

Three Species of Japanese *Dichaetomyia*, with Description of Two New Species (Family Muscidae, Diptera)

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The generic name *Dichaetomyia* was derived from the number of postsutural dorso-central bristles, which do not seem, however, to be a constant characteristic of the genus. The species belonging to this genus are robust and usually black and rufous yellow, though there are certain entirely black or entirely yellowish species in the genus. The presence of hairs on both sides of the prosternum and on the pteropleura, and of several long, interspersed hairs or bristles along the lower margin of the metathoracic spiracle are characteristic of the present genus (Fig. 1, a & b). The *Dichaetomyia* shows its closest affinities in structure and habits to several groups of Palearctic Phaoniinae and Muscinae such as *Helina* Robineau-Desvoidy and *Muscina* Robineau-Desvoidy. It is also apparently similar to several groups of the Neotropical Cyrtoneurini such as *Cyrtoneura*, etc. The occurrence of *Dichaetomyia doubleti*

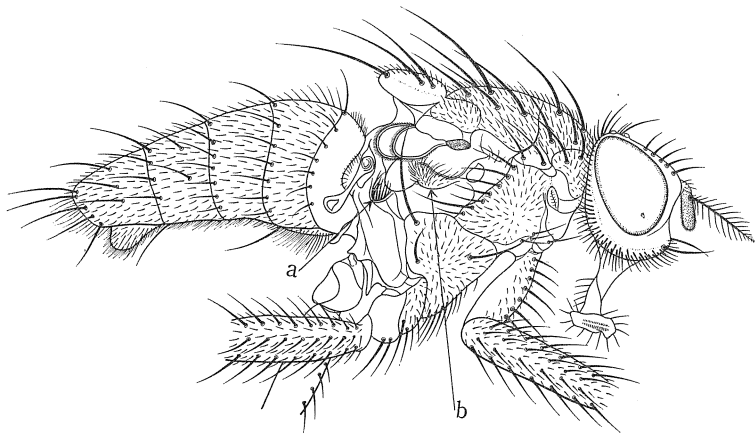


Fig. 1. *Dichaetomyia doubleti* (Pandellé), male, lateral view
a : metathoracic spiracle, b : pteropleuron.

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has already been reported in Japan as *Helina doubleti* (Kato, 1950^a). In the present paper the authors describe two new species of the genus, together with revised description of *D. doubleti* from Japan.

Family Muscidae

Subfamily Phaoniinae

Genus *Dichaetomyia* Malloch

(1921, Ann. Mag. Nat. Hist. (9) 7, p. 163)

Type-species: *Dichaetomyia polita* Malloch, 1921.

Length 4.5-10 mm, brown or/and black in colour.

Head: eyes of male subholoptic to holoptic, of female dichoptic; frons without cruciate bristles; parafrontalia without a proclinate *ors*, but in female with two reclinate *ors*; oral margin and prefrons not strongly protruding; arista long-plumose.

Thorax: prosternum and pteropleura hairy; metathoracic spiracle with several long black interspersed hairs or bristly hairs along the lower margin (Fig. 1, a); pre-alar knobs bare; hypopleura bare.

Wings: fourth longitudinal vein, as a rule, very slightly deflected anteriorly near the apex; third longitudinal vein with a few hairs on lower surface beyond the node; stem-vein and first longitudinal vein bare.

Legs: usually fulvous to yellow, rarely black to fuscous brown; t_3 with a few weak *pd*, but with no calcar.

Abdomen: some parts yellow to fulvous in many species, sometimes entirely dark olive shining in a few species.

Bionomics: few reports are available. Adults may be saprophagous and especially frequent human feces in the dense shade of fields, or rest on vegetation along paths in a jungle. They are also attracted to carrion, rotting fruit and other vegetable materials in tropical and subtropical regions. Such habits are prevalent in Japanese species as well.

Dichaetomyia kaga sp. nov.

カガハナゲバエ

This species very closely resembles *D. doubleti* in the external appearance, especially in the entire colouration, differing in the holoptic eyes and the shape of the genitalia. The red colouration and the hairiness on the lower surface of scutellum are also characteristic of the present species.

♂.-Head: eyes large, covered with minute short hairs, closely approximated, and with uniform facets; frontal stripe black, triangular, barely present or obliterated in the narrowest part of frons; parafrontalia and parafacialia narrow, bare, silver-

dusted; medianae extremely narrow, dark; epistome dark brown; jowls black, dark-grey dusted, with black fine bristles, about the width of the third antennal segment

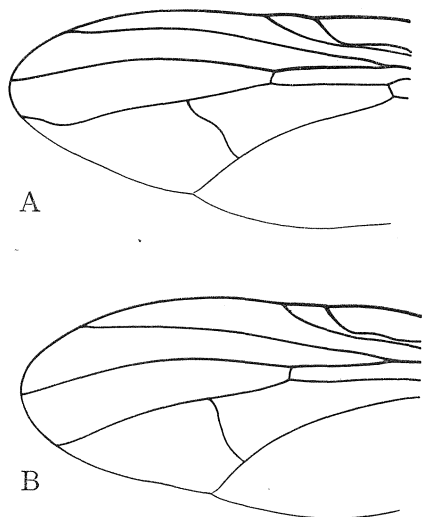


Fig. 2. Wings, A: *Dichaetomyia kaga* sp. nov., B: *D. doubleti* (Pandellé).

in profile; face dark-grey dusted, with a trace of a broad median carina only at the bases of the antennae; facialia flattened, bare or almost so; vibrissae inserted just above the upper margin of epistome; antennae black, slightly grey-dusted, the joint part between the second and third antennal segments paler, the third segment about three times as long as the width; arista dark brown, long-plumose; palpi black.

Thorax: entirely black except for red humeri and lower surface of scutellum, usually with brassy reflection; a thin covering of grey dusting developed on anterior part of mesonotum; prescutum with two longitudinal dark stripes anteriorly; scutellum red except the disc; thoracic spiracles

blackish brown; metathoracic spiracle large, about six to seven times as large as that of *D. doubleti*, the operculum with several long black bristles along the lower margin; prosternum and pteropleura hairy; pre-alar knobs, propleura and hypopleura bare; lower surface of scutellum setulose. Chaetotaxy; $ac=0+1$, $dc=2+3$, $ia=0+3$, $h=2-3$, $ph=2$, $n=2$, $sa=3$, $pa=2$, $prs=0$, $st=1+2$, $sc=3+0$.

Wings: hyaline, entirely brown-tinged; veins brown; stem-vein bare; third longitudinal vein with a few hairs only at the base of the lower surface; t_p curved; R_5 slightly narrowing apically (Fig. 2, A); basicosta brown; upper and lower squamae brown, lower one *Protocalliphora*-type in shape, the surfaces of the lower bare, Halteres brown, the knobs darkened.

Legs: brown, coxae and basal two-thirds of femorae darkened; t_1 without median bristle; t_2 with two p ; t_3 with two median and one apical ad , and with two median av ; hind coxae bare behind.

Abdomen: short, round in dorsal view, flattened laterally, wholly black shining with brassy reflection; first and second visible tergites with no erect marginal bristles. Hypopygium small, shown in Fig. 4, A.

♀.-Head: eyes separated at vertex by a distance slightly less than width of the eye; frontal stripe broad, about twice the width of one of the parafrontalia just above the bases of antennae; parafrontalia dark-grey dusted, with sparse minute black hairs, and also with two reclinate ors ; ori and ve well-developed. Otherwise as described for the male.

Length: 6-7 mm.

Holotype: 1 ♂, Kanazawa Castle, Kanazawa City, Honshu, Japan, 28. XI. 1966 (leg. Katsushige Hori).

Paratypes: 10 ♂♂, 13 ♀♀, Kanazawa Castle, Kanazawa City, Honshu, Japan, 28. XI. 1966 (leg. Katsushige Hori); 3 ♂♂, 1 ♀, Mt. Dando, Aichi-Pref., Honshu, 27-29. VII. 1964 (leg. Hiromu Kurahashi).

Other specimens examined: 1 ♂, 2 ♀♀, Okinoerabujima Is., 31. III—2. IV. 1963; 3 ♂♂, Tokunoshima Is. 4—6. IV. 1963; 14 ♀♀, Mt. Saimyojisan, Aichi-Pref., 7. I. 1966; 1 ♀, Izu-Oshima Is., 28. III. 1964 (leg. Hiromu Kurahashi).

Bionomics: *Dichaetomyia kaga* sp. nov. is common in the southern parts of Japan in late fall to early spring, and in early summer. The adults are frequently found on the leaves of bushes beside the path in mountainous regions.

Habitat: Honshu and Amami Isls., Japan.

Dichaetomyia doubleti (Pandellé)

エゾハナゲバエ (改称)

(1898, Rev. Ent. France, 17, Musc., p. 69; 1907, Stein, Kat. pal. Dipt. 3, p. 638; 1916, Stein, Arch. Naturgesch. 81 A 10, p. 60; 1923, Séguéy, Faune France 6, p. 241; 1928, Karl, Tierwelt Deutschl. 13, Musc., p.88; 1950, Kato, Icon. Ins. Jap., revised ed., Antho., p. 1681; 1963, Hennig, Lind. Fliegen pal. Reg. 63b, p. 901)

♂.-Head: eyes large, bare or almost so, subholoptic; frontal stripe black, parallel-sided, more than the width of parafrontalia; parafrontalia and parafacialia narrow, bare and silver-dusted; jowls small, about twice as wide as the width of the third antennal segment; antennae blackish brown, the second segment somewhat paler than the third, the third pubescent, about three times as long as the width; arista long-plumose; palpi black.

Thorax: entirely black, with brassy reflection; a thin covering of grey dusting developed on anterior parts of pronotum; prescutum with two longitudinal broad dark stripes anteriorly; scutellum concolourous with the scutum, bare below level of strong marginal bristles; thoracic spiracles blackish brown; metathoracic spiracle small, the operculum with several long, black bristles along the lower margin; prosternum and pteropleura hairy; pre-alar knobs, propleura and hypopleura bare. Chaetotaxy; $ac=0+1$, $dc=2+3$, $ia=0+2$, $h=$

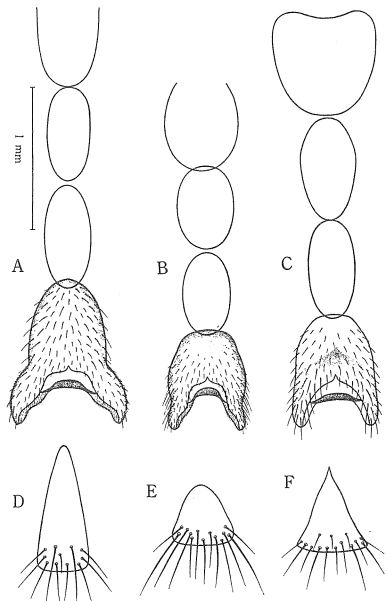


Fig. 3. Male and female sternites. A-C: male sternites, D-F: female seventh sternites, A: *Dichaetomyia doubleti* (Pandellé), B: *D. kaga* sp. nov., C: *D. japonica* sp. nov. D: *D. doubleti* (Pandellé), E: *D. kaga* sp. nov., F: *D. japonica* sp. nov.

2, $ph=2$, $n=2$, $sa=3$, the second pair well-developed, $pa=2$, $prs=0$, $st=1+2$, $sc=2-3+0$.

Wings: hyaline, brown-tinged entirely; stem-vein bare; third longitudinal vein without hair above and below; t_p straight; third and fourth longitudinal veins not convergent apically (Fig. 2, B); basicosta black; subcostal sclerite blackish pubescent; squamae small, yellowish brown, the lower one *Protocalliphora*-type in shape, the surfaces bare. Halteres brown, the knobs black.

Legs: all femorae black; knees, tibiae and tarsi brown; t_1 with a strong median p ; t_2 with 2 p in middle; t_3 with 1 av and 1 ad in middle.

Abdomen: elongate, concolours with the thorax, but without any patterns produced by dustings. Hypopygium small, as shown in Fig. 4, B.

♀.- Head: frons broad about four times as wide as the distance across posterior ocelli inclusive at vertex: frontal stripe broad, parallel-sided, black, reddish towards the base of antennae: parafrontalia setulose. Thorax: humeri slightly reddish anteriorly. Legs: f_3 with 2 av apically; t_3 with 1 ad and 2 av . Abdomen: elongate-oval, metallic black. Otherwise as described for the male.

Length: 6-7 mm.

Specimens examined: 9♂♂, 12♀♀, Noboribetsu Spa, 3. VIII. 1966 (leg. Hiromu Kurahashi).

Geographical distribution: Hokkaido and northern parts of Hoshu, Japan, and Europe.

Dichaetomyia japonica sp. nov.

ヤマトハナゲバエ

This species very closely resembles *Dichaetomyia apicalis* (Stein), but differs from it in the colouration of the thorax and the abdomen.

♂.-Head: eyes large, bare or almost so, with uniform facets, broadly contiguous along most of frons, which is about as wide as the diameter of anterior ocellus; frontal stripe invisible or reduced to a fine line at the narrowest part of frons; parafrontalia and parafacialia extremely narrow, scarcely visible in profile, bare, silver-dusted; epistome milky yellow; jowls black, dark-grey dusted, with black fine bristles, about the width of the third antennal segment in profile; face, flat, dark brown, dusted with silver pruinosity; facialia flattened, bare; vibrissae inserted just above the upper margin of epistome; antennae yellow, the third segment silver-pubescent, about three times as long as the width; arista dark brown, long-plumose; palpi brown, darkened towards the base.

Thorax: fuscous to black, grey-dusted, but brown to fulvous on humeri, across notopleura, posteriorly to post-alar declivity and on sutures of pleura; prescutum with two longitudinal dark stripes; scutellum fulvous, bare below level of strong marginal bristles; prothoracic spiracle yellow; metathoracic spiracle blackish brown, the operculum with several long black hairs along the lower margin; prosternum,

pteropleura and notopleura hairy; pre-alar knobs, propleura and hypopleura bare; several short black hairs present on pleurotergite below the root of lower squama. Chaetotaxy; $ac=0+1$, $dc=2+3$, $ia=0+3$, $h=2$, $ph=2$, $n=2$, $sa=3$, $pa=2$, $prs=0$, $st=1+2$, $sc=3+0$.

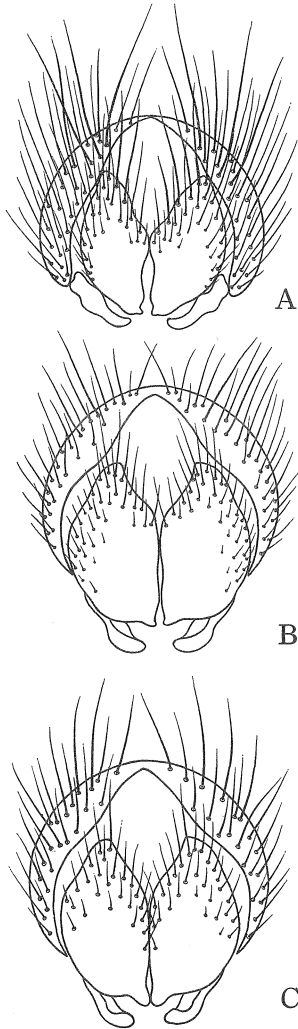


Fig. 4. Cerci. A: *Dichaetomyia kaga* sp. nov., B: *D. doubleti* (Pandellé), C: *D. japonica* sp. nov.

Wings: hyaline, brown-tinged entirely; veins brown; stem-vein bare; node of third and fourth longitudinal veins bare below and above; t_p deflected towards the base of wing in middle; third and fourth longitudinal veins not convergent apically; basicosta brown; squamae brown, the lower one *Protocalliphora*-type in shape, the surfaces bare. Halteres brown entirely.

Legs: brown to fulvous; f_1 with each row of well-developed pv and pd ; t_1 without median p ; t_2 with two median p ; f_3 with a series of av limited to lower apical half and usually becoming longer towards apex, and with each row of pv and ad ; t_3 with a median ad and a adjacent av .

Abdomen: short, round in dorsal view, flattened laterally, mostly fulvous to brown, but occasionally slightly infuscated on the sides of last two tergites, and covered with sparse white dusting; first and second visible tergites without erect marginal bristles; sternites fulvous. Hypopygium small, as shown in Fig. 4, C.

♀.-Head: eyes separated by a distance equal to four times as wide as the distance across posterior ocelli at vertex; frontal stripe broad, parallel-sided, metallic black, about equal to the width of one of parafrontalia; parafrontalia dark-grey dusted, with sparse minute black hairs, and also with two reclinate ors ; ori , ve and vi well-developed; antennae and palpi fuscous. Thorax: fuscous, dark-grey dusted except for brown humeri. Legs: f_1 with 2 av and 2 ad on the middle, and without a series of pv ; f_3

with 3 to 4 preapical av . Otherwise as described for the male.

Length: 6-7 mm.

Holotype: 1♂, Ootani near Tsurugi-machi, Ishikawa Pref., Honshu, Japan, 31. V. 1964 (leg. Hiromu Kurahashi).

Paratypes: 2♂♂, 1♀, Mt. Tobone, Aichi Pref., ?. X. 1962 (leg. Hiromu Kurahashi).

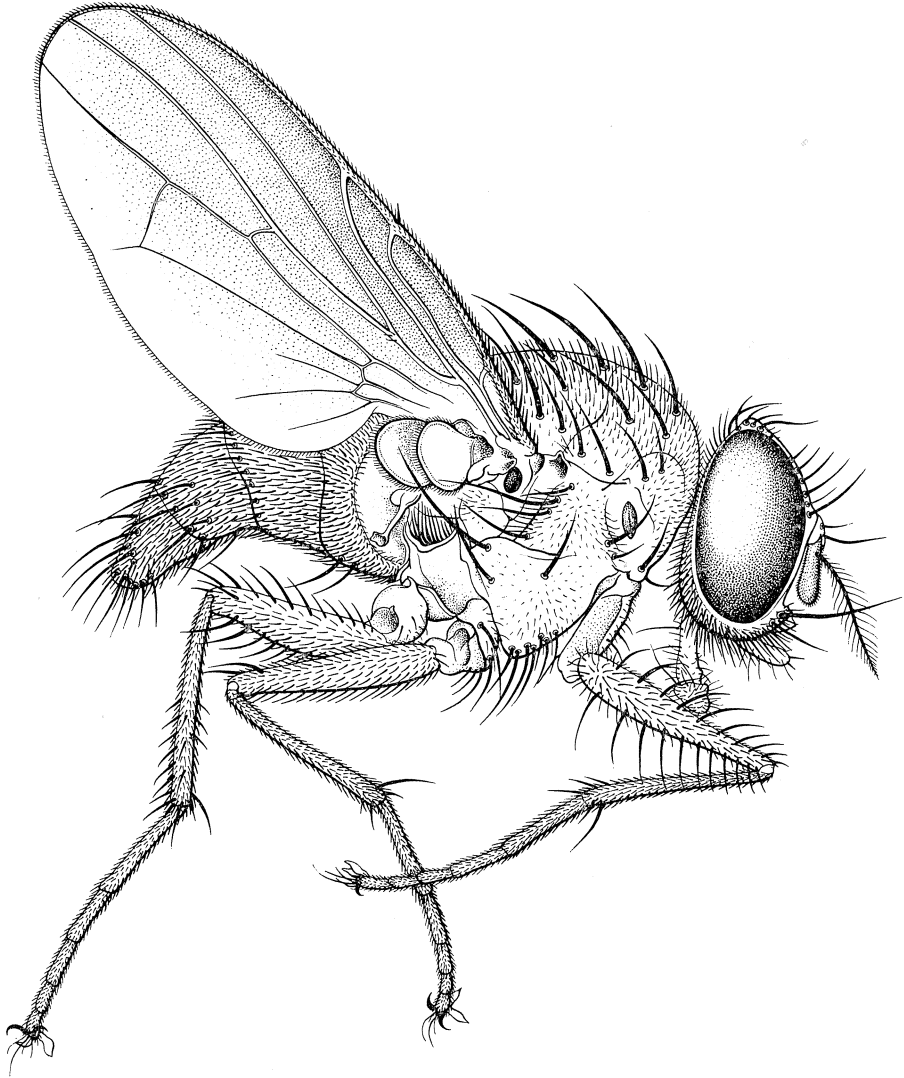
Habitat: Honshu, Japan.

Key to the Japanese species of *Dichaetomyia*

♂ ♀

1. Body elongate; narrowest part of male frons at least twice as wide as distance across posterior ocelli inclusive; t_1 with 1 ϕ near middle.....*D.doubleti* (Pandellé)
- Body robust; narrowest part of male frons not wider than distance across posterior ocelli inclusive; t_1 without ϕ (2)
2. Abdomen black; male antennae black *D. kaga* sp. nov.
- Abdomen light brown; male antennae yellow *D.japonica* sp. nov.

(Plate I)



Dichaetomyia kaga sp. nov.