

## STUDIES ON THE GENUS OREOGETON IN JAPAN (Diptera, Empididae)

SAIGUSA, TOYOHEI  
Biological Laboratory General Education Department Kyushu University

<https://doi.org/10.15017/7343171>

---

出版情報 : Sieboldia : acta biologica . 3 (1), pp.111-117, 1963-06-30. 九州大学教養部生物学教室  
バージョン :  
権利関係 :



# STUDIES ON THE GENUS *OREOGETON* IN JAPAN

## (Diptera, Empididae)

TOYOHEI SAIGUSA

(Biological Laboratory, General Education Department, Kyushu University)

The genus *Oreogeton* is one of a few Empid genera with setulose radial veins, and at a glance it resembles the species of the genus *Hilara*. Up to present, this genus is represented only one species in the Palaearctic Region, eight in North America, about seventeen in Patagonia and South Chile, and three in New Zealand. Hitherto no Japanese species are discovered, but the author have taken three species in Japan, which very closely resembled each other in the general appearances. Two of these three species are related to European *basalis* Loew, and another is very distinct in the widely separated compound eyes on frons in the males.

### Key to the Japanese species of the genus *Oreogeton*

1. In males compound eyes touching on frons; most of the posteroventral bristles of middle femora blunt at tip. Wings pale yellowish grey with a faint stigma .....2  
In males compound eyes widely separated on frons; posteroventral bristles of middle femora pointed at tip. Wings remarkably infuscated, with a brownish or blackish stigma .....  
..... *frontalis* Saigusa, sp. nov.
2. In males front tibiae neither dilated at tip nor fringed with black subpennate hairs. Scutellum with two pairs of strong bristles and 2-4 short hairs. Surstyli of male genitalia evenly slender and gently curved at middle .....*nippon* Saigusa, sp. nov.  
In males front tibiae black and considerably swollen at apical one-quarter, there the tibiae clothed laterally with black subpennate hairs. Scutellum with two pairs of strong bristles and no short hairs. Surstyli of male genitalia broad on basal half, bent at middle, then strongly tapered .....*tibialis* Saigusa, sp. nov.

*Oreogeton nippon* Saigusa, sp. nov.

(Text-fig. 1, A, B, legs; 2, A-E, ♂ genitalia)

♂. Compound eyes touching for some distance on upper half of frons, and all facets nearly equal in size. Frons triangular, small, dull grey; face broad, dilating towards oral margin, entirely dusted grey; ocellar tubercle with a pair of bristles and 2-3 short setulae. Occiput black, subshining, with two rows of curved black bristly hairs, and numerous fine hairs on ventral half. Antennae black, two basal segments dusted grey, 1st segment twice as long as wide or 2nd segment is long, clothed with several black hairs; 2nd globular, shorter than wide, with a circlet of small hairs longest on dorsal side; 3rd segment tapering towards tip, slightly shorter than two basal segments together, and 1.5 times as long as thick; arista as long as three antennal segments together, microscopically pubescent except for fine bare tip. Proboscis short, directing obliquely forward, palpi clavate, black, and with several dorsal black hairs.

Thorax shining black, thinly dusted dark greyish brown; mesonotum subshining, viewed from in front with two indistinct dark stripes between rows of bristles; humeri, supra-alar portion and postalar calli with a brownish tinge; pleura more greyish. Chaetotaxy: all bristles on thorax black; acrostichals moderately long and irregularly biserial, ending just before prescutellar depression; strong uniserial dorsocentrals 8-9 in number, longer behind, and mixed with short hairs on posterior half of rows; a strong humeral with 2-3 small hairs in front part of humeri, two posthumeral, three notopleural, 3-4 supra-alar in a row, a long postalar bristle with a short hairs; scutellum with two pairs of strong marginal bristles and 2-6 weak setulae. Pronotum and pro-episternum with a few short hairs; metapleural hairs rather scanty and black.

Legs long, slender, and blackish brown; tip of front and middle femora, hind knee, front and middle tibiae, greater part of meatatarsi yellowish, front tibiae usually slightly infuscated at tip. Coxae dusted grey, with black bristles, middle pair with 4-5 apical bristles in front, which are blunt at tip; four anterior femora short-haired above, with two rows of long ventral bristles, of which posteroventral ones of middle femora are mostly blunt at tip; front femora with a prominent posteroventral bristle preapically; hind femora with long bristles above and below, short hairs at sides; four anterior tibiae short-haired, front pair with an anterodorsal bristle preapically, two posterodorsal and some preapical bristles, and devoid of subpennate hairs at tip; middle tibiae slightly concave at middle on ventral side, with 2-3 anterodorsal, 3-4 posterodorsal and several preapical bristles, beneath with longish erect setulae which are a little longer towards tip; hind tibiae slender, more or less compressed, with a bare stripe on each side, and bearing many long dorsal bristles, but only short-haired beneath; tarsi slender and simple.

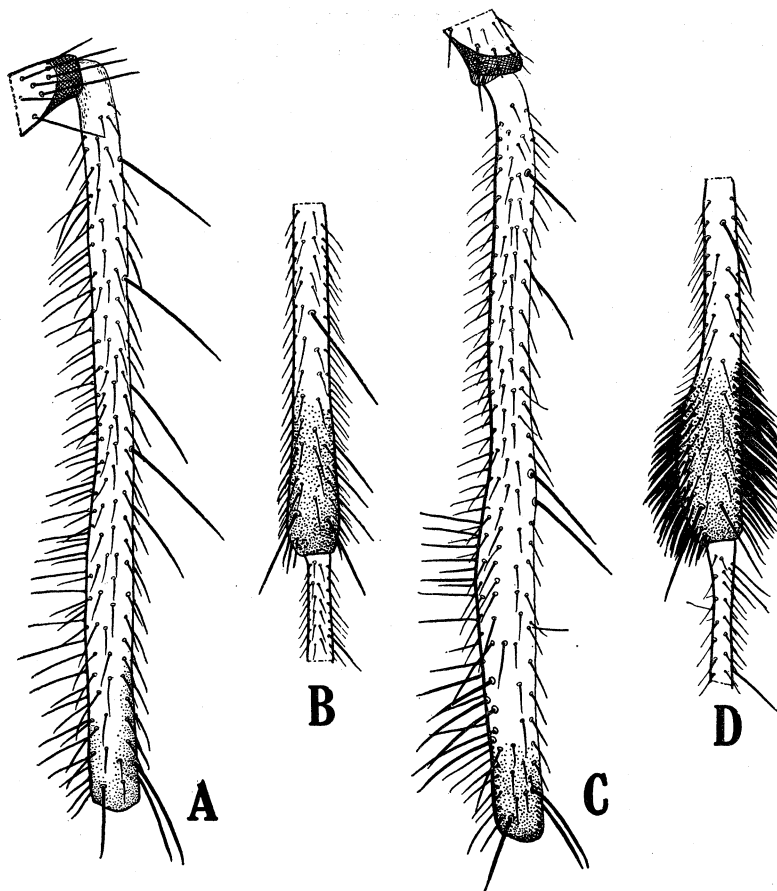


Fig. 1. Legs of *Oreogeton* spp.

- A. *Oreogeton nippon* Saigusa, sp. nov., ♂, anterior aspect of middle tibia.
- B. Ditto, dorsal aspect of tip of front tibia and base of metatarsus.
- C. *Oreogeton tibialis* Saigusa, sp. nov., ♂, anterior aspect of middle tibia.
- D. Ditto, dorsal aspect of tip of front tibia and base of metatarsus.

Wings besides veins pale yellow with a slight brownish tinge, basal portion of wings slightly paler; stigma faint, hardly distinguishable. On upperside of wings,  $R_1$  densely clothed with setulae, whole length of  $R_5$  sparsely setulose, and  $R_{4+5}$  with a few setulae; on underside of wings,  $R_{2+3}$  entirely and rather densely setulose, and anterior marginal vein of discal cell and basal one-third of  $M_1$  also sparsely clothed with setulae. Squama yellowish with black fringe. Halteres yellow.

Abdomen shining, with three basal segments pellucid yellow, 4th segment yellow, usually brownish on posterior half, remainder of abdomen dark brown to blackish brown. Pubescence of abdomen sparse, but long

and black; hind-marginal bristles on terga longer and prominent; 1st sternum and anterior half of 2nd segment free from hairs. Genitalia: epandrium large, seen from sides tapered apically and upcurved, tip of epandrium without spiny bristles or spines but with a few fine hairs; surstyli slender, evenly tapered apically and weakly sinuate after middle; cerci moderately large; hypandrium large, widely bilobed on hind-margin and with a pair of spatulate processes above the distal pubescent processes; aedeagus constricted preapically then broadly expanded, and forming a curved lamella dorsally, a pair of hooks ventrally.

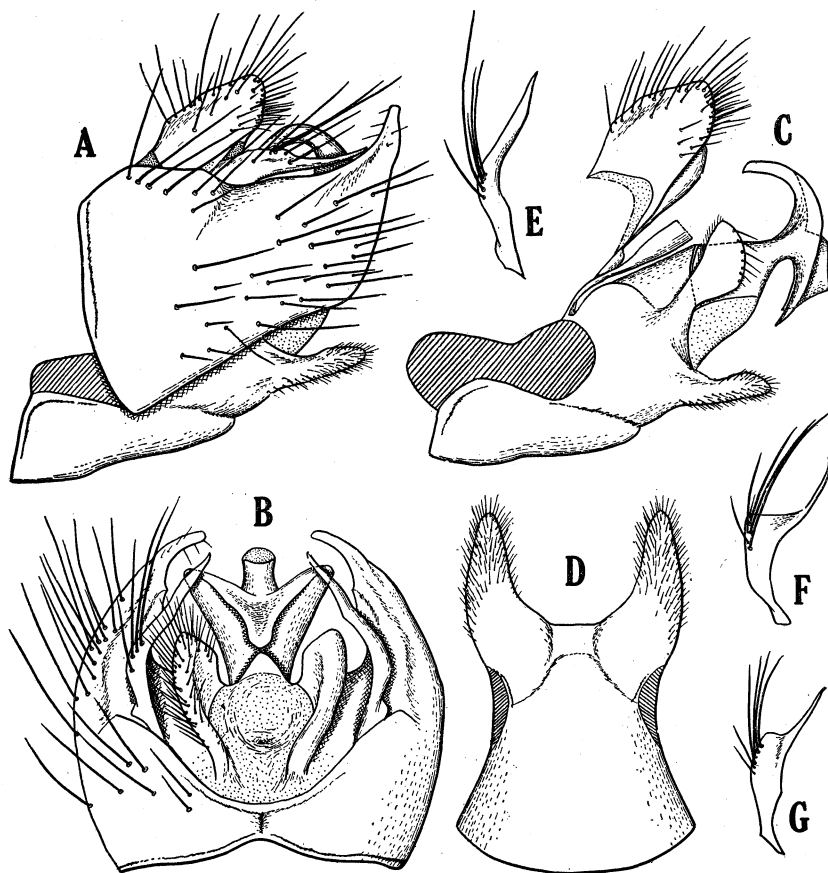


Fig. 2. Male genitalia of *Oreogeton* spp.

- A. *Oreogeton nippon* Saigusa, sp. nov., whole genitalia, lateral aspect.
- B. Ditto, dorsal aspect.
- C. Ditto, cercus, aedeagus and hypandrium, lateral aspect.
- D. Ditto, hypandrium, ventral aspect.
- E. Ditto, left-hand surstylus, dorsal aspect.
- F. *Oreogeton tibialis* Saigusa, sp. nov., left-hand surstylus, dorsal aspect.
- G. *Oreogeton frontalis* Saigusa, sp. nov., left-hand surstylus, dorsal aspect.

Length: Body 6.2—7.1 mm; wings 6.0—6.9 mm.

♀. Resembling male, but eyes widely separated on frons, middle tibiae straight and without ventral row of erect hairs, hind tibiae yellowish brown, without side bare stripes, and tip of abdomen pointed, with a pair of small cerci.

Length: Body 5.1—6.5 mm; wings 6.4 mm.

Distribution: Japan (Honshu).

Types: Holotype ♂, Kanayama (1,300 m alt.), Sudama, Yamanashi Pref., Honshu, 6. VI. 1962. Paratypes 2 ♂♂ 1 ♀, same locality as holotype, 6. VI. 1960; 12 ♂♂ 1 ♀, same data as holotype. All the type-specimens were collected by the author, and are now preserved in his collection.

This new species is closely related to European *basalis* Loew, but it may be distinguished from the latter species by the blackish hind tibiae in males, infuscated femora in females, and much extensively setulose wing veins in both sexes.

The males of this species were found on the broad leaves of grasses on the shady places near a stream in the mountains. They fly short distance persuing small insects or themselves, and usually return to the same leaf.

### *Oreogeton tibialis* Saigusa, sp. nov.

(Text-fig. 1, C, D, legs; 2, F, surstylus)

♂. Closely related to *nippon* Saigusa, but differing as follows.

Scutellum with only two pairs of bristles, without any hairs. Front tibiae yellow and slender, but on apical one-quarter the tibiae distinctly swollen, infuscated and clothed laterally with dense blackish subpennate hairs; middle tibiae with two anterodorsal bristles, one situated subbasally, another at middle, a middle posterodorsal bristle and several pre-apical ones, beneath with erect setulae of which anteroventral are distinctly longer near tip. Setulae on wing veins as in *nippon*. Male genitalia similar to of *nippon*, but surstyli broad on basal half and abruptly tapered and bent inwardly after middle.

Length: Body 6.8 mm; wings 6.7 mm.

♀. Resembling male, but eyes widely separated on frons; front tibiae simple, not so differentiated as in male; four anterior tibiae with some posteroventral bristles; in the well-setulose specimens, wings with  $R_1$ ,  $R_{4+5}$  and  $R_5$  entirely and densely, posterior marginal vein of discal cell rather sparsely setulose above,  $R_{2+3}$  densely, anterior marginal vein of discal cell, basal half of  $M_1$  and  $M_2$  sparsely setulose beneath; 1st to 3rd abdominal segments yellow, remainder of abdomen subshining blackish brown with yellow cerci.

Length: Body 5.3—5.8 mm; wings 6.2—6.7 mm.

Distribution: Japan (Honshu).

Types: Holotype ♂, Sengataki, Shōsen-kyō, Kōfu, Yamanashi Pref., Honshu, 5. VI. 1962. Paratypes 1♀, same locality as holotype, 31. VI. 1960; 2♀♀, same data as holotype. All the type-specimens were collected by the author, and they are now deposited in his collection.

This new species is closely related to *nippon* and *basalis*, from which it is easily distinguished by the swollen, fringed tip of the male front tibiae in males.

The type-specimens were found sitting on the wet rock surface of a ditch running a crack on the rock-wall in the valley of Shōsen-kyō. The author examined a male specimen taken by Mr. A. Nakanishi at Mt. Ōgino-sen in Hyōgo Prefecture, and this specimen is almost identical with *tibialis*. In this specimen, however, scutellum with two short hairs in addition to the ordinary two pairs of bristles, so that the number of scutellar bristles or hairs may be variable in this species.

*Oreogeton frontalis* Saigusa, sp. nov.

(Text-fig. 2, G, surstylus)

♂. Compound eyes widely separated on frons, with lower facets a little larger than upper ones; head black, dusted greyish brown; frons somewhat wider than hind ocelli are apart, almost parallel-sided, ocellar prominence with a pair of strong ocellar bristles and 2-3 short hairs behind them; face as wide as frons below antennae, and gently tapered ventrally; occiput with two rows of curved black bristles of which upper bristles are prominent, and several scattered bristles below neck. Antennae as in *nippon*, but 3rd segment as long as two segments together, or twice as long as its width, arista slightly longer than 3rd segment. Palpi and proboscis as in *nippon*.

Thorax similar to that of *nippon*, scutellum with two pairs of strong bristles and often with 1-2 additional short hairs.

Legs dark brown to blackish brown, four anterior metatarsi and tibiae, and the extreme tip of four anterior femora yellowish, hind tibiae somewhat dark yellowish brown, coxae greyish brown pollinose. Middle femora with a row of posteroventral bristles which are sharply pointed at tip; anteroventral bristles of hind femora short; front tibiae slender and simple, clothed with a pair of subbasal, 1-2 anterodorsal bristles above (and often with a posterodorsal bristle near middle), two dorsal and one ventral preapicals; middle tibiae straight, clothed above with short hairs and two subbasal bristles, an anterodorsal one before middle, a posterodorsal one after middle and several preapicals, beneath with suberect bristly hairs evenly distributed on the whole ventral side of tibiae, the bristly hairs as long as tibia is thick; hind tibiae as in *nippon*, but devoid of bare lateral stripes; tarsi simple and slender.

Wings somewhat narrow, distinctly infuscated, greyish brown, and

with a slight yellowish tinge near base; veins dark brown, stigma deep brown to blackish brown, prominent; axillary incision rectangular;  $R_1$ ,  $R_{4+5}$ ,  $R_5$  and posterior marginal vein of discal cell densely setulose above,  $R_{2+3}$ , anterior marginal vein of discal cell and basal half of  $M_1$  densely clothed with setulae beneath. Squama yellow with black fringe. Halteres yellowish.

Abdomen with 1st to 3rd segments pellucid yellow, remainder of abdomen subshining dark brown to blackish brown; pubescence of abdomen black, hind-marginal bristles longer. Male genitalia quite as in *nippon*, but shape of surstyli intermediate between those of two preceding species.

Length: Body 5.5–6.5 mm; wings 5.7–6.1 mm.

Distribution: Japan (Honshu).

Types: Holotype ♂, Kanayama (1,300 m alt.), Sudama, Yamanashi Pref., Honshu, 6. VI. 1962. Paratypes 1 ♂, same data as holotype; 1 ♂, Kuroyu (850 m alt.), Mt. Eboshi-dake, Akita Pref., Honshu, 8. VII. 1962. All the type-specimens were collected by the author and are now preserved in his collection.

This new species superficially resembles preceding species, but is easily distinguished by the wide frons separating the compound eyes, apically pointed posteroventral bristles of middle femora, evenly haired hind tibiae without lateral bare stripes and the dark wings with a blackish stigma.

This species is only one Palaearctic species with the wide frons in males. There are six species with this character in Patagonia and South Chile, of which *tenuipes* Collin, *aperta* Collin, *clausa* Collin, *bilineata* Collin and *biumbrata* Collin have yellowish thorax, and *pterostigma* Collin has tawny thorax and the blackish brown abdomen not so bicolorous as in this new species. New Zealand *undulata* Collin also has the wide frons in the males, but its abdomen is entirely unicolorous dirty yellow and legs are all yellowish.

Holotype and a paratype were found with *nippon* sitting on leaves of the grasses in Kanayama.

Acknowledgement: The author expresses his thanks to Professor K. Yasumatsu, Professor T. Shirôzu and Professor S. Miyamoto of Kyushu University for their kind guidance.



