (h') *toshiokai*
- Basal process of aedeagus absent (H); paramere absent (H') 13
13. Surstylus absent (g) *baechlii*
- Surstylus present (G) *bogneri*

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摘 要

岡田豊日（東京都）——*Colocasiomyia cristata* DE MEIJERE（双翅目ショウジョウバエ科）の再検討と属のシノニミー。

Amsterdam 博物館所蔵の *Colocasiomyia cristata* DE MEIJERE の syntype（雄）を検討した結果、タロイモショウジョウバエ属 *Drosophilella* DUDA, 1923 は、*Colocasiomyia* DE MEIJERE, 1914 の junior synonym であることが判明した。*C. cristata* の補足的記載を行った。

Literature cited

- BÄCHLI, G. 1987. List of specimens of Drosophilidae (Diptera) in the collections of the Zoological Museum Amsterdam (manuscript).
- HACKMAN, W. and R. VÄISÄNEN 1985. The evolution and phylogenetic significance of the costal chaetotaxy in the Diptera. *Ann. Zool. Fennici*, **22**: 169–203.
- OKADA, T. 1986b. Taximetric analyses of costal chaetotaxy of the genus *Drosophilella* DUDA, with description of a new species from Sri Lanka (Diptera, Drosophilidae). *Proc. Japn. Soc. syst. Zool. Tokyo*, (34): 53–59.
- WHEELER, M. R. 1969. A note on the genus *Drosophilella* DUDA (Diptera: Drosophilidae). *Pacif. Sci.*, **23**: 544–545.
- 1981. The Drosophilidae: A taxonomic overview, In ASHBURNER, M., H. L. CARSON & J. N. THOMPSON (eds.), *The Genetics and Biology of Drosophila* 3a, pp. 1–97. Academic Press, London.

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