

Fig. 1. A-C. *Drosophila neokurokawai*, sp. nov. : A, Phallic organs; B, Male wing; C, Peripheral phallic organs. D-G. *Drosophila fascipennis* Okada : D, Phallic organs; E, Egg guide; F, Male wing; G, Peripheral phallic organs.

fork. Antennae with second segment yellowish-brown. Ocellar triangle tan. Orbitals in ratio of 5:2:9. Second oral about half the length of vibrissa. Palpi orange-brown, with one apical seta. Carina orange, high. Face and cheek yellowish-brown, greatest width of cheek 0.14 the greatest diameter of eye. Clypeus brownish. Eyes dark red. *Thorax* ♂ : Acrostichal hairs regular, in six rows. Anterior scutellars parallel; posterior scutellars convergent. Distance from anterior dorsocentral to posterior dorsocentrals about half the distance between two anterior dorsocentrals. Mesonotum and scutellum unicolorous, yellowish-brown. Sterno-index about 0.34. *Wings* ♂ (Fig. 1B) : Clear. Indices : C-Index 3.39; 4V-index 1.5; 4C-index 0.65; 5X-index 1.6. Two equal bristles at the apex of first costal section; heavy bristles on about basal 0.6 of third costal section. Halteres pale-brown. *Legs* : Yellow, preapicals on all three tibiae; apicals on first and second tibiae. *Abdomen* ♂ : Abdominal tergites yellow, with brownish apical bands. *Periphalliac organs* (Fig. 1C) : Genital arch brown, pubescent, broadened dorsally and slightly narrowing ventrally, with about 22 bristles. Clasper large, narrow, outer margin concave, with two sets of teeth, upper set with 8-10 sharply pointed large black teeth arranged in a row; lower one with about 30 relatively smaller and randomly distributed pointed teeth. Anal plate oblong, pubescent with 13-15 bristles, ventral margin broadly truncate and with about 8 large stout black bristles arranged in a row. *Phallic organs* (Fig. 1A) : Aedeagus pale brown, straight, subapically swollen, apically with hairy crown. Basal apodeme of aedeagus nearly equal. A pair of black curved, hypandrial processes present. Posterior parameres fused with aedeagus. Ventral fragma nearly quadrate.

Holotype ♂, INDIA : WEST BENGAL : Darjeeling district, Rimbick, 18.ix. 1979, Coll. O.P. Singh and J.P. Gupta. Deposited in the Department of Zoology, Banaras Hindu University, Varanasi, India. *Paratypes* : 2♂♂, same data as for holotype. In the Department of Zoology, B.H.U., Varanasi and Department of Biology, Tokyo Metropolitan University, Tokyo, Japan.

Relationships : This species belongs to the *denticeps* group of *Hirtodrosophila*. It closely resembles *D. kurakawai* Okada in having longer wings, a pair of black, curved hypandrial processes, aedeagus apically with hairy crown and ventrally truncate anal plate. But it distinctly differs from *D. kurokawai* in having one ventral branch of arista (two in *kurakawai*), genital arch slightly narrowing ventrally (sharply pointed in *kurokawai*), ventral fragma nearly quadrate (broader than long in *kurokawai*), clasper with two sets of teeth (only one row in *kurokawai*), 8 long black bristles on ventral margin of anal plate (6 in *kurokawai*).

Distribution : India : West Bengal.

2. *Drosophila (Hirtodrosophila) fascipennis* Okada (Figs. 1D-G)

Drosophila fascipennis Okada, 1967, *Mushi*, 41 (1) : 8 (Japan).

Head ♂, ♀ : Arista with 3-4 dorsal and one ventral branches in addition to terminal fork. Cubitals in ratio of 6:1:7. Second oral thin and not differentiated.

Face and cheek yellowish-brown, greatest width of cheek 0.17 the greatest diameter of eye. *Thorax* ♂, ♀ : Distance from anterior dorsocentral to posterior dorsocentral 0.3 the distance between two anterior dorsocentrals. *Wings* ♂, ♀ (Fig. 1F) : Indices : C-index 1.86; 4V-index 2.13; 4C-index 1.34; 5X-index 1:52. Other details regarding general features as described by Okada (1967). *Periphallial organs* (Fig. 1G) : Anal plate ovoid, brownish, pubescent, with 22-24 bristles and about 10-12 black setae ventrally. Other details as described by Okada (1967). *Phallic organs* (Fig. 1D) : Aedeagus medially swollen, apically conical with lateral inwardly curved processes. Ventral fragma broadly rounded. Other details as described by Okada (1967). *Egg-guides* (Fig. 1E) : Lobe yellowish-brown, medially swollen, apically rounded, with 20 marginal and 4 bristle-like discal teeth. Basal isthmus long and narrow.

Specimens examined : INDIA : WEST BENGAL : Darjeeling district, Rimbick 1♂, 2♀♀, ix.1979, Coll. Singh and Gupta.

Distribution : India : West Bengal (New record) and Japan.

Subgenus *Sophophora* sturtevant

Sophophora Sturtevant, 1939, *Proc. Nat. Acad. Sci.*, 25 : 139. Type-species : *Drosophila melanogaster* Meigen.

THE MELANOGASTER SPECIES GROUP MONTIUM SUBGROUP

KEY TO INDIAN SPECIES OF THE MONTIUM SUBGROUP

1. Thoracic pleura with a broad dark brown longitudinal stripe *rufa* Kikkawa & Peng
Thoracic pleura without a broad dark-brown longitudinal stripe 2
2. Metatarsal sex-comb with about 3-7 stout teeth, second tarsal segment of the same leg with 3 similar teeth *gundensis* Prakash & Reddy
Metatarsal and second tarsal sex-combs with more teeth 3
3. Lower 2-3 teeth of the metatarsal sex-comb displaced from the axis of the remaining teeth 4
Lower 2-3 teeth of the metatarsal sex-comb not displaced from the axis of the remaining teeth 5
4. Metatarsal comb with two distinct types of teeth, upper smaller and densely packed, the lower larger and stout 6
Metatarsal comb not with two distinct types of teeth, upper and lower teeth of uniform nature 7
5. Face milky-white in male *jambulina* Prakash & Paika
Face not milky-white in male 8
6. Acrostichal hairs in 6 rows. Terminal tergites in male shiny black *nagarholensis* Prakash & Reddy
Acrostichal hairs in 8 rows. Terminal tergites in male yellow *agumbensis* Prakash & Reddy
7. Costal index about 2.4. Lower 3 teeth of the metatarsal comb largely displaced from the main axis *tricomata* Singh & Gupta
Costal index about 3.0. Lower 2 teeth of the metatarsal comb slightly displaced from the main axis *madikerii* Muniyappa & Reddy

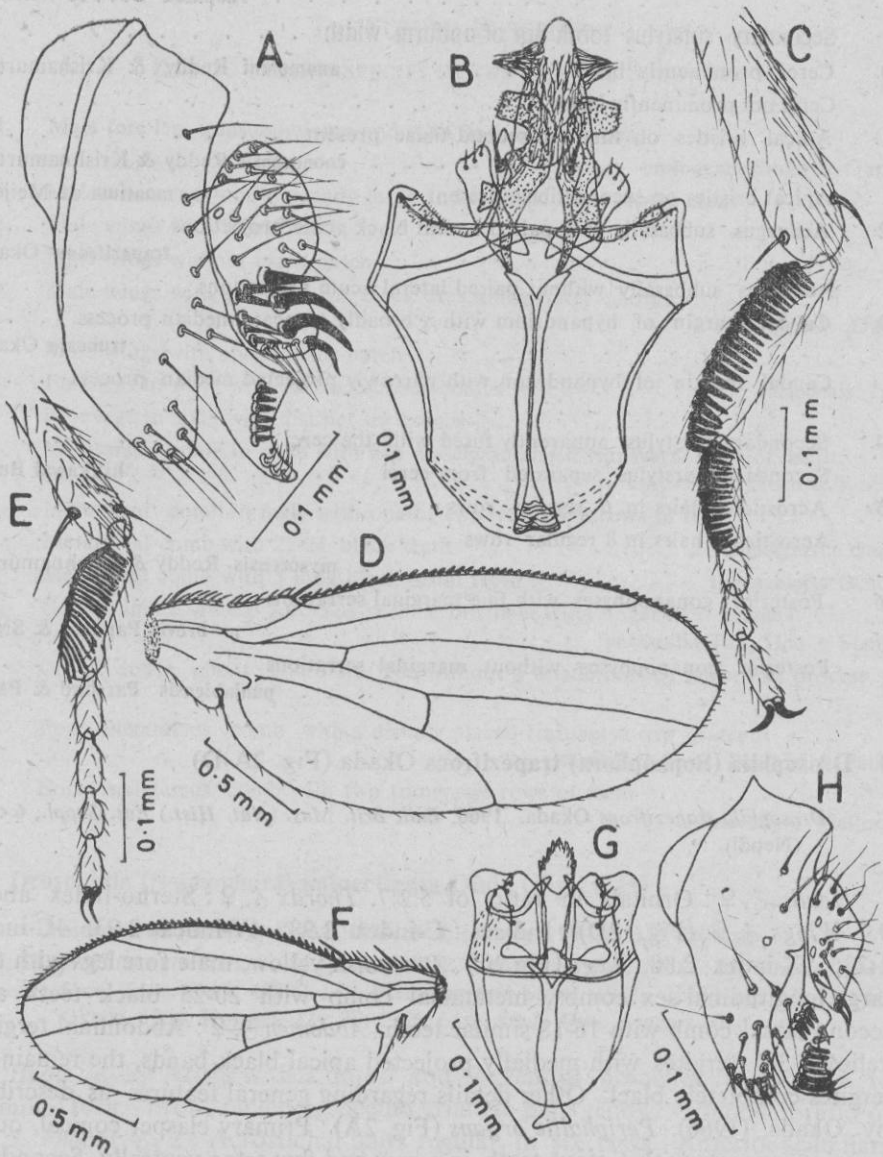


Fig. 2. A-D *Drosophila trapezifrons* Okada : A, Periphallial organs; B, Phallic organs; C, Male fore leg; D, Male wing. E-H. *Drosophila unipectinata* Duda : E, Male fore leg; F, Male wing; G, Phallic organs; H, Periphallial organs.

Specimens examined : INDIA : WEST BENGAL : Darjeeling district, Rimbick, 250♂♂, 294♀♀, ix.1979, Coll. Singh and Gupta.

Distribution : India : West Bengal (new record) and Nepal.

THE SUZUKII SUBGROUP

KEY TO INDIAN SPECIES OF THE SUZUKII SUBGROUP

1. Male fore legs unusually large and with dark brown areas
 *prolongata* Singh & Gupta
 Male fore legs not unusually large and with no dark brown areas 2
2. Male wings with black patch 3
 Male wings without black patch 4
3. Male wings with a crescentic black area along outer margin
 *tristipennis* Duda
 Male wings with apical black patch 5
4. Fore legs in male with no distinct sex-combs *lucipennis* Lin
 Fore legs in male with distinct sex combs 6
5. Metatarsal comb in male with five closely arranged transverse rows of teeth . . .
 *sahyadrii* Prakash & Reddy
 Metatarsal comb in male with one or two transverse rows of teeth 7
6. Metatarsal comb with 21-24 black teeth *unipectinata* Duda
 Metatarsal comb with 5 long black distal teeth *immacularis* Okada
7. Costal index about 2.0. Toe with a bristle-bearing finger-like process
 *pulchrella* Tan, Hsu & Sheng
 Costal index about 2.5 to 3.5. Toe without a bristle-bearing finger-like process . . .
 8
8. Fore metatarsus comb with a distally placed transverse row of teeth
 *suzukii indicus* Parshad & Paika
 Fore metatarsus comb with two transverse rows of teeth
 *biarmipes* Malloch

4. *Drosophila* (*Sophophora*) *unipectinata* Duda (Fig.2E-H)

Drosophila unipectinata Duda, 1924, *Arch. Naturg.*, 90A : 215 (Taiwan).

Drosophila unipectinata : Sturtevant, 1942, *Univ. Texas Publ.*, 4213 : 29; Wheeler, 1949, *Univ. Texas Publ.*, 4920 : 175; Patterson and Stone, 1952, *Evol. gen. Dros.* : 16; Okada, 1954, *Kontyu*, 22 : 38; 1956, *Syst. Study Dros. Japan* : 107.

Head : ♂, ♀ : Arista with 3 dorsal and 2 ventral branches in addition to terminal fork. Frons including ocellar triangle pale-yellow. Orbitals in ratio of 3:1:5. *Thorax*, ♂, ♀ : Acrostichal hairs regular, in six rows. Anterior scutellars slightly convergent; posterior scutellars crossing each other. Distance from anterior dorsocentral to posterior dorsocentral about half the distance between two anterior dorsocentrals. Mesonotum and scutellum yellow. *Wings* : ♂, ♀ (Fig. 2F) : Indices : C-index 2.64; 4V-index 2.67; 4C-index 1.18; 5X-index 2.28. *Legs* (Fig. 2E) : Male fore metatarsal segment with a large sex-comb having 21-24 black teeth. Other details regarding general features as described by

Okada (1956). *Periphallic organ* (Fig. 211) : Clasper dark brown, apical margin slightly concave, with two sets of teeth; upper set with 4 stout teeth; lower one with a row of 6 comparatively larger teeth. Anal plate oblong, with 18 bristles and 2 thick pointed black bristles ventrally. Other details as described by Okada (1956). *Phallic organs* (Fig. 2G) : Basal apodeme of aedeagus slightly longer than aedeagus. Anterior parameres broad, whitish-yellow, with 4 latero-apical minute sensilla. Posterior parameres somewhat conical adjacent to aedeagus. Other details as described by Okada (1954).

Specimens examined : INDIA : WEST BENGAL : Darjeeling district, Rimbick, 6 ♂♂, ix.1979, Coll. Singh and Gupta.

Distribution : India : West Bengal (New record), Japan : Honshu (Kanto, Chubu), Kyushu and Taiwan.

Remarks : The Indian strain of *D. unipectinata* Duda slightly differs from Japanese form in having arista with 4 dorsal and 2 ventral branches in addition to terminal fork (5 long branches including a large fork in Japanese strain), clasper with two sets of teeth; upper set with 4, lower set with 6 comparatively larger teeth (in Japanese strain upper set with about 10, lower one with about 4 teeth), anal plate with 2 thick, curved, pointed, black bristles ventrally (no such bristles in Japanese strain). Other features strictly agree with those of the Japanese form.

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