# A NEW GENUS AND SPECIES OF THE DITOMYIINAE FROM CELEBES
(Diptera: Mycetophilidae)

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In the collection of the Bernice P. Bishop Museum, the author found a female specimen of a new mycetophilid species which represents a remarkable new genus of the subfamily Ditomyiinae. This genus is much closely related to *Asioditomyia* Saigusa distributed in the temperate forests of Japan and Nepal Himalaya, but it is more specialized in the absence of the ocelli, a unique reduction even in the entire scope of Mycetophilidae. The author describes the new species, erects a new genus for it, and gives a phylogenetic consideration on the *Ditomyia*-group of the subfamily.

Before going further the author expresses his cordial thanks to Dr. J. L. Gressitt for his generosity giving me an opportunity to study the insect collection of the Bishop Museum.

## **Celebesomyia** Saigusa, gen. nov.

**Generic characters**: Very similar to *Asioditomyia* Saigusa. Head small, more or less flattened, vertex elevated. Transverse suture connecting compound eyes on frons absent; a short dorsomedian suture at the level of dorsal extremity of compound eyes. Vertex and occiput hairy, frons and face bare. All ocelli absent. Compound eye rounded and hemispherical. Antenna moderately long, 2+15 segmented; flagellar segments considerably compressed laterally, each with several setulae mostly arising on dorsal 1/2 of segment; last segment moderately long, almost as long as penultimate segment. Maxillary palpus represented by a small oval segment bearing a few setulae. Labella rather small. Thorax much hump-backed, almost as high as long. Pronotum with a seta at each side; upper portion of pro-episternum with a vertical row of a few setae. Mesoscutum setose, stiff bristes at sides and in a pair of subdorsal rows; meso-anepisternum and postnotum bare. Legs long and slender, tibiae with several bristles, tibial spurs 1:2:2. Wing almost as in *Asioditomyia*, densely clothed with

macrotrichia in addition to microtrichia; stem of R-fork very short, stems of R- and M-forks short-stalked for a very short distance; 1A fine but complete to wing margin. Abdomen elongate; ♂ terminalia similar to those of *Ditomyia*.

Type-species: *Celebesomyia inocellata* Saigusa, gen. et sp. nov.

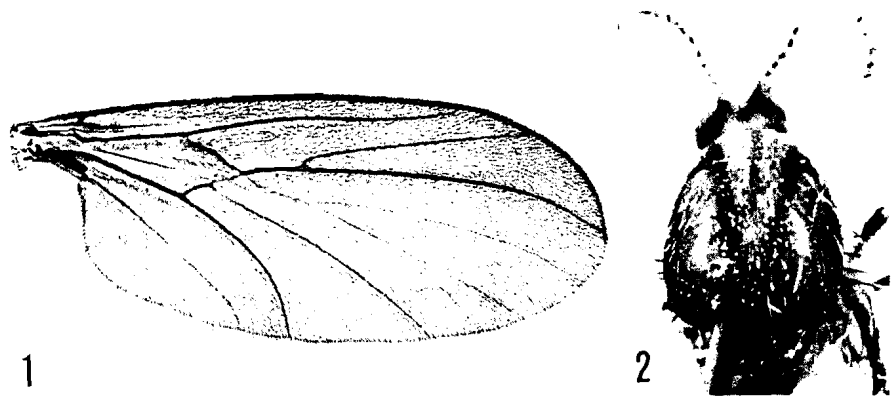
**Phylogenetic relationships**: The genus *Celebesomyia* morphologically most resembles the genus *Asioditomyia* in every structure. The absence of the transverse suture on frons, the bare face, the reduced, unjointed maxillary palpus, and the absence of r-m crossvein are all the specialized characters common to these two genera. They undoubtedly compose a monophyletic group specialized in the above-mentioned apomorphic characters from the *Ditomyia*-like ancestor from which the genus *Ditomyia* is only slightly advanced in the male genitalic characters. The thoracic chaetotaxy (a pair of pronotal setae, propleuron only with a vertical row of setae on episternum, bare meso-anapisternum, unevenly distributed differentiated setae on mesoscutum), the setose flagellar segments of the antennae, the long R-fork of the wing are the major common characters of the genera belonging to the *Ditomyia*-group and they are sharply separated from the genus *Symmerus* by these characters.

The genus *Celebesomyia*, however, is much more advanced than *Asioditomyia*. The former is characterized by the absence of ocelli, a very pecular feature even in the entire scope of the Mycetophilidae, and the short stalk of the stems of R- and M-forks. The genus *Celebesomyia* is almost certainly a specialized offspring of the extinct *Asioditomyia* species which invaded into Celebes from the South Eastern Asia.

## **Celebesomyia inocellata** Saigusa, gen. et sp. nov.

Only the type female is known. *Coloration*: Head dull yellowish brown, vertex with a transverse dark band which is rather interrupted at the dorsomedian portion, frons above antennal sockets with an obscure dark spot, facial region darkened as figured; palpus yellow, labella somewhat darker than palpus; scape of antenna brown, pedicel yellow, flagellum yellow and gradually darkened towards brown apical segments, areas around the sockets of setae darkened. Thorax subshining yellowish brown with dark brown markings which are much similar to those of *Asioditomyia japonica*, but slightly more expanded than in the latter; mesoscutum with M-shaped marking, of which the posterior portions are not sharply defined owing to the broad infuscation along scuto-scutellar suture; scutellum entirely dark brown, postnotum somewhat darkened along anterior margin and posterolateral portions; pronotum dark brown, propleuron dark brown with a yellow longitudinal median band; meso- and metapleura marked as follows, a large brown marking occupying ventral 2/3 of meso-katepisternum and pleurotergite, meso-anepisternum dark brown but paled postero-

medially, metapleuron darkened along ventral margin. Coxae dark brown, middle of front coxae and basal 1/2 of middle coxae slightly paled; femora, tibiae and tarsi brown. Wing uniformly infuscated brownish, strong veins dark brown; halter yellow, darkened at middle. Abdominal terga dull dark brown, anterior margin of 2nd to 7th terga narrowly yellow; sterna yellow, posterior submargin obscurely darkened; 7th sternum dark brown, cerci yellowish brown, base of basal segment and middle of apical segment slightly darkened.



Figs. 1-2. *Celebesomyia inocellata* Saigusa, gen. et sp. nov. 1: Wing. 2: Head and thorax, dorsal aspect.

*Structure*: Head small, weakly flattened; vertex raised, dorsal portion of occiput and vertex clothed with short setae, ventral portion of occiput with several long setae on each side; ocelli absent; compound eye rounded, hemispherically produced, its diameter 2.3 × of head height; no suture connecting compound eyes above antennae; a short dorsomedian longitudinal suture at the level of upper extremity of compound eye. Palpus of an oval segment 1.3 × as long as head height, somewhat subpetiolate basally, and bearing several setae near middle and fine hairs at apex; labella short and small. Antenna 1.3 × as long as thorax (50 : 41); flagellum considerably compressed laterally and produced ventrodistally, especially on the middle flagellar segments which are nearly 2.5 × as thick as wide; flagellar segments except for the apical one bearing several long setae (the longest nearly 4.5 × as long as flagellar segment) which are mostly distributed on dorsal 1/2 of segment and each arising from a small weak protuberance; apical flagellar segment comparatively long as a ditomyiine, almost as long as penultimate segment, slender and cylindrical in shape, with a few apical hairs.

Thorax strongly hump-backed as illustrated; pronotum with a long bristle at each lateral extremity; pro-episternum with several bristles vertically arranged; mesoscutum except for marginal portion almost evenly

Table 1. Relative lengths of leg segments of *Celebesomyia inocellata*.

| | Femur | Tibia | Tarsus | | | | |
|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 |
| Front leg | 72 | 100 | 73 | 36 | 25 | 17 | 14 |
| Middle leg | 78 | 118 | 64 | 28 | 21 | 16 | 13 |
| Hind leg | 96 | 134 | 70 | 29 | 23 | 17 | 13 |

clothed with short setae, and with outstanding bristles arranged on a pair of subdorsal dark streaks, long stiff bristles at sides and postalar area; scutellum with a few submarginal short setae; other thoracic sclerites bare. Legs long and slender, relative lengths of leg segments as in Table 1; front coxa long-setose in front and at apex, middle coxa with stiff setae in front towards tip; hind coxa with a vertical row of long stiff setae on its outer posterior surface. Femora short setose except for an anteroventral row of long setae (the longest 0.8 × as long as femur thickness) on middle and hind femora; tibiae short setose, with a few short bristles on front tibia and some similar ones on hind tibiae; tarsi short setose, middle and hind tarsi with several short ventral bristles.

Wing as in Fig. 1, rather broad, 2.3 × as long as wide, axillary lobe more developed than in *Asioditomyia japonica*; venation similar to in this species, Sc obsolescent slightly beyond humeral crossvein; $R_1$ weakly sinuate; basal section of Rs long, oblique to $R_1$, stem of R-fork much short, only 1/5 of $R_5$, stems of R-fork and M-fork anastomosed for a short distance subequal to width of the vein; the latter fork with a short stem 1/3 × as long as $M_2$.

Abdomen clothed with short setae, of which the posterior marginal ones are longish. Female terminalia: 8th tergum short, less than 1/2 of 7th tergum, with a row of hind marginal setae; 9th tergum bare; 10th tergum with a few long setae; 8th sternum large, almost bilobated by a deep ventromedian V-shaped incision almost extending to anterior margin of the sternum, in lateral aspect the sternum bluntly produced posteriorly and bearing 4-5 upper hind marginal setae, of which the proximal ones are stiffer; ventral element of 9th segment as illustrated, having a lamellate invagination; cercus large, basal segment 1.4 × as long as wide, the apical one of an oval plate, both clothed with short fine setae.

Length: Body 4.6 mm; wing 5.5 mm.

*Type-locality*: Pulu-Pulu (1500 m-1800 m) 30 km NW of Rantepao, Celebes.

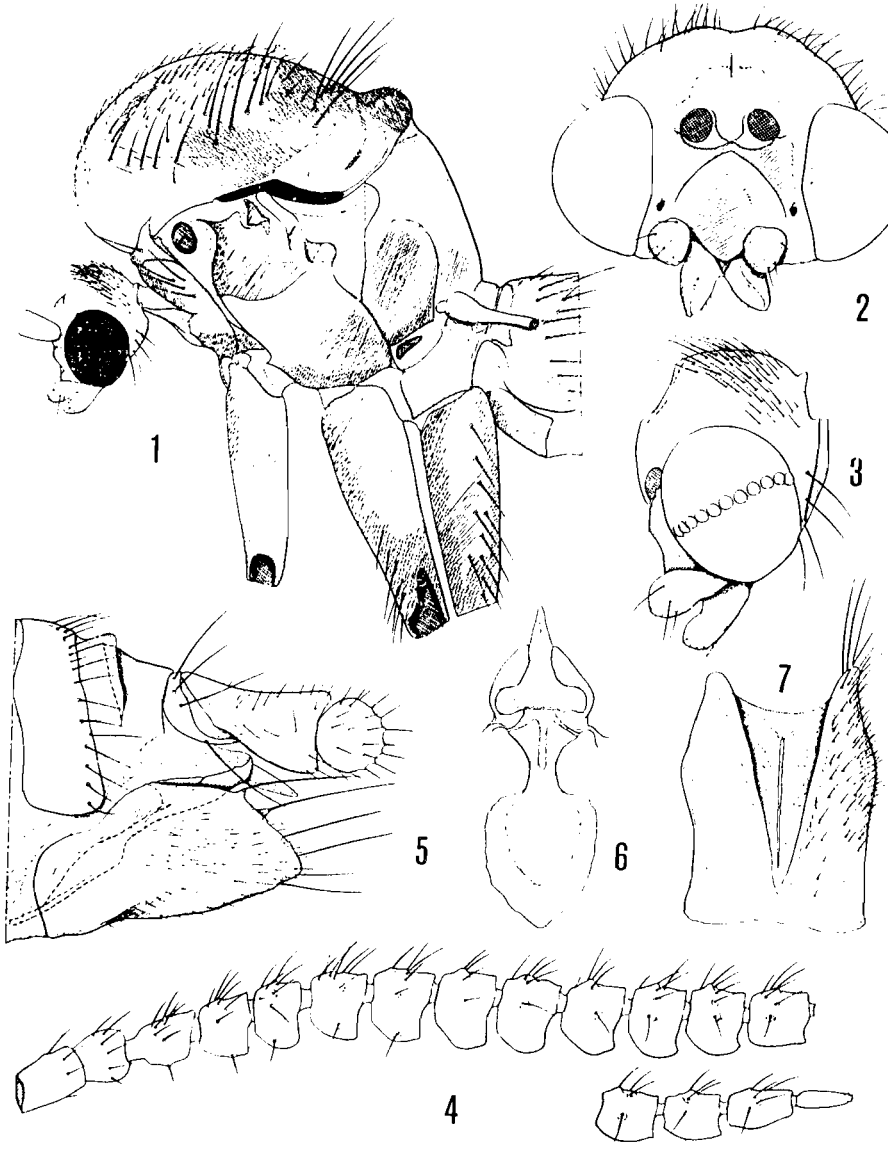
*Distribution*: Celebes.

*Holotype*: ♀ (Bishop 10111), Pulu-Pulu (1500-1800 m), 9-14. v. 1966, R. Straatman (in the collection of the Bernice P. Bishop Museum, Honolulu, Hawaii).

## Explanation of Plate 15

*Celebesomyia inocellata* Saigusa, gen. et sp. nov., holotype ♀.

Fig. 1. Head and thorax, lateral aspect.
Fig. 2. Head, frontal aspect.
Fig. 3. Ditto, lateral aspect.
Fig. 4. Antenna.
Fig. 5. Female terminalia, lateral aspect.
Fig. 6. Inner sclerite of ♀ terminalia, ventral aspect.
Fig. 7. Eight abdominal sternum, ventral aspect.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