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Author(s)	Nagatomi, Akira
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THE CHORISOPS OF THE PALAEARCTIC REGION

(DIPTERA : STRATIOMYIDAE)

By AKIRA NAGATOMI

Faculty of Agriculture, Kagoshima University
Kagoshima

The genus *Chorisops* is a small group and in the Palaearctic region only one representative has been previously recorded. Here is added a new species found from Japan.

I am much indebted to Dr. Harold Oldroyd of the British Museum (Natural History) for the generous gift of the specimens of *Chorisops tibialis* (Meigen, 1820) which made this work possible. My thanks are also due to Mr. Toyohi Saigusa of Kyushu University for his kind and skilled technical assistance in preparing the drawings. Grateful acknowledgment is made to Professor Masatake Shibuya of Kagoshima University and Professor Keizō Yasumatsu of Kyushu University for their constant encouragement and support.

Chorisops Rondani

Chorisops Rondani 1856, Dipt. Ital. Prodr. 1: 173.

Slender, metallic green or blue flies. Eyes separated in both sexes and practically bare (when carefully examined sparsely clothed with very short pile); in antennae, which are as long as or longer than the length of eye from a direct lateral view, first segment somewhat less than twice as long as the second, and the first two segments taken together much shorter than the flagellum which is composed of eight segments; palpi three-segmented and about as long as the proboscis. Hairs on head and thorax short in male (as well as in female). Scutellum four-spined. Hind legs longer and thicker than the front and middle ones in both sexes. Media three-branched, but the vein M_3 vestigial or obsolete. Abdomen distinctly seven-segmented.

Type-species: *Beris tibialis* Meigen.

This genus is closely related to *Actina* Meigen, 1804 (type-species: *Actina nitens* Latreille), but differs by having the eyes practically bare and the hairs on front, face and scutellum short, rather than having the eyes distinctly pilose and in male the hairs on front, face and scutellum conspicuously long. The shape of antenna may also serve as a distinguishing character. In *Actina* the first antennal segment is somewhat over twice as long as the second, and the first two segments taken together is subequal to the flagellum.

The genus apparently fits closest to *Neoxaireta* Osten Sacken, 1878 (type-species: *Xylophagus spiniger* Wiedemann), but in the latter a small ventral tubercle is present near the apex of hind femur, while in *Chorisops* it is absent. (However, I have not seen actually the specimens of *Neoxaireta* known from the Australian and Neotropical regions and Hawaii and can not say definitely the significant distinguishing characters).

Key to species of *Chorisops* known from the Palaearctic region

- 1. Wings without darkened parts (except the stigmata). Tarsi, except for the basal portions of basitarsi, dark brownish. Abdominal terga two to five yellowish or yellowish brown, although the lateral and posterior borders brownish to blackish (Fig. 2 a). Basistylus with a long dorsal process (Figs. 2 b and 2 c). *tibialis* (Meigen)
- Wings with darkened parts (besides the stigmata) (Fig. 1 d). Tarsi pale yellowish, although the last joints somewhat darkened (Fig. 1 c). Each of abdominal terga two to five dark brownish to blackish, with a median basal yellowish or yellowish brown spot (Fig. 1 a). Basistylus without the dorsal process (Figs. 1 e and 1 f). *maculiala*, sp. nov.

***Chorisops maculiala*, sp. nov. (Fig. 1)**

Dark brownish to blackish, but the front, median occipital region, mesonotum and scutellum metallic dark bluish or greenish and palpi, proboscis, antennae, spines on scutellum, halteres, legs (except for hind tibia and some regions of hind femur), abdominal sternum two to four and a basal median spot in each of abdominal terga two to five yellowish or yellowish brown; wings very faintly tinged with brown, with dark brown parts (Fig. 1 d).

Male.—Head: Blackish; the front and cerebrale (=median occipital region) metallic dark bluish; the palpi, proboscis and antennae yellowish or yellowish brown and the last mentioned one especially the flagellum except for its basal segment somewhat darkened; the front just above antennae and the face light gray pollinose but divided by a thin shining black line; the length of pollinose part of front equal or roughly so to the width of front just above antennae (0.8 to 1.4 times); first two segments of antennae, front, face, ocellar triangle, vertex and occiput with black pile and the palpi, proboscis and cheeks with pale yellowish one; the hairs on vertex become longer but are less than the combined lengths of the first two antennal segments (0.7 to 0.8 times); the distance between antennae and median ocellus somewhat over one-half (0.6 times) that between proboscis and antennae, nearly equal to (0.9 to 1.0 times) the width of one eye on a mid line from a direct frontal view and four times or roughly so (3.5 to 4.6 times) the width of front just above antennae, which is distinctly broader than (1.4 to 2.0 times) the narrowest point of face; the width of front at median ocellus 0.8 to 0.9 times that at lateral ocelli, twice or approximately so that just above antennae (1.7 to 2.3 times) and the width of ocellar triangle (1.8 to 2.1 times); in antennae, which are somewhat shorter than the height of eye (0.8 to 0.9 times), first three segments taken together shorter than the rest (0.7 to 0.8 times), second segment distinctly shorter than the first (0.6 to 0.7 times) but equal or nearly so to the length of third segment (0.8 to 1.0 times), and the last segment less than one-half the total length of flagellum minus the basal segment (0.3 times) but longer than the third segment (=basal segment of flagellum) (1.1 to 1.3 times) (Fig. 1 b).

Thorax: Mesonotum and scutellum metallic dark greenish with a bluish tinge, but the posterior calli, hind border of scutellum and spines yellowish or brownish and the humeral calli dark brownish (the outer corners yellowish or brownish); pleura is shining dark brownish to blackish and may have a greenish or bluish tinge in certain lights; thorax pale yellowish pilose but bare on hypopleura; pile is confined to some marginal regions on meso- and pteropleura; it appears that the hairs on mesonotum are longer than the first

antennal segment but not over the combined lengths of first two antennal segments; halteres yellowish or yellowish brown.

Legs: Yellowish or yellowish brown, but in hind legs the apices of femora and whole surface of tibiae except the extremely narrow parts of knees dark brown; the last segment of each tarsus and some area beyond about the middle of hind femur more or less darkened (Fig. 1 c); hairs on legs pale yellowish but those on hind tibiae black; relative lengths^{*)} of

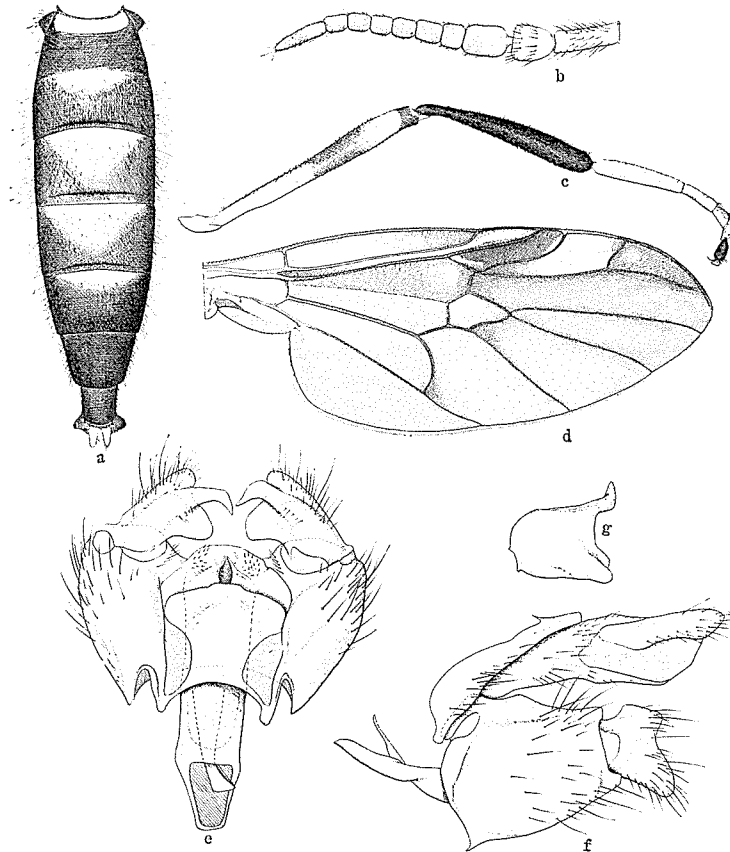


Fig. 1. *Chorisops maculiala*, sp. nov. (male).

a: abdomen (dorsal view); b: antenna (outer view); c: hind leg (anterior view); d: wing; e: genitalia in which cerci and epandrium are excluded (dorsal view); f: genitalia in which cerci and epandrium are included (lateral view); g: dististylus (postero-lateral view).

the segments (excluding coxae and trochanters) of front legs 191 (184-198): 206 (198-217): 100 (92-106): 48 (43-53): 27 (24-29): 18 (14-19): 30 (29-34), of middle legs 210 (203-222): 198 (188-208): 111 (106-116): 47 (43-48): 26 (24-29): 19 (15-24): 33 (29-39), of hind legs 373 (357-386): 302 (290-324): 151 (145-159): 74 (72-77): 31 (29-34): 21 (19-24): 33 (29-34), these were

*) The length of each segment of legs was measured along dorsal surface and the average and the two extremes of the value were given. The front basitarsi were adopted as a unit for regulating the proportions of parts.

calculated on the basis of 10 specimens; in hind legs the basitarsus one-fourth to one-fifth as wide as long and somewhat narrower than (0.7 to 0.9 times) the tibia which is as wide as or slightly less than (0.9 to 1.0 times) the femur.

Wings: Membrane very faintly tinged with brown; stigma, subcostal cell above the stigma, second submarginal cell and the apex and base of first submarginal cell dark brown; veins brown to dark brown; the bases of the veins M_1 and M_2 connected with each other or nearly so; the vein M_3 entirely lacking or minutely developed (Fig. 1 d).

Abdomen: Dorsum dark brownish to blackish, with a purple reflection especially on the last three segments; terga two to five each with a median, basal, yellowish or yellowish brown spot which is usually obscure on the terga two and five and is triangular or sometimes semicircular in shape and nearly reaches to the hind border on the terga three and four (Fig. 1 a); venter yellowish or yellowish brown, but the sterna one and five to seven (usually excepting the anterior portion of the sternum five and the posterior margins of the sterna five to seven) and the spot, which is often indistinct, in each side of the sterna two to four dark brownish to blackish; the segments one to four above and below with pale yellowish hairs which are longer on the sternum one and the sides of dorsum and become short and black in the middle of dorsum, while the segments five to seven short black pilose.

Genitalia: Basistylus simple; in dististylus the dorso-distal portion is developed into an elongate projection whose apex is pointed, and the ventro-distal portion becomes a lobe whose apex is blunt; other details of genitalia as in Figs. 1 e, 1 f and 1 g.

Length: Body 5-6 mm; wings 4; front basitarsi 0.46-0.53.

Female.—Similar to male except as follows: Head: The length of pollinose part of front one-half or nearly so the width of front just above antennae (0.4 to 0.5 times); the lower portion of face is shining black and this portion is triangle in shape; hairs on front, face and ocellar triangle pale, and hairs on vertex not so long compared to those on the other parts; the distance from antennae to median ocellus (which is just equal to the width of one eye on a mid line from a direct frontal view) somewhat less than twice (1.7 to 1.9 times) the width of front just above antennae, which is slightly broader than (1.1 to 1.2 times) the narrowest point of face; the width of front at median ocellus somewhat broader than that just above antennae (1.1 to 1.3 times) and just twice or more the width of ocellar triangle (2.0 to 2.4 times); in antennae, which are somewhat longer than the height of eye (1.1 to 1.2 times), first three segments taken together distinctly shorter than the rest (0.6 to 0.7 times) and the last segment distinctly longer than the third (1.3 to 2.0 times).

Thorax: It appears that the hairs on mesonotum are not over the length of first antennal segment.

Legs: Hairs on hind tibiae often wholly yellowish; relative lengths of the segments of front legs 185 (180-190): 207 (200-219): 100 (95-105): 48 (48): 25 (24-28): 19 (19): 32 (28-33), of middle legs 213 (205-219): 201 (190-210): 110 (105-114): 48 (43-52): 25 (24-28): 19 (19): 32 (28-33), of hind legs 362 (343-376): 298 (290-305): 140 (133-148): 69 (62-71): 31 (28-33): 20 (19-24): 35 (28-38), these were calculated on the basis of 6 specimens; in hind legs the basitarsus one-fifth to one-sixth as wide as long and narrower than (0.6 to 0.8 times) the tibia which is somewhat less than (0.8 times) the width of femur.

Abdomen: Hairs on sternum five and female gonopore pale yellowish.

Length: Body 5 mm; wings 4-5; front basitarsi 0.49-0.53.

Habitat: Japan (Honshu and Kyushu).

Holotype: 1 male; paratopotypes: 7 males; June 9, 1957, Sasayama, Tamba, A. Nagatomi leg.

Paratypes: 10 males and 7 females, June 3-13, 1953-1959, Sasayama, Tamba, A. Nagatomi leg.; 1 male, June 10, 1956, Okayama, Bizen, K. Koizumi leg.; 1 male and 1 female, May 19, 1963, Kagoshima, Satsuma, A. Nagatomi leg.

Holotype and some paratypes are being deposited in Kyushu University, Fukuoka. The remainder of the paratypes are being distributed among the following Institutions: National Institute of Agricultural Sciences, Tokyo; U. S. National Museum, Washington,

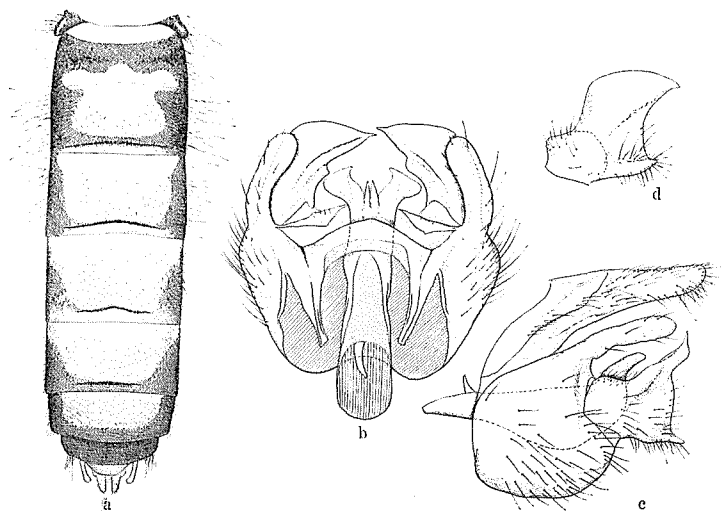


Fig. 2. *Chorisops tibialis* (Meigen) (male).

a: abdomen (dorsal view); b: genitalia in which cerci and epandrium are excluded (dorsal view); c: genitalia in which cerci and epandrium are included (lateral view); d: dististylus (postero-lateral view).

D. C.; British Museum (Natural History), London; my collection at Kagoshima University.

***Chorisops tibialis* (Meigen) (Fig. 2)**

Beris tibialis Meigen, 1820, Syst. Besch. 2: 3.

Front, median occipital region and thorax metallic greenish; palpi, proboscis, antennae, humeral and posterior calli, spines on scutellum, halteres, legs and abdomen yellowish or yellowish brown, but each tarsus except the basal portion, hind tibia except the basal portion, abdominal segments one, six and seven, and lateral and posterior borders of abdominal terga two to five brownish to blackish; wings wholly very faintly tinged with brown, except for the veins and stigmata.

Fitting description of *maculiala*, sp. nov., with the following differences.

Male.—Head: Front and cerebrale metallic dark greenish; the middle line on the pollinose part of front and face obscure; the pollinose part of front much longer than the

width of front just above antennae (1.5 to 1.8 times); hairs on front, face, ocellar triangle, vertex and cerebrale pale; the distance between antennae and median ocellus over one-half (0.6 to 0.7 times) that between proboscis and antennae and about five times (4.5 to 5.2 times) the width of front just above antennae, which is about equal to (1.0 to 1.1 times) the narrowest point of face; the width of front at median ocellus less than twice the width of ocellar triangle (1.5 to 1.6 times); in antennae, which are distinctly shorter than the height of eye (0.7 times), first three segments taken together equal in length to the rest.

Thorax: Pleura metallic greenish with a bluish tinge as well as mesonotum and scutellum; humeri wholly yellowish brown; in scutellum hind border concolorous with the rest; it appears that the hairs on mesonotum are not over the length of first antennal segment.

Legs: Tarsi darkened, except for the basal portions of basitarsi; the darkened part beyond about the middle of hind femur not so distinct; the basal portions of hind tibiae yellowish or yellowish brown; hairs on hind tibiae yellowish; relative lengths of the segments of front legs 176 (167-185): 185 (167-204): 100 (93-107): 43 (41-44): 25 (24-26): 18 (17-19): 28 (26-30), of middle legs 189 (178-200): 178 (167-189): 102 (93-111): 39 (37-41): 24 (22-26): 16 (15-17): 24 (22-26), of hind legs 367 (352-381): 307 (289-326): 147 (141-152): 52 (48-56): 28 (26-30): 19 (19-20): 28 (26-30), these were calculated on the basis of 2 specimens.

Wings: Membrane are wholly faintly tinged with brown and there are no darkened parts (except for the stigmata); the bases of the veins M_1 and M_2 well separated from each other in the specimens at hand; the vein M_3 present but incomplete and variable in length.

Abdomen (Fig. 2a): In terga two to five the yellowish or yellowish brown parts large in area and the darkened parts confined to the lateral and posterior borders; in tergum one the hind border excepting the sides and in tergum six the basal part yellowish or yellowish brown; the pile on the segments five to seven yellowish, except for those in the middle of dorsum.

Genitalia: Basistylus with a long dorsal process whose apex is blunt; the apices of a pair of these processes are well separated from each other; the dististylus is broad and thin but not smooth in its margin; other details of genitalia as in Figs. 2b, 2c and 2d.

Length: Body 6 mm; wings 5; front basitarsi 0.61-0.70.

Female.—Head: As in the male, but the length of pollinose part of front shorter than the width of front just above antennae (0.7 times), the distance from antennae to median ocellus about twice the width of front just above antennae (2.1 times), and the width of front at median ocellus equal to that just above antennae and less than twice the width of ocellar triangle (1.7 times); the lower portion of face is shining black but this portion appears to be not triangle in shape; the antennae are lacking in the specimen at hand.

Thorax, legs, wings and abdomen: As in the male; in the specimen at hand the relative lengths of the segments of front legs 170: 200: 100: 41: 26: 19: 30, of middle legs 196: 185: 100: 41: 24: 19: 30, of hind legs 356: 315: 144: 44: 30: 22: 33, and the hind tibia 0.7 times as wide as the hind femur.

Length: Body 6 mm; wings 5; front basitarsi 0.65.

Habitat: Europe, North Africa and India.

Specimens examined: 2 males and 1 female, Aug. 14-22, 1897, N. Forest, England, F. C. Adams leg.