

A New Species of *Trichacoides* from Japan (Hymenoptera, Platygasteridae)*

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Synopsis A new species of *Trichacoides* DODD, *T. hirsutus*, together with a new subspecies, *T. hirsutus ryukyuensis*, is described from Japan.

The genus *Trichacoides* was erected by DODD in 1914 based on a single Australian species, *T. scutellaris* DODD. JACKSON in 1968 revised *Trichacoides* and described a second species of this genus, *T. indicus* JACKSON, from India. Up to the present, only these two species are known in the world. In this paper I describe a third species of this genus from Japan, together with a new subspecies of the species from the Ryukyus.

Although the genus *Trichacoides* seems to be closely related to the genus *Platygaster* LATREILLE, 1809, the two are distinguished by the structures of scutellum. The scutellum of *Trichacoides* is greatly elevated from the level of mesoscutum and is provided with many short distinct spines, each of which is terminating in an appressed hair, while in *Platygaster* the scutellum is flattened or if elevated hemispherically, then the spines are not distinct.

The holotype of the new species and that of the new subspecies described below are deposited in the collection of the Entomological Laboratory, Kyushu University, Fukuoka, Japan.

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Trichacoides hirsutus sp. nov.

(Figs. 1-5)

Female. Length 2.39-3.67 mm (average of 26 specimens 3.10 ± 0.26 mm). Color black; first 5 or 6 antennal segments and all legs except coxae brown; distal

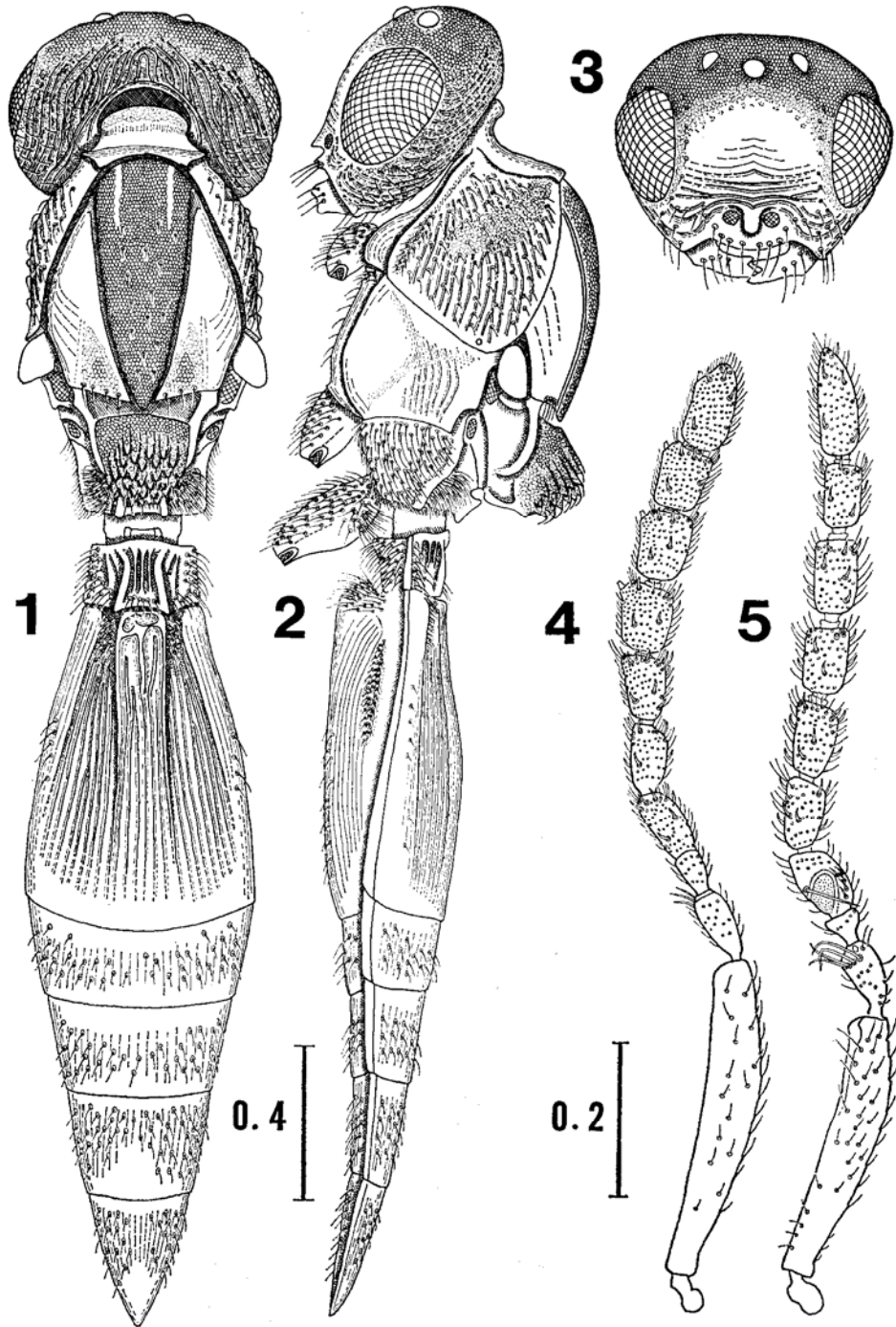
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4 or 5 antennal segments black or blackish brown; eye dark brown; mandible reddish black; wings hyaline.

Head transverse, $1.83\times$ as broad as and $1.55\times$ as high as long, $0.41\times$ as long as thorax; vertex and inner orbit reticulate coriaceous, the latter covered with short hairs; frons $0.58\times$ as broad as head, almost smooth, its lower portion with several transverse faint ridges; occiput, postgena, gena and malar space closely provided with many curved ridges together with reticulation, and sparsely covered with appressed long hairs except occiput; lateral ocellus $0.04\text{--}0.07$ mm in diameter; POL $3.19\times$ diameter of lateral ocellus, $0.26\times$ width of head; OOL $0.51\times$ POL, $1.62\times$ diameter of lateral ocellus; eye $1.47\times$ as high as long, $0.55\times$ as high as head; gena $0.19\times$ as high as head. Antenna (Fig. 4) $3.21\times$ as long as length of and $2.11\times$ as long as height of head; relative length of each segment to whole antennal length from scape to 10th segment, 34.1, 8.8, 4.1, 7.8, 6.4, 7.0, 7.6, 7.3, 7.2, 9.8; ratio of width to length of each segment, 0.17, 0.41, 0.75, 0.52, 0.61, 0.60, 0.68, 0.70, 0.70, 0.45 (averages of 15 specimens); scape $0.72\times$ as long as height of head, slender, reticulated, with sparse long setae of $20\text{--}40\text{ }\mu\text{m}$; pedicel long ovoid, with some long setae of $40\text{--}50\text{ }\mu\text{m}$ at apex; 3rd segment subconical; 4th cylindrical; distal 6 segments uniformly oblong; flagellum $1.68\times$ as long as scape, densely covered with short setae of $10\text{--}25\text{ }\mu\text{m}$, distal 7 segments each with about 10 scattered stout setae of $18\text{ }\mu\text{m}$, and distal 4 segments also with an apical short process of $10\text{ }\mu\text{m}$ respectively.

Thorax, length $0.74\text{--}1.04$ mm (average of 26 specimens 0.92 ± 0.06 mm), $0.63\times$ as broad as and $0.73\times$ as high as long; mesoscutum large, slightly longer than width of thorax, with complete parapsidal sutures; median lobe of mesoscutum reticulate coriaceous, posterior end slightly prolonged over scutal furrow, with a pair of anteroadmedian lines, with sparse short hairs, and rarely with a few longitudinal weak ridges; lateral lobe of mesoscutum almost smooth, shining, weakly reticulated on posterior inner portion, with some longitudinal faint striae on side, also with 4 or 5 long hairs along posterior margin; scutellum campanulate, slightly inclined backward, reticulated, covered with many sharp, stout, short spines, each of which is terminating in an appressed hair; propodeum with a pair of longitudinal short keels in the middle, and with dense pubescence on both sides; antero-median plate of pronotum glabrous, shining; lateral plate of pronotum large, covered with many appressed long hairs, and with many horizontal ridges except for a median oblique reticulated belt; propleuron narrow, finely striated; prosternum with sparse hairs; mesopleuron glabrous, shining, with some horizontal weak striae on posterior upper portion; mesosternum smooth, with sparse hairs; metapleuron densely pubescent, with a horizontal shallow groove in the middle. Legs slender, clavate; coxae smooth, with many hairs; femora and tibiae weakly reticulated with sparse hairs; tarsi hairy. Fore wing, length $1.48\text{--}2.04$ mm, $0.40\times$ as broad as long,

Figs. 1–5. *Trichacoides hirsutus* sp. nov. — 1–2. ♀, Body in dorsal and lateral views. — 3. ♀, Head in frontal view. — 4. ♀, Antenna. — 5. ♂, Antenna. (Scale in mm)



not extending past the apex of abdomen when folded, $2.02\times$ as long as thorax; hind wing $0.21\times$ as broad as long, $0.82\times$ as long as fore wing, with 2 hamuli.

Abdomen depressed, long rhombate, $0.33\times$ as broad as long, $1.99\times$ as long as thorax; relative length of each tergite, 0.22, 1.00, 0.22, 0.25, 0.30, 0.35 (average of 26 specimens); 1st tergite trapezoid, $1.66\times$ as broad as long, sparsely covered with long hairs posteriorly and laterally, elevated medially with some longitudinal ridges, and concaved laterally with some longitudinal faint ridges; 2nd tergite large, $0.76\times$ as broad as long, $0.85\times$ as long as thorax, with many longitudinal striae from a pair of anterior foveae to apical 0.9 of segment; 3rd to 5th tergites transverse; last 6th triangular; 3rd to 6th tergites shining, with sparse hairs and many longitudinal faint striae; size of each sternite equal to that of corresponding tergite; 1st sternite densely pubescent; 2nd sternite swollen antero-medially, with many longitudinal striae and also a pair of lateral pubescent belts; distal 4 sternites similar to tergites in structure.

Male. Very similar to female except as follows. Length 2.29–3.05 mm (average of 8 specimens 2.65 ± 0.31 mm). Antenna usually similar to that of female in color, but rarely blackish brown or black except scape. Head $1.80\times$ as broad as and $1.52\times$ as high as long; frons $0.60\times$ as broad as head; POL $3.09\times$ diameter of lateral ocellus, $0.27\times$ width of head; OOL $0.51\times$ POL, $1.48\times$ diameter of lateral ocellus; eye $1.46\times$ as high as long, $0.53\times$ as high as head; gena $0.19\times$ as high as head. Antenna (Fig. 5), $3.60\times$ as long as length of and $2.34\times$ as long as height of head; relative length of each segment to whole antennal length from scape to 10th segment, 30.4, 7.5, 3.3, 8.0, 7.2, 8.0, 7.9, 7.9, 7.8, 11.9; ratio of width to length of each segment, 0.16, 0.50, 1.67, 0.66, 0.60, 0.54, 0.55, 0.54, 0.54, 0.34 (averages of 6 specimens); scape slender, $0.71\times$ as long as height of head, reticulated, with sparse setae of 20–50 μm ; pedicel long ovoid, with some long stout setae of 40–70 μm at apex; 3rd segment subconical; 4th, which is a sex segment, cylindrical, with a large ovoid sensorial plate of $60\times 40\ \mu\text{m}$, a long stout seta of 70 μm , several appressed short stout setae of 25 μm , and also sparse setae of 25–35 μm ; distal 6 segments uniformly oblong, with sparse setae of 25–30 μm and also about 10 scattered stout setae of 20 μm respectively; flagellum $2.05\times$ as long as scape. Thorax 0.80–1.00 mm (average of 8 specimens 0.91 ± 0.10 mm) in length. Fore wing 1.52–1.97 mm in length, slightly extending past the apex of abdomen when folded, $1.96\times$ as long as thorax. Abdomen depressed, oval, $0.41\times$ as broad as long, $1.52\times$ as long as thorax; relative length of each tergite, 0.27, 1.00, 0.17, 0.16, 0.13, 0.09, 0.03 (average of 8 specimens); 2nd tergite large, $0.74\times$ as broad as long, $0.84\times$ as long as thorax; 3rd to 6th tergites transverse and 7th lunate.

Type material. Holotype, female (Type No. 2179, Kyushu Univ.), Mt. Hira-san, Shiga Pref., 29. viii. 1969, O. YATA. Paratypes: 1 ♂, Bibai, Hokkaido, 4. vii. 1976, K. KAMUO; 1 ♀, Sapporo, Hokkaido, 1. vi. 1965, K. KUSIGEMATI; 3 ♀♀, Mt. Togakushi, Nagano Pref., 7–8. viii. 1969, O. YATA; 2 ♂♂, Mt. Kiso-koma-ga-take, Nagano Pref., 13–16. vii. 1967, H. TAGUCHI; 7 ♀♀, 1 ♂, same data as holotype; 1 ♀, Sasayama, Hyogo Pref., 3. ix. 1969, O. YATA; 8 ♀♀, Mt. Nachi-san, Wakayama Pref., 20. ix. 1965, H. TAKADA; 1 ♀, Nakayama-toge, Shobara, Hiroshima Pref., 18. vi.

1979, K. MAETÔ; 1 ♂, Honmura, Shobara, Hiroshima Pref., 18. vi. 1979, K. MAETÔ; 1 ♀, Sugitate, Matsuyama, Ehime Pref., 9. vi. 1973, G. TOKIHIRO; 1 ♀, Tsushima Is., Nagasaki Pref., 11. vi. 1965, H. TAKADA; 1 ♂, Mt. Aoi-dake, Miyazaki Pref., 25. vii. 1974, M. SAKAI; 2 ♀♀, Mt. Kurino-dake, Kagoshima Pref., 31. vii. 1974, M. SAKAI; 1 ♂, Sata-misaki, Kagoshima Pref., 18. v. 1966, K. KUSIGEMATI.

Biology. Host is unknown. This new species has been collected from May to September.

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

Remarks. In general appearance this new species resembles *Trichacoides scutellaris* DODD, 1914, but the former is separated from the latter by the shape of scutellum which is more elevated and inclined backward.

This new species is divided into two subspecies, *T. hirsutus hirsutus* from Japan proper, and *T. hirsutus ryukyensis* from the Ryukyus. The two are distinguished by the structures of eye and ocelli in both sexes and the relative length of flagellum to scape of male antenna.

Trichacoides hirsutus ryukyensis subsp. nov.

Male. Resembling the male of the nominate subspecies but different as follows. Length 2.29–2.89 mm (average of 8 specimens 2.74 ± 0.20 mm). Head $1.76 \times$ as broad as and $1.50 \times$ as high as long; ocellus relatively large, 0.06–0.075 mm in diameter; POL $2.68 \times$ diameter of lateral ocellus, $0.27 \times$ width of head; OOL $0.48 \times$ POL, $1.29 \times$ diameter of lateral ocellus; eye relatively small, $1.43 \times$ as high as long, $0.51 \times$ as high as head; gena $0.19 \times$ as high as head. Antenna $3.25 \times$ as long as length of and $2.18 \times$ as long as height of head; relative length of each segment to whole antennal length from scape to 10th segment, 32.3, 7.9, 3.1, 8.0, 6.9, 7.2, 7.7, 7.8, 7.6, 11.4; ratio of width to length of each segment, 0.16, 0.48, 1.17, 0.67, 0.61, 0.60, 0.58, 0.57, 0.56, 0.37 (averages of 5 specimens); flagellum relatively short, $1.85 \times$ as long as scape.

Female. Resembling the female of the nominate subspecies but ocelli and eye same to those of male of this subspecies in size. Length, 3.11 and 3.29 mm.

Type material. Holotype, male (Type No. 2180, Kyushu Univ.), Yona, Okinawa-honto Is., Ryukyus, 26. iv. 1965, Y. HIRASHIMA. Paratypes: 2 ♂♂, Yuwan, Amami-oshima Is., Ryukyus, 1. v. 1959, K. KAMIJO; 1 ♀, 3 ♂♂, same data as holotype; 1 ♂, 25. iv. 1965, 1 ♂, 27. iv. 1965, 1 ♀, 18. x. 1963, same locality and collector as holotype.

Biology. Host is unknown. This new subspecies has been collected in April, May and October.

Distribution. Japan (Ryukyus).

References

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