# The Japanese Beris (Diptera, Stratiomyidae)

# Akira NAGATOMI and Akira TANAKA<sup>1</sup>

(Entomological Laboratory)

The Japanese *Beris* is revised. It contains 6 (or 7 or 8) species of which 3 appear to be new to science.

We have not seen any specimen of the 9 species<sup>2</sup> described by Pleske (1926 and 1931) from Sakhalin, Ussuri, Mongolia, China, Altai, and Caucasus, and the 6 species<sup>3</sup> described by Frey (1960) from Kambaiti (2000m), Burma, some of which may be present in Japan and may be identical with the species discussed in this paper. Pleske (1926 and 1931) recorded 2 species from Sakhalin, namely, fuscipes Meigen, 1820 (=sachalinensis Pleske, 1926) and flavipes Pleske, 1926, and Brunetti (1920) reported 2 species from the Himalayas, namely, geniculata Curtis, 1830? and annulipes Brunetti, 1912. The known species from Europe and North America are 6 and 3 respectively in number.

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#### Genus Beris Latreille

Beris Latreille, 1802, Hist. Nat. Crust. et. Ins., 3: 447. Type-species: Stratiomys sexdentata Fabricius, 1781 [= Beris chalybeata (Forster, 1771)]

Body slender but generally more robust than in Actina and Chorisops. Head from a direct frontal view elliptical in shape; eyes pilose in both sexes, contiguous in  $\delta$  and widely separated

- 1) Address of junior author: Kanoya Branch of Kagoshima Agricultural Experiment Station, Kanoya.
- Beris flavipes Pleske, 1926 (from Sakhalin), B. fuscotibialis Pleske, 1926 (Altai), B. heptapotamica Pleske, 1926 (Altai), B. mongolica Pleske, 1926 (Mongolia), B. potanini Pleske, 1926 (China), B. sachalinensis Pleske, 1926 (Sakhalin), B. schaposchnikowi Pleske, 1926 (Caucasus), B. sychuanensis Pleske, 1926 (China), B. hildebrandtae Pleske, 1931 (Ussuri).
- 3) Beris burmanica Frey, 1960, B. dolichocera Frey, 1960, B. excellens Frey, 1960, B. luteistigma Frey, 1960, B. malaisei Frey, 1960, B. pulchripennis Frey, 1960.

in  $\mathfrak P$ ; front in  $\mathfrak P$  nearly parallel sided; face tapering on upper portion; mid-lower face not flat but swollen and short pilose, and a pair of holes present by upper-lateral parts of mid-lower face; in lateral view, cheeks well developed below eye but in  $\mathfrak P$  sometimes may not be so; in  $\mathfrak P$  occiput just behind upper margin of each eye swollen or more or less so; antenna situated opposite somewhat below middle of eye; in antenna, segment 1 generally longer than wide, segment 2 roughly as wide as long, flagellum as wide as or wider than segment 2, longer than or roughly as long as segments 1+2 and composed of 8 divisions of which the basal one is largest; palpus 1-segmented and knob-like; proboscis developed; in  $\mathfrak P$  pile on front shorter than that on face. Scutellum with 4-8 spine-like processes. No tibial spur present; hind basitarsus in  $\mathfrak P$  swollen or more or less so. Wing venation similar to *Actina*, *Chorisops*, and *Allognosta*, but vein  $R_{2+3}$  at least generally arising not at or beyond but before r-m crossvein; vein  $M_3$  entirely absent or at most vestigial.

In the Japanese species on hand, mid-lower face (=facial swelling) 0.3-0.4 times in  $\eth$  and 0.3-0.5 times in  $\Rho$  as long as distance from proboscis to antenna, 0.6-0.9 times in both sexes as long as wide, and 0.5-0.7 times in  $\eth$  and 0.6-0.7 times in  $\Rho$  as wide as face at upper margin of mid-lower face.

This genus is easily distinguished from *Actina* and *Chorisops* in the following respects: palpus 1-segmented and knob-like; mid-lower face not flat but swollen; in  $\delta$  eyes contiguous.

In both sexes, the shape of antenna and the quantity and arrangement of pile on sternopleura and in  $\eth$ , the shape of genitalia and the thickness of hind basitarsus are important in separating the species. The colorations of leg, antenna, and pile on body vary considerably with the individual in some species.

The antennal flagellum of P is much longer than that of  $\mathcal{O}$  in some species, e. g. crassitarsis and nebulosus.

#### Key to species of Beris known from Japan

1.	3' (eyes contiguous)
1.	
_	♀ (eyes separated)
2(1).	Antennal flagellum over 3 times as long as antennal segment 1
_	Antennal flagellum at most just 3 times as long as antennal segment 1 4
3(2).	Tarsal segments 2-5 darkened; hind basitarsus about 1/4 (0.23-0.29 times) as wide as
	long and less than twice (usually 1.2-1.5 times) as wide as hind tibia
_	Tarsal segments 2-5 not darkened; hind basitarsus conspicuously swollen, about 1/3
	(0.32-0.38 times) as wide as long, and about twice (1.8-2.1 times) as wide as hind
	tibia
4(2).	In sternopleura posterior- (largely) and anterior part bare; hind basitarsus more
	swollen, $1/4-1/5$ (0.20-0.29 times) as wide as long and wider than (1.2-1.8 times)
	hind tibia
_	Sternopleura almost wholly pilose; hind basitarsus less swollen, 1/5-1/6 (0.17-0.21
	times) as wide as long and as wide as or somewhat wider than (1.0-1.2 times) hind
	tibia; genitalia peculiar nebulosus n. sp.
5(4).	In sternopleura, bare area is more extensive and pile is confined to upper and lower.
	parts; haired area in upper or mid-upper margin of mesopleura absent or narrower;
	hind basitarsus 1/4 (0.23-0.29 times) as wide as long

	Sternopleura except anterior- and posterior part pilose (of 93 specimens examined, only 1 has the sternopleura in which pile is confined to upper and lower parts); haired
	area in upper margin of mesopleura is more extensive; hind basitarsus usually 1/5 (0.20-0.23 times) as wide as long
6(5).	Antennal flagellum over 2 1/2 (2.8-4.0 times) as long as antennal segment 1; width of
0(0).	one eye on a mid line from a direct frontal view less than twice (at most 1.7 times)
	width of face at lowest portion from a direct frontal view
	Antennal flagellum less than 2 1/2 (1.4-2.1 times) as long as antennal segment 1; width
_	of one eye on a mid line from a direct frontal view about twice (1.9-2.1 times) width
	of face at lowest portion from a direct frontal view; genitalia peculiar hirotsui
7(28-6)	
/(3&0).	Face and front broader, and width of one eye on a mid line from a direct frontal view
	1.0-1.2 width of face at lowest portion from a direct frontal view and 1.2-1.4 width of
	front just above antenna; bare apical part of frontal triangle practically absent or
	narrower
	Face and front narrower, and width of one eye on a mid line from a direct frontal
	view 1.4-1.7 times width of face at lowest portion from a direct frontal view and 1.7-
	2.1 times width of front just above antenna, bare apical part of frontal triangle more
	conspicuous
8(5).	Antennal flagellum not abruptly widened at base; leg largely yellowish brown 9
_	Antennal flagellum abruptly widened at base; epandrium as in Fig. 3 D; leg either
	largely yellowish brown or dark brownish to blackish
9(8).	Epandrium as in Fig. 7 C; discal cell 0.4-0.5 times as long as vein M <sub>2</sub> sp. A
	Postero-lateral part of epandrium developed as a process and more similar to fuscipes;
	discal cell 0.5-0.6 times as long as vein M <sub>2</sub> sp. B
10(1).	Last (8th) segment of antennal flagellum over twice as long as wide
_	Last (8th) segment of antennal flagellum at most just twice (0.7-2.0 times) as long as
	wide
11(10).	
	antennal flagellum 4.5-6 times as long as antennal segment 1
_	Sternopleura pilose but anterior and posterior parts bare; antennal flagellum 3.5-4.4
	times as long as antennal segment 1
12(11).	Sternopleura largely bare; eye densely pilose; width of front at median ocellus roughly
	2 1/2-3 times width of ocellar triangle (2.6-3.2 times); tarsal segments 2-5 yellowish
	brown
	Sternopleura almost wholly pilose; eye sparsely pilose; width of front at median
	ocellus roughly twice width of ocellar triangle (1.6-2.3 times); tarsal segments 2-5
	especially at dorsal surfaces darkened nebulosus n. sp.
13(10).	Occiput just behind upper margin of each eye more swollen and visible from a direct
	frontal view (i. e., when line between antenna and ocellar triangle kept horizontal);
	pile on front more dense
_	Occiput just behind upper margin of each eye less swollen and not visible from a direct
	frontal view; pile on front sparse; antennal flagellum 2-3 times as long as antennal
	segment 1; pile on mid-upper margin of mesopleura absent or very few in number
	hirotsui

14(13). In sternopleura, pile is confined to upper and lower parts and in upper margin of

` ,	mesopleura pile is narrower in area
	In sternopleura, bare part is confined to anterior and posterior parts and in upper
	margin of mesopleura pile is more extensive in area
15(14)	
13(14).	Bare area above antenna smaller and limited to middle portion of front and last (8th)
	segment of antennal flagellum about as long as or shorter than wide (0.7-1.1 times)
	latifacies n. sp.
	Bare area above antenna more extensive and last (8th) segment of antennal flagellum
	longer than wide (1.5-2.0 times) angustifacies n. sp.
16(14).	Antennal flagellum not abruptly widened at base (Fig. 7 A); leg largely yellowish
	brown
_	Antennal flagellum abruptly widened at base (Fig. 3 A); leg either largely yellowish
	brown or dark brownish to blackish
17(11&	Width of one eye on a mid line from a direct frontal view 1.0-1.2 width of front just
	above antenna
10).	Width of one eye on a mid line from a direct frontal view 0.8 width of front just above
_	
	antenna
	Key to species of Beris known from Japan
	(based on ♂ genitalia)
	· · · · · · · · · · · · · · · · · · ·
1.	Interbases (accessory structures of aedeagus) absent; in epandrium, anterior margin
	deeply concave
	Interbases present; in epandrium, anterior margin rather shallowly concave (Fig. 6 D);
	posterior margin of hypandrium without any process; lateral surface of dististyle very
	broad; in aedeagus, distal portion bifurcate and bifurcate portion much shorter than
	rest of aedeagus
2(1).	Dististyle not L-shaped; aedeagus bifurcate or three-forked
	Dististyle L-shaped (distal part strongly curved anteriorly) and its lateral part very
	broad; aedeagus bifurcate
3(2).	Dististyle short (Figs. 3 and 7); mid-posterior part of hypandrium without a pair of
3(2).	
	processes; aedeagus narrow and three forked; middle part of epandrium long 4
_	Dististyle long (Figs. 1-2, 4-6); mid-posterior part of hypandrium with a pair of
	processes; aedeagus bifurcate; middle part of epandrium short as in nebulosus and
4 ( 4 )	hirotsui
4(3).	Postero-lateral part of epandrium developed as a process fuscipes and sp. B
_	Epandrium not as above
5(3).	Posterior margin of hypandrium with 2 pairs of processes of which the outer are knob-
	like and the inner are larger than in crassitarsis; cerci smaller than in crassitarsis 6
	In posterior margin of hypandrium, knob-like processes absent and a pair of mid
	processes smaller than in latifacies and angustifacies; cerci larger than in latifacies and
	angustifacies
6(5).	In posterior margin of hypandrium, inner pair of processes larger than in angustifacies;
	bifurcate portion of aedeagus much shorter than the rest of aedeagus and becoming
	thin apically
	,

#### Beris angustifacies Nagatomi and Tanaka, n. sp.

(Fig. 1)

This species is very similar to *latifacies* n. sp. but may be distinguished as follows: in  $\delta$  face and front narrower (see couplet 7 in the key) and in  $\varphi$  bare area above antenna more extensive and last (8th) segment of antennal flagellum longer than wide (see couplet 15 in the key).

- In  $\mathcal{P}$ , this species is separated from *fuscipes*, sp. A, and sp. B by having the characters as shown in the key (couplet 14).
- In  $\delta$ , this species differs from *crassitarsis* by having the tarsal segments 2-5 darkened and the hind basitarsus less swollen.
- The & genitalia of angustifacies resemble those of latifacies and crassitarsis but may differ from the latter two as shown in the key (couplets 5 and 6)
- &. Head: Dark brownish to blackish; proboscis yellowish brown; antenna dark brownish to blackish; head except antennal flagellum covered with blackish pile which becomes pale brownish on lower swelling of face and proboscis (pile on cheeks, eye, and occiput may be pale brownish); pile on face (except lower swelling), cheeks, and vertex longer and that on antennal segments 1-2, upper occiput, and lower swelling of face short; antennal flagellum with some pile at apex and with minute pale pile especially at inner surfaces of segments 2-5; apical part of frontal triangle bare and shining; width of one eye on a mid line from a direct frontal view broader than width of face at lowest portion from a direct frontal view (1.4-1.7 times), more than 1 1/2 width of front just above antenna (1.7-2.1 times), and shorter than distance from antenna to median ocellus (0.7-0.8 times) which is less than 1 1/2 that from proboscis to antenna (1.2 times); when measured along outer surface, antenna over 1/2 as long as the distance from antenna to median ocellus (0.6-0.8 times), segments 1+2, 1/2 or more as long as flagellum (0.5-0.7 times), relative length of segments 1, 2, and flagellum 100: 96(80-113): 333(280-400) and their relative width 66(60-78): 91(80-113): 111(100-125) (based on 10 specimens).

Thorax: Metallic greenish; metapleura, sub- and postscutellum more or less pale gray pollinose; humeral callus at outer part, ptero-, metapleura, etc., sometimes tinged with yellowish (or reddish) brown; thorax clothed with erect, pale brownish (sometimes chiefly blackish) pile which is absent on ptero- (except upper part), middle part of meso-, sterno-(except upper and lower parts), posterior part of metapleura, and sub- and postscutellum; scutellum with 6-8 spine-like processes; haltere brownish to dark brownish.

Leg: Dark brownish to blackish but knee and base of tibia and sometimes trochanter, base of femur, and bases of fore and mid basitarsi yellowish brown; in extreme cases femur, fore and mid tibiae, and fore and mid basitarsi except apices yellowish brown and ventral surface of hind basitarsus with a yellowish brown tinge; pile on coxa and femur pale brownish; relative length of segments (excluding coxa and trochanter) of fore leg 198(186-209): 217(205-230): 100: 34(29-36): 28(23-32): 23(18-25): 35(29-40), of mid leg 213(200-226): 205(195-217): 101(95-109): 31(27-35): 26(21-30): 20(17-25): 35(29-41), of hind leg 316(300-339):

264(241-283): 174(159-191): 35(32-43): 28(23-35): 20(18-25): 33(29-36) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 36(32-41): 32(30-35): 44(36-50): 24(18-26): 23(18-25) (tarsal segment 1, 0.2-0.3, segment 2, 0.6-0.8, segment 3, 0.7-1.0 times as wide as long), these were calculated from 10 specimens.

Wing: Membrane tinged with dark brown; stigma and area above stigma darker; discal cell 0.4-0.5 times as long as vein  $M_2$ .

Abdomen: Dark brownish to blackish and often with a reddish brown tinge; venter with pale brownish pile which becomes longer and erect on middle portion of sternum 1; side of dorsum long black (sometimes pale brownish) haired and middle of dorsum with very short pile.

Genitalia: Interbases (accessory structures of aedeagus) absent; posterior margin of hypandrium with 2 pairs of processes of which the outer are knob-like and the inner are smaller than in *latifacies*; aedeagus bifurcate distally, and bifurcate portion roughly as long as the rest of aedeagus and not thin.

Length: Body 5.5-6 mm; wing 5-6; fore basitarsus 0.5-0.6.

 $\circ$ . Differing from the description of fuscipes ( $\circ$ ) as follows: Pile on sternopleura confined to upper and lower parts or very few on middle part and that on upper margin of mesopleura narrower in area as in latifacies; discal cell 0.3-0.4 times as long as vein M<sub>2</sub> as in latifacies; antennal flagellum 3.2-4.6 times as long as antennal segment 1. In 10 specimens measured, width of front at median ocellus 0.7-1.0 times that just above antenna, 2.2-2.9 times width of ocellar triangle, and 0.5-0.7 times distance from antenna to median ocellus; antennal segments 1+2, 0.4-0.6 times as long as antennal flagellum, and relative length of antennal segments 1, 2, and flagellum 100: 98(80-125): 391(320-463) and their relative width 67(50-75): 100(80-125): 132(110-150); relative length of segments of fore leg 202(190-211): 223(214-228): 100:35(29-39):28(25-32):22(19-26):36(32-42), of mid leg 228(214-237):218(210-222): 104(100-106) : 32(30-37) : 27(24-32) : 21(19-24) : 36(32-39), of hind leg 333(314-347) :281(264-289): 164(157-174): 35(30-39): 27(25-32): 21(18-25): 36(33-39) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 42(36-47): 32(27-37): 26(23-32): 20(18-24): 20(17-22) (tarsal segment 1, 0.15-0.2, segment 2, 0.5-0.7, segment 3, 0.6-0.8 times as wide as long). Leg largely yellowish brown; often antennal segment 2 and antennal flagellum (except last 2 segments) yellowish (or reddish) brown.

Length: Body 4.5-6 mm; wing 4.5-5; fore basitarsus 0.45-0.55.

Distribution: Sakhalin, Kuril Islands, and Japan (Hokkaido, Honshu).

Holotype: &, Narai, Shinano, 25. vii. 1969, A. Nagatomi.

Paratypes (47ở ở, 22♀♀): Sakhalin (1ở): 1ở, Tokombo, 28. vii. 1934, C. Watanabe and T. Inoue. Kuril Islands (1ở, 2♀♀): 1ở, Pondomari, Kunasiri, 10. viii. 1940, S. Kuwayama and Y. Sugihara; 1♀, Tinomizi, Kunasiri, 5-6. viii. 1940, Kuwayama and Sugihara; 1♀, Tomari, 15. viii. 1940, Kuwayama and Sugihara. Hokkaido (26ở ở, 7♀♀): 3ở ở, Rebun, 1. viii. 1958, S. Takagi; 1ở, Rebun, 2. viii. 1958, K. Kamijo; 1ở, Nukabira, 4. viii. 1961, T. Saigusa; 1ở, Nukabira, 20. vii. 1964, A. Nagatomi; 6ở ở, Aizankei, 25. vii. 1962, Saigusa; 1♀, Ashoro, 27. vii. 1962, Saigusa; 2ở ở, Sounkyo, 9. vii. 1965, K. Kusigemati; 1ở, 1♀, Sapporo, 20. vii. 1965, Kusigemati; 1♀, Mt. Soranuma, 27. vii. 1965, Kusigemati; 1♀, Mt. Soranuma, 26. vii. 1966, Kusigemati; 1♀, Mt. Soranuma, 4. viii. 1967, Kusigemati; 3ở ở, 2♀♀, Jozankei, 2. viii. 1965, Kusigemati; 1♂, Toyotomi, 10. viii. 1965,

Kusigemati;  $1 \, \eth$ , Toikanpetsu, 14. viii. 1965, Kusigemati;  $1 \, \eth$ , Yubaridake, Sorachi, 14. vii. 1967, H. Shima. Honshu  $(19 \, \eth \, \eth \, , 13 \, \Rho \, \Rho)$ :  $6 \, \Rho \, \Rho \,$ , Towadako, Aomori Pref., 26. viii. 1966, Kusigemati;  $3 \, \Rho \, \Rho \,$ , Mt. Hiraniwa, Iwate Pref., 27. viii. 1966, Kusigemati;  $1 \, \eth \,$ , Mt. Hayachine, 29. viii. 1966, Kusigemati;  $1 \, \eth \,$ ,  $1 \, \Rho \,$ , Senjodake, Kai, 4. vii. 1963, Nagatomi;  $1 \, \eth \,$ , Tokug $\eth \,$  tokug $J \,$  tokug $\eth \,$  tokug $J \,$ 

Holotype in Kyushu University (Fukuoka) and paratypes in Kyushu University, Hokkaido University (Sapporo), Ehime University (Matsuyama), Kagoshima University (Kagoshima), U. S. National Museum (Washington, D. C.), and British Museum, Natural History (London).

#### Beris crassitarsis n. name

(Fig. 2)

Beris flavipes Pleske, 1926, Eos 2: 413.

The specimens described below may belong to *Beris flavipes Pleske*, 1926 of Sakhalin. But the name of this species is preoccupied by *Beris flavipes Macquart*, 1826 which is a synonym of *Beris chaly beata* (Forster, 1771).

This species is characterized as follows: in  $\delta$  hind basitarsus is conspicuously swollen, in  $\varphi$  last (8th) segment of antennal flagellum is over twice (2.4-3.0 times) as long as wide and pile on sternopleura is confined to upper and lower parts and in both sexes tarsal segments 2-5 are not darkened.

The genitalia in  $\delta$  is similar to those of angustifacies and latifacies (but may differ from the latter two as shown in the key) and the shape of antenna in  $\theta$  is as in nebulosus.

3 (Here described for the first time). Head: Head except appendage shining black with a green or purplish tinge; antenna dark brownish to blackish but inner surfaces of flagellar segments 2-5 and often apex of antennal segment 2 yellowish brown to brownish; proboscis yellowish brown; pile (which is longer on cheeks, and face except lower swelling and area below antenna) is pale yellowish in color but becomes black on area below antenna, front, occiput, and antennal segmnets 1-2 and appears to be either pale yellowish or black on ocellar triangle, vertex, and eye; upper part of frontal triangle and antennal flagellum except apex without hairs (the latter minute pilose) and bare part of front is large; pile on eye dense and distinct; width of one eye on a mid line from a direct frontal view about 1 1/2 width of face at lowest portion from a direct frontal view (1.4-1.5 times), not over twice width of front just above antenna (1.6-1.9 times), and shorter than distance from antenna to median ocellus (0.7-0.8 times) which is slightly longer than that from proboscis to antenna (1.1-1.2 times); when measured along outer surface, antenna over 1/2 as long as the distance from antenna to median ocellus (0.7-0.8 times), segments 1+2, 1/2 as long as flagellum, relative length of segments 1, 2, and flagellum 100:85(79-100):352(342-383) and their relative width 57(50-67):77(71-83):105(100-117) (based on 8 specimens).

Thorax: Metallic green; sub- and postscutellum and metapleura pale gray pollinose; thorax clothed with erect, pale yellowish pile which is absent on middle part of meso-, sterno- (except upper and lower parts), lower 1/2 of ptero-, and posterior part of metapleura, and sub- and

postscutellum; scutellum with 8 (sometimes practically 6) spine-like processes; haltere yellowish brown.

Leg: Yellowish brown, but fore and hind coxae except apices and in hind leg femur at apical portion except knee, tibia except base, basitarsus, and often tarsal segment 2 at dorsal surface dark brownish to blackish; coxa and femur with pale yellowish pile; relative length of segments (excluding coxa and trochanter) of fore leg 192(184-204):211(204-222):100:32(28-37):28(24-30):22(20-24):34(31-37), of mid leg 230(221-241):213(204-226):104(100-107):31(28-33):27(24-30):22(19-24):35(32-40), of hind leg 359(338-378):298(285-315):203(196-219):32(28-36):26(24-30):19(17-21):34(31-37) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 39(34-43):35(31-37):69(64-75):27(21-30):24(19-29) (tarsal segment 1, 0.3-0.4, segment 2, 0.7-0.9, segment 3, 0.8-1.0 times as wide as long), these were calculated from 8 specimens.

Wing: Membrane tinged with dark brown; stigma and area above stigma darker; costal cell may have a yellowish tinge; discal cell 0.4-0.5 times as long as vein M<sub>2</sub>.

Abdomen: Dark brownish to blackish and with pale yellowish pile which is long on side of dorsum and middle part of sternum 1 and is very short on middle of dorsum; abdomen more or less pale gray pollinose.

Genitalia: Interbases (accessory structures of aedeagus) absent; posterior margin of hypandrium with a pair of processes; aedeagus is bifurcate distally and bifurcate portion appears to be much longer than the rest of aedeagus.

Length: Body 7-9 mm; wing 5-6.5; fore basitarsus 0.6-0.7.

bare; sometimes flagellar segment 1 or 1-5 yellowish (or reddish) brown; often pile on head (except antennal segments 1-2 and area just above and below antenna) appears to be wholly pale yellowish; occiput just behind upper margin of each eye pale gray pollinose (this may be true of  $\delta$ ) and somewhat visible from a direct frontal view; width of one eye on a mid line from a direct frontal view nearly equal to width of face at lowest portion from a direct frontal view (0.8-0.9 times) and width of front just above antenna (0.8-1.0 times); width of front at median ocellus slightly less than that just above antenna (0.8-0.9 times), 3 times or roughly so width of ocellar triangle (2.6-3.1 times), and usually over 1/2 distance from antenna to median ocellus (0.7 times; in 1 of 6 specimens measured 0.5 times); distance from antenna to median ocellus as long as or nearly so that from proboscis to antenna (0.8-1.0 times); when measured along outer surface, antenna longer than distance from antenna to median ocellus (1.3-1.7 times), segments 1+2 less than 1/2 as long as flagellum (0.3-0.4 times), relative length of segments 1, 2, and flagellum 100:82(71-108):552(486-617) and their relative width 62(57-67):91(83-100):137(129-150) and last (8th) segment of flagellum over twice (2.4-3.0 times) as long as wide (based on 6 specimens).

Leg: Often hind tibia at apical portion and hind basitarsus at basal portion with a yellowish brown tinge; sometimes leg (including coxa) wholly or almost wholly yellowish brown; relative length of segments of fore leg 194(183-204): 212(204-221): 100: 33(30-36): 27(25-28): 21(18-24): 38(36-40), of mid leg 236(224-246): 219(212-225): 110(104-116): 31(29-33): 26(24-28): 21(18-22): 38(36-40), of hind leg 351(339-371): 294(287-308): 172(164-183): 33(29-36): 26(25-28): 19(17-22): 37(35-40) and in hind leg from a lateral view relative width

of femur, tibia, and tarsal segments 1-3, 42(39-48): 34(32-38): 32(28-38): 22(21-24): 21 (20-24) (tarsal segment 1, 0.2, segment 2, 0.6-0.75, segment 3, 0.7-0.9 times as wide as long), these were calculated from 6 specimens.

Abdomen: Sometimes with a reddish brown tinge (this may be true of  $\delta$ ).

Length: Body 6-8 mm; wing 5-7; fore basitarsus 0.5-0.7.

Distribution: Sakhalin and Japan (Hokkaido, Honshu).

Type-locality: Sakhalin.

Specimens examined (113° 3°, 119° 4°): Hokkaido (73° 3°, 69° 9°): 23° 3°, Oshidomari, Rishiri Island, 29-31. vii. 1953, M. Sasakawa; 19°, Rishiri Island, 5. viii. 1958, K. Kamijo; 19°, Aizankei, 6. vii. 1964, A. Nagatomi; 19°, Apoidake, 24. vii. 1964, Nagatomi; 23° 3°, Toikanpetsu, 13-14. viii. 1965, K. Kusigemati; 33° 3°, 29°9, Touya, 9. vii. 1967, Kusigemati; 19°, Mt. Daisetsu, 30. vii. 1967, Kusigemati. Honshu (43° 3°, 59°9): 13°, Bizyo-daira, Toyama, 29. viii. 1959, S. Takagi; 19°, Senjodake, Kai, 17. vii. 1963, Nagotomi; 19°, Kitadake, Kai, 30. vii. 1960, T. Saigusa; 23° 3°, 19°, Shin-hotaka, Hida, 12-15. vii. 1969, Nagatomi; 13°, 19°, Yari-daira, Hida, 16-17. vii. 1969, Nagatomi; 19°, Narai, Shinano, 27. vii. 1969, Nagatomi.

### Beris fuscipes Meigen

(Fig. 3)

Beris fuscipes Meigen, 1820, System. Beschreib., 2: 8.

Beris sachalinensis Pleske, 1926, Eos 2: 408.

Beris petiolata Frey, 1960, Notulae Entomologicae 40: 80. New Synonymy.

If the specimens described below is distinguished from fuscipes of Europe, the name of sachalinensis or petiolata is used.

This species is characterized by having the antennal flagellum abruptly widened at segments 1-2 in both sexes.

d. Head: Head and its appendages dark brownish to blackish but proboscis yellowish brown and often inner surfaces of antennal flagellar segments 2-6 reddish brown to brownish; often apices of antennal segments 1 and 2 reddish brown; sometimes basal segment of flagellum especially inner surface tinged with reddish brown; head covered with pale brownish pile which is longer on face except lower swelling, ocellar triangle, vertex, and cheeks, and which becomes black on antennal segments 1-2 (pile on front and occiput may be black); in specimens with legs largely dark brownish to blackish, pile on head (except lower swelling of face, cheeks, proboscis, and palpus) chiefly blackish; width of one eye on a mid line from a direct frontal view much broader than width of face at lowest portion from a direct frontal view (1.6-1.9 times) and twice or somewhat more width of fornt just above antenna (2.0-2.3 times) and shorter than distance from antenna to median ocellus (0.7-0.8 times) which is less than 1 1/2 that from proboscis to antenna (1.3 times); when measured along outer surface, antenna over 1/2 as long as distance from antenna to median ocellus (0.6-0.7 times), segments 1+2 over 1/2 as long as flagellum (0.7-0.9 times), relative length of segments 1, 2, and flagellum 100: 84(77-100): 237(214-267) and their relative width 47(43-50): 72(64-83): 93(86-100) (based on 10 specimens).

Thorax: Metallic green; often humeral- and posterior calli, pteropleura, etc. with a reddish brown tinge; metapleura and sub- and postscutellum pale gray pollinose; thorax covered with

long, pale brownish pile which is absent on meso- (except anterior-, upper-, and posterior portions), anterior- and posterior parts of sterno- (some hairs are present just before ptero-pleura), ptero- (except upper roughly 1/2), posterior part of metapleura, and sub- and post-scutellum; in specimens with legs largely dark brownish to blackish, pile on mesonotum either chiefly blackish or pale brownish; scutellum with 6-8 spine-like processes; haltere yellowish brown.

Leg: Yellowish brown but tarsal segments 2-5, fore and mid basitarsi at apices (often hind basitarsus at apex), and fore and hind coxae dark brownish to blackish; sometimes hind femur at apical part (except knee) and hind tibia except base slightly darkened; in all specimens on hand from Hokkaido (as well as some specimens from Honshu), leg dark brownish to blackish, although knee and base of tibia and sometimes base of femur yellowish brown; coxa and femur pale brownish pilose; relative length of segments (excluding coxa and trochanter) of fore leg 171(166-177): 187(179-193): 100: 36(33-40): 27(23-29): 18(17-21): 29(27-31), of mid leg 197(187-200): 185(177-193): 100(97-103): 33(31-34): 25(23-27): 16(14-17): 30(27-33), of hind leg 304(293-313): 258(247-267): 172(166-180): 38(34-40): 29(27-30): 17(14-19): 29(27-31) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 31(30-32): 28(26-30): 36(33-39): 22(20-23): 19(17-21) (tarsal segment 1, 0.2, segment 2, 0.5-0.65, segment 3, 0.6-0.75 times as wide as long), these were calculated from 10 specimens.

Wing: Membrane tinged with brown to dark brown; stigma and apical portion of subcostal cell darker and 1st submarginal cell and basal portion of wing somewhat paler; discal cell 0.5-0.6 times as long as vein  $M_2$ ; very often vein  $M_2$  arising from vein  $M_1$  (i. e. base of vein  $M_2$  separated from discal cell).

Abdomen: Dark brownish to blackish and often with a reddish brown tinge; abdomen with pale brownish pile which is long on side of dorsum and very short in middle of dorsum, and which becomes longer and erect in the middle of sternum 1.

Genitalia: Interbases (accessory structures of aedeagus) absent; posterior margin of hypandrium without a pair of processes; dististyle short; aedeagus narrow and three-forked; in epandrium, middle part much longer than in *nebulosus*, *crassitarsis*, *latifacies*, and *angustifacies* and postero-lateral part developed as a process.

Length: Body 6-7.5 mm; wing 5-6; fore basitarsus 0.65-0.8.

 $\mathfrak{P}$ . Similar to  $\mathfrak{F}$  except as follows: Head: More shining than in  $\mathfrak{F}$ ; pale gray pollen on occiput just behind eye distinct; in antennal flagellum basal 1 or 2 segments (as well as inner surfaces of segments 2-5 or 2-6) usually reddish (or yellowish) brown; front with pale brownish pile but area near antenna bare; pile on face, cheeks, ocellar triangle and vertex shorter than in  $\mathfrak{F}$ ; pile on head except antennal segments 1-2 wholly pale brownish even in specimens with legs largely dark brownish to blackish; occiput just behind upper margin of each eye visible from a direct frontal view; width of one eye on a mid line from a direct frontal view about equal to width of face at lowest portion from a direct frontal view (0.9-1.1 times) and equal to or somewhat more width of front just above antenna (1.0-1.2 times), width of front at median ocellus narrower than that just above antenna (0.7-0.8 times), 2-2 1/2 times width of ocellar triangle, and about 1/2 distance from antenna to median ocellus (0.5-0.6 times); distance from antenna to median ocellus about as long as that from proboscis to antenna (0.9-1.0 times);

when measured along outer surface, antenna as long as or somewhat longer than distance from antenna to median ocellus (1.0-1.3 times), segments 1+2, 1/2 or somewhat more as long as flagellum (0.5-0.65 times), relative length of segments 1, 2, and flagellum 100:78(69-90):301(277-360) and their relative width 52(43-60):82(71-100):116(100-140) and last (8th) segment of flagellum longer than wide (1.4-2.0 times) (based on 10 specimens).

Thorax: Pile shorter than in  $\delta$ ; pile on mesonotum wholly pale brownish even in specimens with legs largely dark brownish to blackish; sometimes pile on middle part of sternopleura may be few in number.

Leg: In specimens from Hokkaido (as well as some specimens from Honshu), dark brownish area may be less extensive than in  $\eth$ , i. e., femur at base and basitarsus except apex are very often yellowish brown; relative length of segments of fore leg 173(161-182): 197(184-208): 100: 37(35-40): 28(26-29): 19(18-21): 33(31-35), of mid leg 209(197-218): 199(184-208): 103(100-107): 35(32-38): 25(22-29): 17(15-19): 32(30-35), of hind leg 310(294-328): 271(248-280): 158(145-168): 40(36-44): 29(27-31): 18(15-19): 32(29-35) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 35(32-37): 27(23-31): 23(19-27): 18(15-21): 18(13-21) (tarsal segment 1, 0.1-0.2, segment 2, 0.4-0.5, segment 3, 0.5-0.75 times as wide as long), these were calculated from 10 specimens.

Wing: Discal cell 0.45-0.5 times as long as vein M,

Abdomen: Pale gray pollen on dorsum more distinct; pile on side of dorsum shorter than in  $\delta$ .

Length: Body 6-8 mm; wing 5.5-7; fore basitarsus 0.6-0.8.

The structural characters of head and relative length of segments of leg described above were based on the specimens from Honshu with leg largely yellowish brown. In the  $\delta$  specimens from Hokkaido (whose leg largely dark brownish to blackish), structural characters of head and relative length of leg almost fit descriptions given above but width of one eye on a mid line from a direct frontal view is 1.4-1.6 times width of face at lowest portion from a direct frontal view and is 1.7-1.9 times width of front just above antenna, and relative length of antennal segments, 1, 2, and flagellum is 100:77(63-86):250(225-277) (based on 10 specimens).

Distribution: Europe, Siberia, Sakhalin, Kuril Islands, and Japan (Hokkaido, Honshu). Type-locality: England.

2ở ở, Mt. Eniwa, 1. vii. 1966, Kusigemati; 2ở ở, Touya, 9. vii. 1967, Kusigemati; 1ở, Jozankei, 20. vi. 1967, Kusigemati; 1<sup>2</sup>, Mt. Daisetsu, 30. vii. 1967, Kusigemati. Honshu (101ở ở, 71<sup>2</sup> <sup>2</sup>): 1ở, 3<sup>2</sup> <sup>2</sup>, Kamikochi, Shinano, 8. vii. 1963, Nagatomi; 4ở ở, 1<sup>2</sup>, Mt. Hodaka, Shinano, 9-10. vii. 1963, T. Saigusa; 13ở ở, 26<sup>2</sup> <sup>2</sup>, Tokugôtôge, Shinano, 12. vii. 1963, Nagatomi; 1ở, Shimajima, Shinano, 13. vii. 1963, Nagatomi; 3ở ở, 1<sup>2</sup>, Kamikochi, Shinano, 4-5. vi. 1968, K. Tanaka; 10ở ở, 1<sup>2</sup>, Narai, Shinano, 25-26. vii. 1969, Nagatomi; 1ở, Togakushi, Shinano, 6. vii. 1966, H. Shima; 4ở ở, 13<sup>2</sup> <sup>2</sup>, Senjodake, Kai, 4-7. vii. 1963, Nagatomi; 7ở ở, 13<sup>2</sup> <sup>2</sup>, Senjodake, Kai, 16-17. vii. 1963, Nagatomi; 1<sup>2</sup>, Mt. Kimpu, Kai, 1. vii. 1963, T. Saigusa; 15ở ở, 1<sup>2</sup>, Masutomi, Kanayama, Kai, 6-7. vi. 1962, Saigusa; 6ở ở, Mt. Amari, Nirasaki, Kai, 8. vi. 1962, Saigusa; 1<sup>2</sup>, Masutomi, Kai, 23. v. 1968, J. Yukawa; 5ở ở, 4<sup>2</sup> <sup>2</sup>, Nigorigo-onsen, Ontake, Hida, 7-9. vii. 1969, Nagatomi; 26ở ở, 3<sup>2</sup> <sup>2</sup>, Shinhotaka, Hida, 14. vii. 1969, Nagatomi; 5ở ở, 3<sup>2</sup> <sup>2</sup>, Yaridaira, Hida, 16-17. vii. 1969, Nagatomi.

#### Beris hirotsui Ouchi

(Fig. 4)

Beris hirotsui Ouchi, 1943, Shanghai Shizenkagaku Kenkyusyo Iho 13: 487.

This species is characterized as follows: in  $\eth$ , pile on sternopleura confined to upper and lower parts, antennal flagellum about  $1 \ 1/2 - 2$  times as long as antennal segment 1, and genitalia peculiar in shape and in  $\Im$  last (8th) segment of antennal flagellum less than twice as long as wide, antennal flagellum 2-3 times as long as antennal segment 1, occiput just behind upper margin of each eye not visible from a direct frontal view, and pile on front sparse.

& (Here described for the first time). Head: Head including antenna dark brownish to blackish but in antenna extreme apex of segment 2 and inner surfaces of flagellar segments 2-5 paler in color; proboscis yellowish to yellowish brown; pile on head appears to be blackish but is pale yellowish on lower swelling of face, cheeks, and proboscis and may sometimes so on ocellar triangle and vertex; pile on face except lower swelling and cheeks longer; antennal flagellum except apex practically bare; width of one eye on a mid line from a direct frontal view about twice width of face at lowest portion from a direct frontal view (1.9-2.1 times), 2 1/2 or so width of front just above antenna (2.3-2.7 times), and shorter than the distance from antenna to median ocellus (0.7-0.8 times) which is less than 1 1/2 that from proboscis to antenna (1.3-1.4 times); when measured along outer surface, antenna over 1/2 as long as distance from antenna to median ocellus (0.6-0.7 times), segments 1+2 roughly as long as flagellum (0.8-1.2 times), relative length of segments 1, 2, and flagellum 100: 70(63-86): 190(144-214) and their relative width 43(33-50): 55(44-60): 67(55-73) (based on 6 specimens).

Thorax: Metallic green; pleura may have a reddish brown tinge; metapleura, sub- and post-scutellum pale gray pollinose; thorax clothed with long, erect, pale yellowish pile which is absent on meso- (except anterior- and posterior parts), sterno- (except upper and lower parts), lower part of ptero-, posterior part of metapleura, and sub- and postscutellum; scutellum with 6-8 spine-like processes; haltere is yellowish brown.

Leg: Yellowish brown; tarsal segments 2-5, fore and mid basitarsi at apices, fore and hind coxae except apices, hind femur at apex (except knee and ventral surface), and hind tibia except basal portion dark brownish; sometimes hind basitarsus at apical portion somewhat darkened; coxa and femur pale yellowish pilose; relative length of segments (excluding coxa and trochanter) of fore leg 182(178-188): 196(188-204): 100: 32(30-35): 22(19-23): 16

(15-19): 30(27-31), of mid leg 207(200-212): 187(181-192): 107(104-112): 30(27-32): 20(19-23): 15(15-16): 30(27-32), of hind leg 316(308-328): 269(262-276): 182(177-185): 34(31-35): 22(19-23): 16(15-19): 31(30-33) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 36(33-38): 31(27-35): 48(42-52): 21(20-23): 18(16-19) (tarsal segment 1, 0.25-0.3, segment 2, 0.6-0.75, segment 3, 0.8-1.0 times as wide as long), these were calculated from 6 specimens.

Wing: Membrane tinged with brown; stigma and subcostal cell above stigma darker and 1st submarginal cell, costal cell, and base of wing somewhat paler; discal cell 0.4-0.5 times as long as vein  $M_2$ .

Abdomen: Dark brownish to blackish and often with a reddish brown tinge; abdomen more or less pale gray pollinose; above and below clothed with pale yellowish pile which is longer on side of dorsum and middle of sternum 1 and is very short on middle of dorsum.

Genitalia: Interbases (accessory structures of aedeagus) absent; posterior margin of hypandrium with a large knob-like process whose median part may be concave; dististyle L-shaped (distal part strongly curved anteriorly) and very broad laterally; aedeagus bifurcate distally and bifurcate portion much longer than the rest of aedeagus; aedeagus with 3 dorsal, elongate processes (these processes may possibly be present in other species); in epandrium, posterior margin deeply concave and postero-lateral part protruding conspicuously.

Length: Body 6-7.5 mm; wing 5-6; fore basitarsus 0.6-0.75.

9. Similar to ♂ except as follows: Hairs on body shorter than in ♂. Head: Shining (this may be true of  $\delta$ ); occiput just behind eye pale gray pollinose (this is true of  $\delta$ ); antenna (except apical portion of flagellum and often antennal segment 1 or 1-2) yellowish brown to brownish; pile on face, front, ocellar triangle, vertex and occiput appears to be pale yellowish and that on face and cheeks is not so long as in  $\delta$ ; pile on front sparse; occiput just behind upper margin of each eye less swollen and not visible from a direct frontal view; width of one eye on a mid line from a direct frontal view nearly equal to width of face at lowest portion from a direct frontal view (0.8-1.0 times), about equal to width of front just above antenna (0.9-1.1 times), and 0.6-0.7 times the distance from antenna to median ocellus which is as long as or somewhat longer than that from proboscis to antenna (1.0-1.2 times); width of front at median ocellus nearly equal to that just above antenna (0.9-0.95 times), 3 times or roughly so width of ocellar triangle (2.6-3.2 times), and over 1/2 distance from antenna to median ocellus (0.6-0.7 times); when measured along outer surface, antenna as long as or somewhat longer than distance from antenna to median ocellus (1.0-1.15 times), segments 1+2 over 1/2 as long as flagellum (0.6-0.8 times), relative length of segments 1, 2, and flagellum 100: 74(64-83): 254 (214-300) and their relative width 45(42-50): 66(57-75): 87(79-100) and last (8th) segment of flagellum less than twice as long as wide (1.3-1.7 times) (based on 10 specimens).

Leg: Fore and hind coxae yellowish brown rather than dark brownish; apical darkened part of hind tibia smaller in area and not so distinct; relative length of segments of fore leg 177 (169-188): 193(181-204): 100: 33(30-36): 23(22-25): 17(15-19): 33(30-35), of mid leg 209(200-221): 189(176-200): 109(105-113): 31(27-35): 22(19-26): 17(14-19): 33(30-35), of hind leg 308(295-325): 263(248-283): 164(154-175): 35(32-38): 23(19-27): 17(15-19): 33(30-35) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 40(36-44): 30(26-33): 25(23-30): 19(17-22): 18(15-20) (tarsal segment 1, 0.15-0.2,

segment 2, 0.45-0.6, segment 3, 0.6-0.9 times as wide as long), these were calculated from 10 specimens.

Length: Body 5-6 mm; wing 4.5-6; fore basitarsus 0.5-0.7.

Distribution: Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Type-locality: Mt. Hiko, Kyushu. Type in "Department of Biology, Shanghai Science Institute."

Specimens examined (48강 강, 98우우): Hokkaido (27강 강, 62우우): 1우, Sapporo, 14. vii. 1953, T. Ishihara; 1 ₹, Sapporo, 21. vi. 1958, T. Kumata; 1♂, Sapporo, 12. vi. 1960, K. Kamijo; 1%, Sapporo, 12. vi. 1962, S. Takagi; 1%, 5%, Mt. Soranuma, 3. vii. 1964, A. Nagatomi; 1%, Sharidake, 9. vii. 1964, Nagatomi; 2♀ ♀, Nukabira, 19. vii. 1964, Nagatomi; 1♂, Sapporo, 6. vi. 1964, K. Kusigemati; 15ở ở, 25 ዓ ዓ, Sapporo, 31. v. - 20. vii. 1965, Kusigemati; 1 ở, 12 ዓ ዓ, Jozankei, 20. vi. 1965, Kusigemati; 2♂♂, 6♀♀, Jozankei, 20. vi. 1967, Kusigemati; 1♀, Nopporo, 30. vi. 1965, Kusigemati; 17, Mt. Soranuma, 27. vii. 1965, Kusigemati; 18, 19, Sounkyo, 9. vii. 1965, Kusigemati; 38 8, 19, Shimamatsu, 15. vi. 1965, Kusigemati; 28 8, Touya, 14. vi. 1967, M. Miyazaki; 19, Touya, 8. vii. 1967, T. Kocha; 399, Touya, 9. vii. 1967, Kusigemati; Honshu (8♂♂, 8♀♀): 1♂, 1♀, Mt. Kogane, near Sasayama, Tamba, 29. v. 1952, A. Nagatomi; 19, Nishitani-mura, Yabu-gun, Tajima, 11. vi. 1951, Nagatomi; 19, Oginosen, Tajima, 26. v. 1955, E. Fujita; 1 \, Kanayama, Kai, 30. vi. 1963, T. Saigusa; 6 ♂ ♂, 19, Shigure-sawa, Shinano, 21. v. 1968, J. Yukawa; 18, Masutomi, Kanayama, Kai, 7. vi. 1962, Saigusa; 19, Gozaishi, Kai, 3. vi. 1960, Saigusa; 29, Kifune, Kyoto Pref., 8. vi. 1968, Yukawa. Shikoku (1♂, 6♀♀): 1♀, Sugitate, Matsuyama, Iyo, 22. v. 1955, S. Ueda; 1♀, Mt. Tsurugi, 2. vi. 1957, M. Miyatake; 29, Ashizurimisaki, 27. iv. 1956, Miyatake; 19, Omogokei, Iyo, 28. v. 1967, H. Shima; 19, Mt. Kajigamori, Tosa, 8. v. 1969, Yukawa; 1♂, Omogokei, Iyo, 11. v. 1969, Yukawa. Kyushu (12♂♂, 22♀♀): 1♂, Mt. Hiko, Chikuzen, 19. v. 1963, Yukawa; 1♂, Mt. Tachibana, Chikuzen, 31. iv. 1950, Nagatomi; 75° 5°, 19, Mt. Inunaki, 25. v. 1961, T. Saigusa; 1♂, Tsukumi, Bungo, 15. v. 1950, Nagatomi; 2♂♂, 1♀, Naidaijin, Higo, 10. v. 1967, A. Nakanishi and H. Shima; 4 + 9, Hirokahara, Higo, 28. v. 1962, Nagatomi; 3 + 9, Mt. Kurino, Satsuma, 25-26. v. 1966, Kusigemati; 11 \(\varphi\), Mt. Kurino, Satsuma, 23. v. 1969, Kusigemati; 19, Sata, Osumi, 28. iv. 1962, Nagatomi; 19, Sata, Osumi, 6. iv. 1963, Nagatomi.

## Beris latifacies Nagatomi and Tanaka, n. sp.

(Fig. 5)

This species is very similar to angustifacies n. sp. but may be distinguished as follows: in  $\delta$  face and front broader (see couplet 7 in the key) and in  $\varphi$  bare area above antenna smaller and limited to middle portion of front and last (8th) segment of antennal flagellum about as long as or shorter than wide (see couplet 15 in the key).

In  $\delta$ , this species differs from *crassitarsis* by having the tarsal segments 2-5 darkened and the hind basitarsus less swollen.

The  $\sigma$  genitalia of *latifacies* resemble those of *angustifacies* and *crassitarsis* but may differ from the latter two as shown in the key (couplets 5 and 6).

Beris chalybeata (Forster, 1771) known from Europe is closely related to latifacies but may be separated from the latter by having the front in both sexes broader (width of one eye at greatest point 1.1 times in  $\eth$  and 0.7 times in  $\Im$  width of front just above antenna)

and the femur and tibia in  $\delta$  paler than coxa and tarsus. We had seen  $2\delta$   $\delta$ , 1  $\Theta$  of chalybeata from England.

direct frontal view 1.0-1.2 times width of face at lowest portion from a direct frontal view (in angustifacies 1.4-1.7 times) and 1.2-1.4 times width of front just above antenna (in angustifacies 1.7-2.1 times), distance from antenna to median ocellus 1.0-1.1 times that from proboscis to antenna (in angustifacies 1.2 times), and relative width of antennal segments 1, 2, and flagellum 73(56-100): 107(89-125): 137(122-150) (based on 10 specimens); bare apical part of frontal triangle practically absent or narrower than in angustifacies; in all specimens on hand leg largely dark brownish to blackish.

Genitalia: Interbases (accessory structures of aedeagus) absent; posterior margin of hypandrium with 2 pairs of processes of which the outer are knob-like and the inner are larger than in *angustifacies*; aedeagus bifurcate distally, and bifurcate portion much shorter than the rest of aedeagus and becoming thin apically.

In 9 specimens measured, relative length of segments (excluding coxa and trochanter) of fore leg 191(177-205):213(200-223):100:34(32-36):28(26-32):23(21-23):36(34-39), of mid leg 210(195-223):205(195-218):101(96-105):33(30-36):27(25-27):22(18-23):35(32-36), of hind leg 315(295-332):267(252-277):179(168-186):36(32-41):29(27-33):23(18-27):35(32-38) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 34(32-36):31(27-34):44(39-55):25(23-27):23(20-25) (tarsal segment 1, 0.2-0.3, segment 2, 0.6-0.75, segment 3, 0.7-0.9 times as wide as long).

Length: Body 5-6 mm; wing 4.5-5; fore basitarsus 0.5-0.6.

♀. Similar to ♂ except as follows: Head: Inner surface of segment 1 of antennal flagellum sometimes tinged with yellowish (or reddish) brown; upper occiput and cerebrale pale gray pollinose; pile on head except antennal segments 1-2 pale and that on cheeks, face, front, ocellar triangle and vertex shorter than in 3; occiput just behind upper margin of each eye visible from a direct frontal view; bare part above antenna limited to middle portion of front and narrower than in angustifacies, fuscipes, etc.; width of one eye on a mid line from a direct frontal view narrower than the width of face at lowest portion from a direct frontal view (0.7-0.8 times) and somewhat less than width of front just above antenna (0.8-0.9 times); width of front at median ocellus somewhat narrower than that just above antenna (0.8-0.9 times), over twice width of ocellar triangle (2.3-2.8 times), and over 1/2 distance from antenna to median ocellus (0.7-0.8 times); distance from antenna to median ocellus nearly as long as that from proboscis to antenna (0.8-0.95 times); when measured along outer surface, antenna about as long as the distance from antenna to median ocellus (1.0-1.1 times), segments 1+2, 1/2 or less as long as flagellum (0.4-0.5 times), relative length of segments 1, 2, and flagellum 100:97(88-100):416(378-475) and their relative width 75(63-89):110(100-125):160(150-100)175), and last (8th) segment of flagellum about as long as or shorter than wide (0.7-1.1 times) (based on 10 specimens).

Thorax: Pile on thorax pale brownish and shorter than in  $\mathfrak{F}$ ; rarely pile is present on middle part of sternopleura but few in number (this may be true of  $\mathfrak{F}$ ); haltere yellowish brown.

Leg: Yellowish brown but tarsal segments 2-5, fore and mid basitarsi at apices, and fore and hind coxae dark brownish to blackish; sometimes apical portion (except knee) of femur and tibia except base somewhat darkened; relative length of segments of fore leg 192(178-

210) : 215(200-230) : 100 : 34(30-38) : 29(24-35) : 21(19-25) : 38(35-42), of mid leg 220(204-235) : 214(200-230) : 102(91-109) : 32(26-37) : 26(22-32) : 20(17-25) : 37(33-40), of hind leg 320(305-338) : 275(265-295) : 164(152-171) : 37(30-40) : 31(26-35) : 21(17:26) : 37(33-42) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 39(36-43) : 31(29-34) : 29(25-32) : 22(20-24) : 20(19-21) (tarsal segment 1, 0.15-0.2, segment 2, 0.5-0.7, segment 3, 0.6-0.75 times as wide as long), these were calculated from 10 specimens.

Wing: Membrane paler than in  $\delta$ ; discal cell 0.3-0.4 times as long as vein  $M_2$ .

Abdomen: Hairs on side of dorsum always pale brownish and shorter than in &.

Length: Body 5-6 mm; wing 5-6; fore basitarsus 0.5-0.6.

Distribution: Kuril Islands and Japan (Hokkaido, Honshu).

Holotype: &, Senjodake, Kai, 4. vii. 1963, A. Nagatomi.

Paratypes (11& &, 39 & \Phi): Kuril Islands (2\Phi): 2\Phi \Phi, Betobu, Etorofu, vii. 1936, Y. Sugihara. Hokkaido (6& &, 17\Phi): 1\Phi, Aizankei, 25. vii. 1962, T. Saigusa; 1\Phi, 5\Phi \Phi, Aizankei, 5-7. vii. 1964, A. Nagatomi; 1\Phi, Sounkyo, 3. vii. 1958, M. Miyatake; 2\Phi \Phi, Meakandake, 7. vii. 1958, Miyatake; 2\Phi \Phi, Sharidake, 9-10. vii. 1964, Nagatomi; 1\Phi, 1\Phi, Rausudake, 12. vii. 1964, Nagatomi; 2\Phi \Phi, Shikaribetsuko, 22. vii. 1964, Nagatomi; 3\Phi \Phi, 1\Phi, Mt. Soranuma, 26. vi. 1965, K. Kusigemati; 1\Phi, Yukomanpetsu, 15. vii. 1965, Kusigemati; 1\Phi, Sapporo, 23. vii. 1966, Kusigemati; 1\Phi, Nukabira, 20. vii. 1967, H. Shima. Honshu (5\Phi \Phi), 20\Phi \Phi): 5\Phi \Phi, 16\Phi \Phi, same data as holotype; 1\Phi, Mt. Kimpu, Kai, 1. vii. 1963, Saigusa; 1\Phi, Senjodake, Kai, 16. vii. 1963, Nagatomi; 1\Phi, Tokugôtôge, Shinano, 12. vii. 1963, Nagatomi; 1\Phi, Nigorigoonsen, Ontake, Hida, 7. vii. 1969, Nagatomi.

Holotype in Kyushu University (Fukuoka) and paratypes in Kyushu University, Hokkaido University (Sapporo), Ehime University (Matsuyama), Kagoshima University (Kagoshima), U. S. National Museum (Washington, D. C.), and British Museum, Natural History (London).

#### Beris nebulosus Nagatomi and Tanaka, n. sp.

(Fig. 6)

This species may be a synonym of *Beris potanini* Pleske, 1926 of China. In *potanini* the antennal flagellum is red at basal portion, while in *nebulosus* it is dark brownish to blackish. The study of  $\delta$  genitalia of *potanini* is very necessary in establishing the status of *nebulosus*.

This species is characterized by having the sternopleura almost wholly pilose. In  $\eth$  the genitalia is peculiar. In  $\P$  the shape of antenna as in *crassitarsis*, but pile on eye more sparse, front narrower, and hind tarsal segments 2-5 darkened as shown in the key (couplet 12).

&. Head: Blackish but proboscis yellowish brown (palpus often partially yellowish brown); head with pale yellowish pile which becomes black on antennal segments 1-2, is longer on face except lower swelling (on which pile is short) and cheeks, is short on front, eye, occiput just behind upper margin of each eye, cerebrale, and antennal segments 1-2; pile on eye more sparse and not conspicuous; in antennal flagellum, mid-inner surfaces of segments 2-6 with minute pale yellowish pile; lower part in side of face bare; width of one eye on a mid line from a direct frontal view twice or nearly so width of face at lowest portion from a direct

frontal view (1.8-2.0 times), 2 1/2 or less width of front just above antenna (2.2-2.5 times), and somewhat shorter than the distance from antenna to median ocellus (0.8 times) which is less than 1 1/2 that from proboscis to antenna (1.3-1.4 times); when measured along outer surface, antenna over 1/2 as long as distance from antenna to median ocellus (0.7 times), segments 1+2 over 1/2 as long as flagellum (0.6-0.8 times), relative length of segments 1, 2, and flagellum 100: 68(56-83): 242(211-300), and their relative width 50(44-58): 64(56-75): 88(75-100) (based on 10 specimens).

Thorax: Metallic green; humeral callus and pteropleura may have a yellowish brown to brownish tinge; metapleura and sub- and postscutellum pale gray pollinose; thorax clothed with erect, pale yellowish pile which is absent on middle part of meso-, lower part of ptero-, posterior part of metapleura, and sub- and postscutellum (sometimes postero-lower part of sternopleura narrowly bare); scutellum with 6-8 spine-like processes; haltere yellowish brown.

Leg: Yellowish brown but in hind leg femur at apical part except knee and tibia except base dark brownish to blackish; tarsal segments 2-5 darkened and fore and hind coxae except apices more or less so; pile on coxa and femur pale yellowish; relative length of segments (excluding coxa and trochanter) of fore leg 165(156-171):181(172-186):100:33(31-34):25(22-26):17(16-20):29(28-32), of mid leg 194(184-200):186(181-191):103(97-128):31(29-32):23(20-25):17(16-19):28(26-29), of hind leg 308(303-314):259(247-263):163(156-168):38(35-41):28(25-31):18(16-20):30(28-39) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 32(31-34):29(28-29):32(29-34):22(19-26):19(17-20) (tarsal segment 1, 0.2, segment 2, 0.5-0.6, segment 3, 0.6-0.75 times as wide as long), these were calculated from 10 specimens.

Wing: Membrane tinged with brown; stigma and subcostal cell above stigma darker and 1st and 2nd submarginal cells somewhat paler; costal cell, 1st basal cell, and base of wing may have a yellowish tinge; discal cell 1/2 or somewhat less as long as vein  $M_2$  (0.45-0.5 times).

Abdomen: Dark brownish to blackish, more or less pale gray pollinose; above and below clothed with pale yellowish pile which is longer on middle part of sternum 1 and side of dorsum (pile on middle of dorsum very short).

Genitalia: A pair of interbases (accessory structures of aedeagus) present, and each interbasis bifurcate distally (this is recognized laterally; see Fig. 6G); posterior margin of hypandrium without any process; dististyle very broad laterally; aedeagus bifurcate distally, and bifurcate portion much shorter than the rest of aedeagus, becoming thin apically and curved ventrally; anterior margin of epandrium rather shallowly concave.

Length: Body 7-9 mm; wing 6-7; fore basitarsus 0.75-0.9

 $\mathfrak{P}$ . Similar to  $\mathfrak{F}$  except as follows: Head: Head except appendages shining (this may be true of  $\mathfrak{F}$ ) but occiput just behind upper margin of each eye pale gray pollinose (this is true of  $\mathfrak{F}$ ); front with a median pollinose patch just above antenna and with a bare, shining area (which is extending to sides of front) above pollinose patch; pile on occillar triangle shorter than in  $\mathfrak{F}$  and roughly as long as that on front; minute pale yellowish pile on mid-inner surface of antennal flagellum absent on segment 6 as well as segments 1 and 7-8; occiput just behind upper margin of each eye somewhat visible from a direct frontal view; width of one eye on a mid line from a direct frontal view equal to or somewhat broader than width of face at the lowest portion from a direct frontal view (1.0-1.2 times) and somewhat more

than width of front just above antenna (1.1-1.3 times); width of front at median ocellus over 1/2 that just above antenna (0.6-0.8 times), twice or roughly so width of ocellar triangle (1.6-2.3 times), and about 1/2 distance from antenna to median ocellus (0.5-0.6 times); distance from antenna to median ocellus nearly as long as that from proboscis to antenna (0.9 times); when measured along outer surface, antenna longer than distance from antenna to median ocellus (1.3-1.6 times), segments 1+2 less than 1/2 as long as flagellum (0.3 times), relative length of segments 1, 2, and flagellum 100: 58(50-67): 502(450-567) and their relative width 62(57-67): 92(86-100): 146(128-167), and last (8th) segment of flagellum over twice as long as wide (2.4-3.0 times) (based on 8 specimens).

Leg: Hind coxa usually not darkened; relative length of segments of fore leg 165(161-169): 185(179-191): 100: 33(30-36): 25(24-27): 18(15-20): 29(27-30), of mid leg 199(194-206): 191(182-200): 103(100-106): 32(30-35): 24(21-27): 17(15-18): 30(27-32), of hind leg 303(291-317): 259(242-267): 155(142-166): 39(36-42): 29(27-31): 19(17-21): 30(27-32) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 34(32-36): 28(24-30): 22(20-24): 18(17-21): 16(14-18) (tarsal segment 1, 0.1-0.15, segment 2, 0.4-0.5, segment 3, 0.45-0.6 times as wide as long), these were calculated from 8 specimens.

Wing: Discal cell 0.5-0.6 times as long as vein M<sub>2</sub>.

Abdomen: Pile on side of dorsum shorter than in  $\sigma$ ; abdomen often with a reddish brown tinge (this may be true of  $\sigma$ ).

Length: Body 7-8 mm; wing 6-6.5; fore basitarsus 0.75-0.9.

Distribution: Japan (Honshu).

Holotype: & Tokugotoge, Shinano, 12. vii. 1963, A. Nagatomi.

Paratypes (15& &, 11& \Phi): 4& &, 3\Phi, same data as holotype; 1\Phi, Tokugôtôge, 31. vii. 1959, M. Sato; 1\phi, 3\Phi, Tokugôtôge, 12. vii. 1963, T. Saigusa; 4\phi &, Hodakadake, Shinano, 9. vii. 1963, Saigusa; 2\Phi, Shimajima, Shinano, 13. vii. 1963, Nagatomi; 3\phi &, 1\Phi, Shinhotaka, Hida, 12-14. vii. 1969, Nagatomi; 3\phi &, 1\Phi, Narai, Shinano, 25. vii. 1969, Nagatomi.

Holotype in Kyushu University (Fukuoka) and paratypes in Kyushu University, Hokkaido University (Sapporo), Ehime University (Matsuyama), Kagoshima University (Kagoshima), U. S. National Museum (Washington, D. C.), and British Museum, Natural History (London).

# Beris sp. A (Fig. 7)

The specimens described below may be separated from *fuscipes* by having the antennal flagellum in both sexes not abruptly widened at base and the postero-lateral part of epandrium in  $\eth$  not developed as a process. But it is uncertain that the specimens in question is distinct from or a variety of *fuscipes*.

 $\eth$ . Similar to *fuscipes* (with leg largely yellowish brown) except as follows: Head: Antennal flagellum not abruptly widened at base and when measured along outer surface, relative length of antennal segments 1, 2, and flagellum 100: 88(71-100): 271(250-300) and their relative width 51(43-60): 72(67-80): 83(79-91) (based on 6 specimens).

Wing: Discal cell 0.4-0.5 times as long as vein M<sub>2</sub>.

Genitalia: Postero-lateral part of epandrium not developed as a process.

In 6 specimens measured, relative length of segments (excluding coxa and trochanter) of fore leg, 171(162-187):187(179-193):100:37(34-41):27(24-30):19(17-21):31(28-35), of mid leg 194(183-204):186(176-193):99(96-100):34(31-37):25(22-27):17(14-19):30(28-31), of hind leg 299(283-309):253(234-261):172(165-178):39(37-42):27(24-28):17(14-20):30(28-31) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 31(28-33):27(24-30):38(34-41):23(20-26):19(17-22) (tarsal segment 1, 0.2, segment 2, 0.55-0.7, segment 3, 0.6-0.8 times as wide as long).

Length: Body 6-7 mm; wing 5-6; fore basitarsus 0.6-0.7.

 $\Theta$ . Differing from the description of fuscipes ( $\Theta$ ) except as follows: Antenna not so abruptly widened at base and 1.3-1.4 times as long as the distance from antenna to median ocellus; antennal flagellum 3.5-4.4 times as long as antennal segment 1; last (8th) segment of antennal flagellum 2.0-2.4 times as long as wide; in outer surface (as well as inner surface) of antennal flagellum, segments 3-5 (as well as segments 1-2) are sometimes reddish (or yellowish) brown; in specimens on hand, width of front at median ocellus 0.8-1.0 times that just above antenna, 2.3-2.8 times width of ocellar triangle, and 0.6-0.7 times the distance from antenna to median ocellus, antennal segments 1+2, 0.4-0.5 times as long as flagellum, and relative length of segments 1, 2, and flagellum 100: 85(73-100): 390(345-440) and their relative width 57(50-80): 81(67-100): 108(100-120) (based on 8 specimens), discal cell 0.4-0.5 times as long as vein M<sub>2</sub>, and leg largely yellowish brown.

In 7 specimens measured, relative length of segments of fore leg 173(163-186):193(185-205):100:39(36-45):29(24-33):20(18-23):34(32-36), of mid leg 211(200-220):195(185-205):105(100-112):37(33-41):26(23-29):18(15-21):33(30-36), of hind leg 312(300-328):269(252-282):165(156-177):42(40-45):30(27-32):19(15-21):32(30-33) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 35(33-38):27(26-29):24(22-28):19(17-20):18(17-20) (tarsal segment 1, 0.1-0.15, segment 2, 0.4-0.5, segment 3, 0.6-0.7 times as wide as long).

Length: Body 5.5-7 mm; wing 5.5-6; fore basitarsus 0.55-0.7.

Distribution: Japan (Honshu).

Specimens examined (6 & A, 13 P): 5 & A, 5 PP, Masutomi, Kanayama, Kai, 6-7. vi. 1962, T. Saigusa; 1 A, 5 PP, Amarizawa, Nirasaki, Kai, 7. vi. 1960, Saigusa; 2 PP, Komukawa, Gozaishi, Kai, 3. vi. 1960, Saigusa; 1 PP, Nishitanimura, Tajima, 11. vi. 1951, A. Nagatomi.

#### Beris sp. B

There are  $1 \, \vec{\sigma}$  from Shikoku and  $2 \vec{\sigma} \, \vec{\sigma}$ ,  $1 \, \vec{\varphi}$  from Kyushu which are very similar to *Beris* sp. A. The differences between these specimens and *Beris* sp. A are as follows: In  $\vec{\sigma}$ , the posterolateral part of epandrium is developed as a process and is more similar to *fuscipes* rather than to sp. A and discal cell is 0.5-0.6 times as long as vein  $M_2$  (in sp. A 0.4-0.5 times); and in  $\vec{\varphi}$ , width of one eye on a mid line from a direct frontal view 0.8 times width of front just above antenna (in sp. A 1.0-1.2 times).

It is uncertain at the present that the specimens from Shikoku and Kyushu just mentioned are identical with sp. A or fuscipes or are an intermediate from between sp. A and fuscipes.

Distribution: Japan (Shikoku, Kyushu).

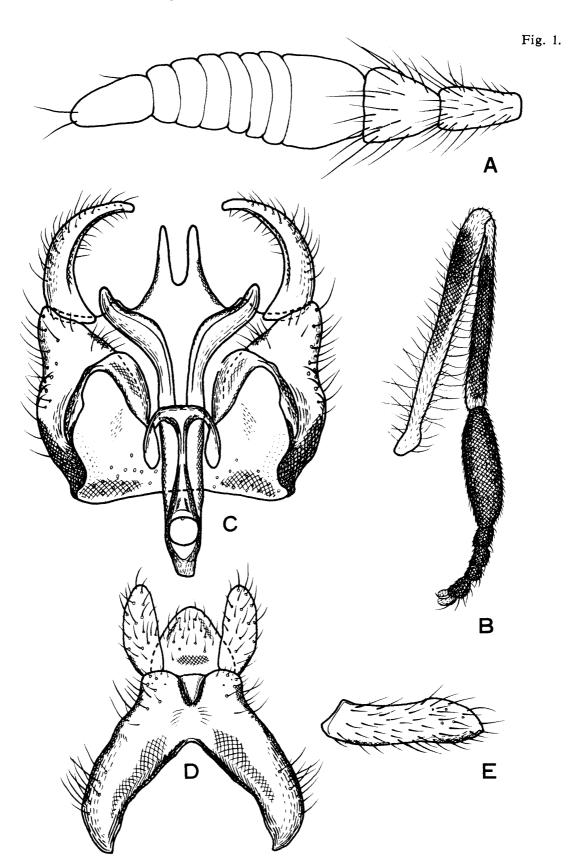
Specimens examined  $(3\vec{\sigma}, 1^{\circ})$ : Shikoku  $(1\vec{\sigma})$ :  $1\vec{\sigma}$ , Mt. Sara, Iyo, 8. v. 1954, S. Hisamatsu. Kyushu  $(2\vec{\sigma}, 1^{\circ})$ :  $2\vec{\sigma}, 1^{\circ}$ , Mt. Kunimi, Higo, 11. v. 1967, H. Shima.

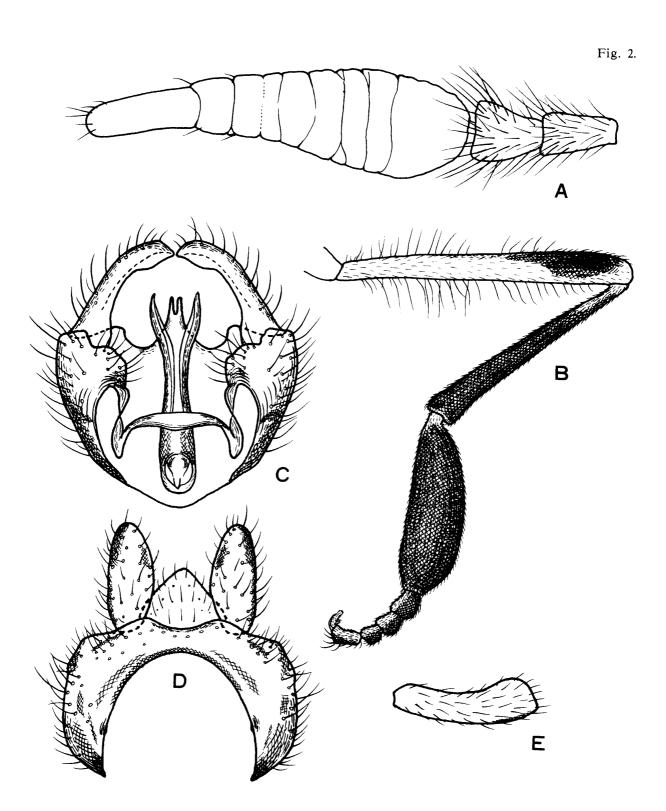
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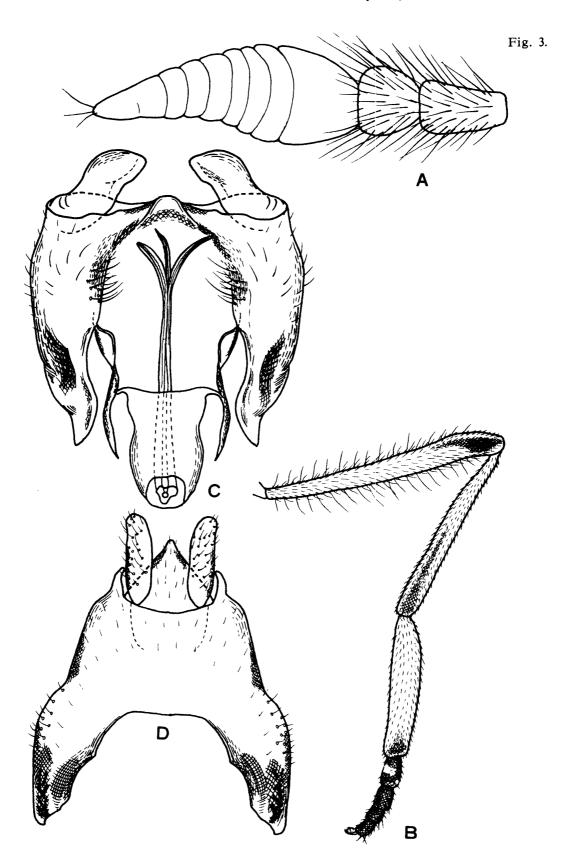
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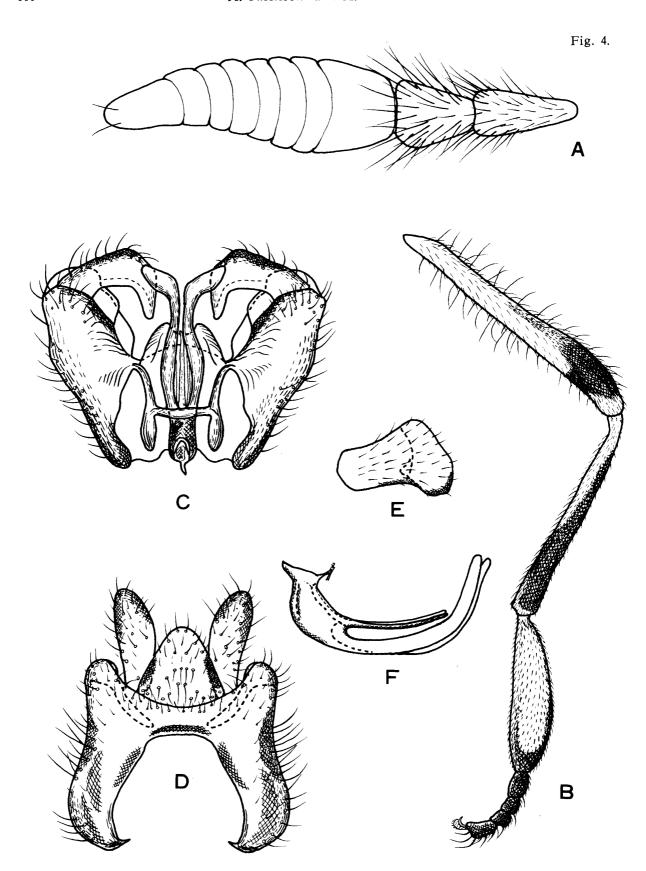
#### **Explanations of Figures**

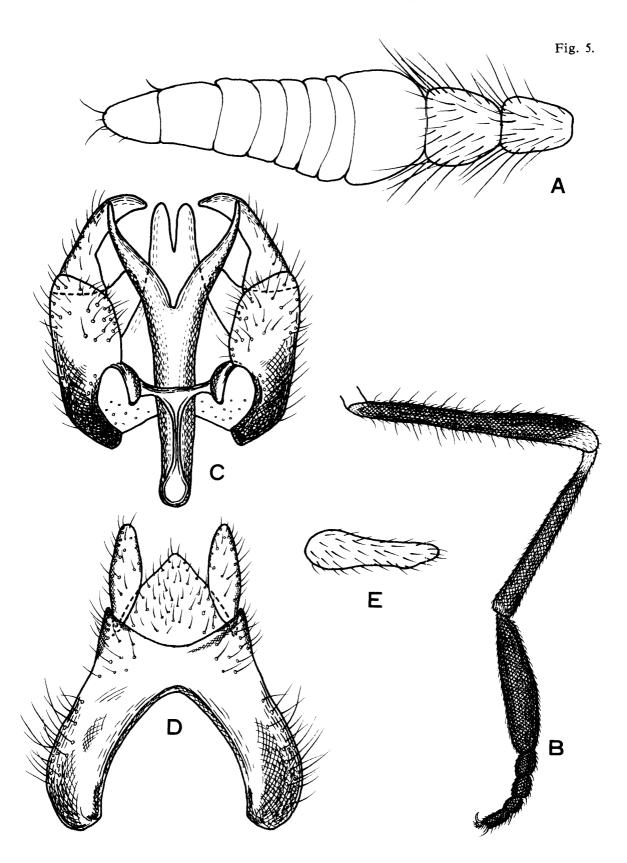
- Fig. 1. Beris angustifacies Nagatomi and Tanaka, n. sp. A:  $\mathcal{P}$ ; B-E:  $\mathcal{O}$ ; A: antenna, outer view; B: hind leg; C: genitalia excluding cerci and epandrium, dorsal view; D: cerci, proctiger, and epandrium, dorsal view; E: dististyle, latero-outer view.
- Fig. 2. Beris crassitarsis n. name (=B. flavipes Pleske). A: \varphi; B-E: \varphi; A: antenna, outer view; B: hind leg; C: genitalia excluding cerci and epandrium, dorsal view; D: cerci, proctiger, and epandrium, dorsal view; E: dististyle, latero-outer view.
- Fig. 3. Beris fuscipes Meigen. A:  $\circ$ ; B-D:  $\circ$ ; A: antenna, outer view; B: hind leg; C: genitalia excluding cerci and epandrium, dorsal view; D: cerci, proctiger, and epandrium, dorsal view.
- Fig. 4. Beris hirotsui Ouchi. A:  $\varphi$ ; B-F:  $\emptyset$ ; A: antenna, outer view; B: hind leg; C: genitalia excluding cerci and epandrium, dorsal view; D: cerci, proctiger, and epandrium, dorsal view; E: dististyle, latero-outer view; F: aedeagus, lateral view.
- Fig. 5. Beris latifacies Nagatomi and Tanaka, n. sp. A:  $\varphi$ ; B-E:  $\varnothing$ ; A: antenna, outer view; B: hind leg; C: genitalia excluding cerci and epandrium, dorsal view; D: cerci, proctiger, and epandrium, dorsal view; E: dististyle, latero-outer view.
- Fig. 6. Beris nebulosus Nagatomi and Tanaka, n. sp. A: \approx; B-G: \(\sigma\); A: antenna, outer view; B: hind leg; C: genitalia excluding cerci and epandrium, dorsal view; D: cerci, proctiger, and epandrium, dorsal view; E: dististyle, latero-outer view; F: aedeagus, lateral view; G: interbasis, latero-outer view.
- Fig. 7. Beris sp. A. A:  $\varphi$ ; B-C:  $\emptyset$ ; A: antenna, outer view; B: genitalia excluding cerci and epandrium, dorsal view; C: cerci, proctiger, and epandrium, dorsal view.











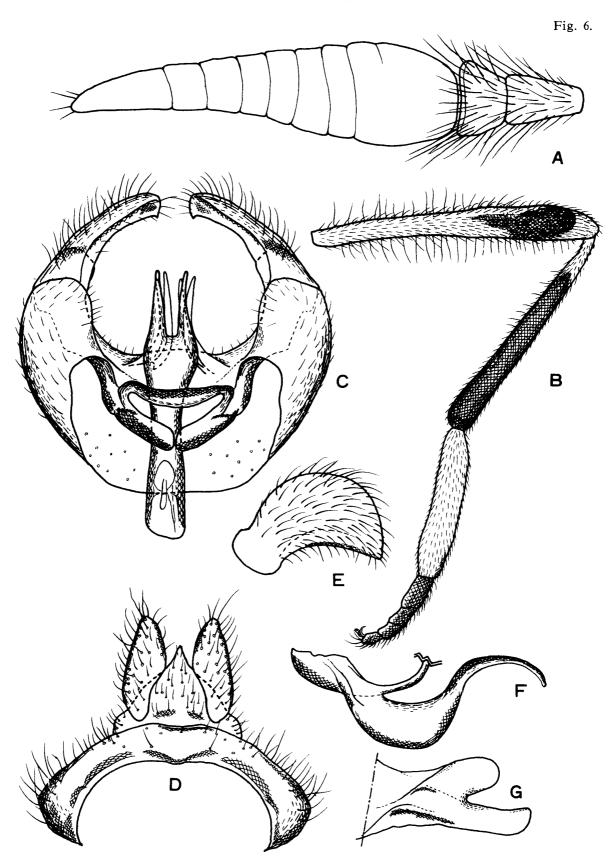


Fig. 7.

