

## TWO NEW SPECIES OF THE GENUS CHASMATOIVOTUS FROM JAPAN (DIPTERA, CHIRONOMIDAE)

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TWO NEW SPECIES OF THE GENUS *CHASMATONOTUS* FROM JAPAN  
(DIPTERA, CHIRONOMIDAE)\*

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**Abstract**

Two new species *Chasmatonotus brevicornis* and *C. furfurosus* are described and figured, from Japan.

In my previous paper (Yamamoto, 1980), I recorded the genus *Chasmatonotus* Loew from the Palaearctic Region for the first time and described three new species from Japan. Since then, I was able to find two more species of this genus collected at mountain regions of Honshu and Kyushu. These two species are clearly different from any other congeneric species, and are described as new in the following lines.

Before going further I wish to express my sincere thanks to Prof. Y. Hirashima and Assoc. Prof. K. Morimoto, Entomological Laboratory, Faculty of Agriculture, Kyushu University for their constant guidance. My thanks are also due to Prof. T. Saigusa, Biological Laboratory, College of General Education, Kyushu University, for his kindness in giving me an opportunity to study the materials. I would like to thank Assoc. Prof. M. T. Chûjô and Mr. K. Takeno of Hikosan Biological Laboratory, Kyushu University for their allowance to examine the chironomid fly of the Laboratory. I am also much indebted to following entomologists for valuable specimens ; Dr. K. Kanmiya (Biological Laboratory, School of Medicine, Kurume University), Mr. K. Ôhara (Entomological Laboratory, Kyushu University) and Mr. K. Maet8 (Forestry & Forest Products Research Institute, Tsukuba).

***Chasma tonotus brevicornis* sp. nov.**

♂. Colouration : Head, thorax and legs as in *C. unilobus* Yamamoto but thorax darker. Wing marking resembling that of *parabicolor* Yamamoto, but ground colour of dark area more uniformly brown. Abdomen brownish black, thinly grey pollinose ; basal 2 segments yellow, darker posteriorly. Genitalia brownish black, thinly grey

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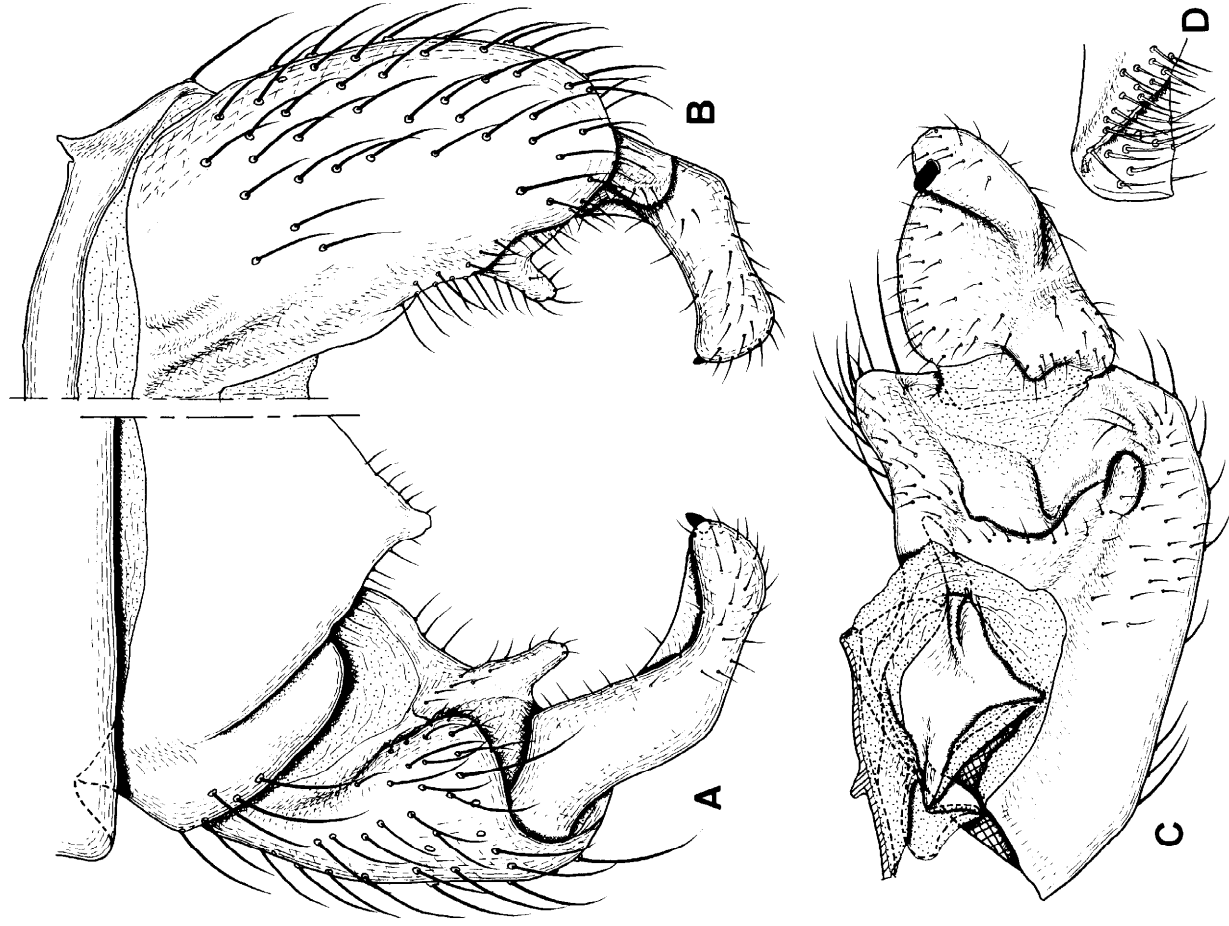


Fig. 1. Male genitalia of *Chasmatonotus brevicornis* sp. nov.

A : dorsal aspect. B : ventral aspect. C : gonocoxite and gonostylus, inner lateral aspect. D : anal point, lateral aspect.

pollinose.

Head : Coronal suture vestigial. Antenna broken. First to 5th palpal segment lengths ( $\mu\text{m}$ ) : 25, 60, 105, 105, 120, and the palpal segments with 0, 6, 31, 25, 12 setae, **respectively**. Vertex and clypeus with 9, 16 setae, respectively. Gena without seta.

Thorax : Lateral anteprenotals 8, median anteprenotals 12; dorsocentrals 13, prealar 6, both biserial; acrostichals 14, biserial; scutellars 14, partially biserial; preepisternals 3; no supra-alar.

Legs : Fore-, middle and hind coxae with 28, 15, 19 marginal setae, respectively. Middle coxa with 8 minute sensory hairs on middle anteriorly. Fore-, middle and hind trochanters with 28, 19, 22 marginal setae, respectively. Posteroventral spur of hind tibia 2.0  $\times$  as long as anteroventral one. Tibial comb of hind leg composed of 13 spines.

Lengths (0.01 mm in unit) and proportions of legs :

	F	T	Tal	Ta2	Ta2	Ta4	Ta5	BA	SA	LR
P <sub>1</sub>	115	113	73	43	30	20	13	2.86	3.14	0.64
P <sub>2</sub>	105	108	48	28	20	15	13	3.47	4.47	0.44
P <sub>3</sub>	123	125	73	38	30	15	13	3.37	3.41	0.58

Wing : Length 1.8 mm, width 0.6 mm. L/WR 3.09. VR 1.08. R, R<sub>1</sub> and R<sub>4+5</sub> with 22, 10, 25 setae, respectively. Radialis with 7 annular organs on basal part, 3 annular organs on the middle anteriorly, 6 annular organs on apical part, and with 2 setae near middle. Squama with 2 setae.

Genitalia (Figs. 1, A-D) : Similar to those of *C. unilobus* in general appearance. Anal point very short, truncated apically in lateral aspect. Gonocoxite slightly tapering towards apex in ventral view; dorsal part of basal lobe not developed, ventral part of basal lobe slightly shorter and stouter than in *unilobus*. Gonostylus moderately long, weakly bent inwardly in the middle, with basal projection not bilobed, extreme tip with a strong spine.

Length of body : 1.5 mm.

♀. Colouration almost as in male. Abdomen predominantly brownish black; 1st to basal 1/2 of 3rd segments yellow; cercus yellow.

Head : Coronal suture vestigial. Antennal flagellomere lengths ( $\mu\text{m}$ ): 100, 45, 35, 40, 65. First to 5th flagellomeres with 9, 6, 6, 6, 5 setae, respectively. Antennal ratio 0.30. First to 5th palpal segment lengths ( $\mu\text{m}$ ): 35, 60, 125, 125, 180, and the palpal segments with 0, 10, 44, 32, 20 setae, respectively. Vertex and clypeus with 13-16, 21 setae, respectively. Gena without seta.

Thorax : Lateral anteprenotals 12, median anteprenotals 6-15; dorsocentrals 18-20, prealar 6-9, both uniserial; acrostichals 15-18, scutellars 19-31, both biserial; no supra-alar.

Legs : Fore-, middle and hind coxae with 33-45, 12-16, 23-25 marginal setae, respectively. Middle coxa with 7 minute sensory hairs on the middle anteriorly. Fore-, middle and hind trochanters with 28-31, 24-31, 23-25 marginal setae, respectively. Posteroventral spur of hind tibia 1.8  $\times$  as long as anteroventral one. Tibial comb of

hind legs composed of 12-14 spines.

Lengths (means, 0.01 mm in unit) and proportions (ranges) of legs :

	F	T	Tal	Ta2	Ta3	Ta4	Ta5	BV	SV	LR
P <sub>1</sub>	115	114	68	38	28	19	14	2.98-3.11	3.27-3.54	0.59
P <sub>2</sub>	103	100	40	23	18	13	13	3.73	5.06	0.40
P <sub>3</sub>	129	131	73	36	29	15	13	3.51	3.47-3.73	0.55

Wing : Length 2.2 mm, width 0.8 mm. L/WR 2.65-2.83. VR 1.03-1.07. R, R<sub>1</sub> and R<sub>4+5</sub> with 23-28, 14-17, 24-32 setae, respectively. Radialis with 6-7 annular organs on basal part, 3 annular organs on middle anteriorly, 6-8 annular organs on apical part, and with 3-4 setae near the middle. Squama without seta.

Genitalia (Figs. 2, A-C) : Ninth abdominal tergum deeply emarginate in the middle. Laterosternite fused basally with 9th tergum, with short apical projection which bears 6-7 setae near tip. Apodeme of 8th sternum absent. Eighth sternum with 4-14 setae on its sublateral portion of caudal area. Tenth segment weakly sclerotized ; postgenital plate small, very weakly sclerotized.

Length of body : 2.5 mm.

DISTRIBUTION : Japan (Honshu).

TYPE MATERIAL : Holotype ♂ (Type No. 2539, Kyushu Univ.), Kōtoku, Nikko, Tochigi Pref., Honshu, 12. vi. 1974, Kanmiya leg. Paratypes : 1 ♀, same locality and same collector, 26. vi. 1973 ; 1 ♀, Chōjagahara, Yamagata Pref., 7. vi. 1980, K. Maetō leg.

The holotype is deposited in the collection of the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka.

REMARKS : This species seems to be related to *C. unilobus* Yamamoto, but is easily distinguished from it by the shorter anal point, undeveloped dorsal part of basal lobe of gonocoxite, and simple basal projection of gonostylus. This species is also similar to *C. parabicolor* in the wing marking, but is distinguished from it by the structure of male genitalia.

The female genitalia of the new species may be distinguished from any other Japanese species in having the laterosternite which fuses basally with the 9th tergum.

### *Chasmatonotus furfurosus* sp. nov.

♀. Colouration : Head subshining brownish black ; antennal pedicel brownish black, thinly grey pollinose, flagellum brown ; clypeus, maxillary and labial palpi brownish black. Thorax including pleura entirely subshining brownish black. Legs brownish black, all coxae thinly grey pollinose. Wing uniformly infuscated brown, with 2 whitish longitudinal vittae in cell M and behind 2A.

Head : Coronal suture entire. Antennal flagellomere lengths (μm): 128, 60, 57, 57, 83. First to 5th flagellomeres with 6-7, 5-6, 4, 3-4, 2-3 setae, respectively. Antennal ratio 0.27-0.29. First to 5th palpal segment lengths (μm): 38, 88, 145, 140, 225, and the palpal segments with 0, 9-14, 28-40, 20-44, 19-32 setae, respectively. Vertex and

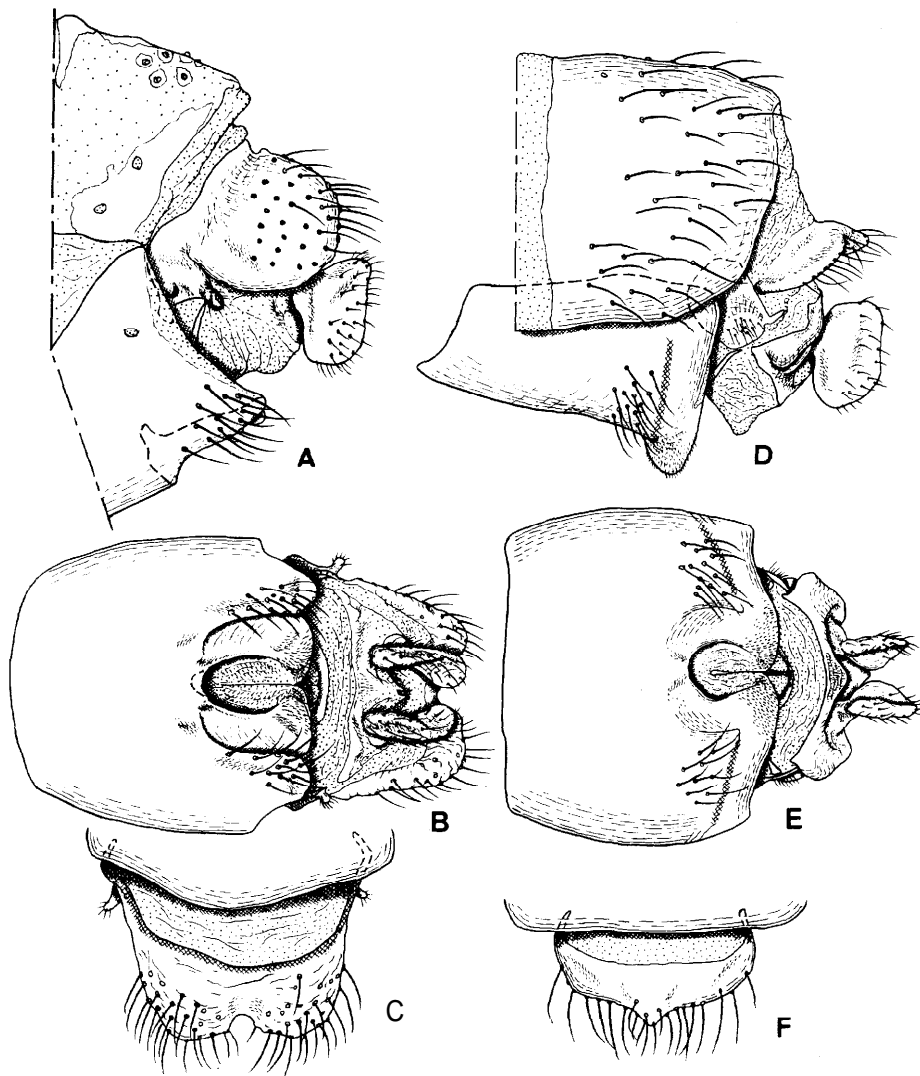


Fig. 2. Female genitalia of *Chasmatonotus* spp. A-C : *Chasmatonotus brevicornis* sp. nov. D-F : *Chasmatonotus fufurosus* sp. nov. A, D : lateral aspect. B, E: ventral aspect. C, F: ninth tergum, dorsal aspect

clypeus with 11-14, 18-26 setae, respectively.

Thorax : Lateral anteprenotals 11-20, median anteprenotals 1-7 ; dorsocentrals 13-21, prealars 9-11, scutellars 18-20, all uni- or biserial ; acrostichals 4-14, biserial ; no preepisternals ; no supra-alars.

Legs : Fore-, middle and hind coxae with 25-42, 15-25, 29-41 marginal setae, respectively. Middle coxa with 9-10 minute sensory hairs on middle anteriorly. Fore-, middle and hind trochanters with 25-34, 25-37, 27-36 marginal setae, respectively.

Posteroventral spur of hind tibia 1.6  $\times$  as long as anteroventral one. Tibial comb of hind tibia composed of 13-18 spines.

Lengths (means, 0.01 mm in unit) and proportions (ranges and means) of legs :

	F	T	Ta1	Ta2	Ta3	Ta4	Ta5	B V	s v	L R
P <sub>1</sub>	137	133	78	43	32	22	15	3.05-3.20, 3.12	3.27-3.67, 3.48	0.57-0.61, 0.58
P <sub>2</sub>	125	123	46	27	22	16	12	3.74-3.97, 3.85	5.15-5.44, 5.35	0.37-0.40, 0.38
P <sub>3</sub>	147	155	76	41	34	20	15	3.39-3.49, 3.44	3.84-4.07, 3.96	0.48-0.51, 0.49

Wing : Length 2.2-2.4 mm, width 0.7-0.8 mm. L/WR, range 3.10-3.31, mean 3.20. VR, range 0.84-0.91, mean 0.87. R, R<sub>1</sub> and R<sub>4+5</sub> with 20-28, 13-15, 29-36 setae, respectively. Radialis with 12-13 annular organs on basal part, 3 annular organs on the middle anteriorly, 6-11 annular organs on apical part, and with 1-4 setae near the middle. Squama with 5-10 setae.

Genitalia (Figs. 2, D-F) : Posterior margin of 9th tergum strongly convex in the middle. Laterosternite large, completely separated from 9th tergum, and with 4-14 short setae on its protuberant area. Eighth abdominal sternum with weak and nearly straight apodeme, and with 4-11 setae on its sublateral portion of caudal area. Tenth segment large, well developed, strongly sclerotized.

Length of body : 2.5 mm.

DISTRIBUTION : Japan (Kyushu).

TYPE MATERIAL : Holotype ♀ (Type No. 2540, Kyushu Univ.), Mt. Hikosan (700 m), Fukuoka Pref., Kyushu, 3. v. 1976, M. Yamamoto leg. Paratypes : 1 ♀, same locality, 1. v. 1976, K. Ôhara leg. ; 5 ♀♀, same data as holotype ; 1 ♀, same locality, 10-12. v. 1971, K. Takeno leg. (Malaise trap).

The holotype is deposited in the collection of the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka.

REMARKS : This species is similar to Nearctic *C. univittatus* Coquillett in the wing marking, but is easily distinguishable from the latter by the presence of distinct R<sub>1</sub> vein. This species is distinct from any other Japanese species in having the apodeme of 8th sternum, posteriorly produced 9th tergum and strongly sclerotized 10th segment.

## References

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