

Discovery of Sapygidae (Hymenoptera) in Japan

Rikio MATSUMOTO*, Hideki FUKUSHIMA**,
Kentaro MORIMOTO***

ミコバチ科（膜翅目）の日本からの発見

松本吏樹郎*・福島秀毅**・森本健太郎***

抄録：兵庫県において採集された標本に基づいて、チョウセンホソミコバチ *Sapyga coma* を日本から記録した。ロシア沿海州及び韓国産の同種の標本と比較したところ、日本産の個体はこれらと体の斑紋がわずかに異なることが明らかになった。本種のメスは、寄主と考えられるイマイツツハナバチが営巣するヨシ筒の周辺を飛びまわるのが観察された。この報告により日本のハチ相にミコバチ科（Sapygidae）が新たに加えられる。

Abstract: An East-Asian species of the family Sapygidae, *Sapyga coma* Yasumatsu and Sugihara, 1938, is found to occur in Japan. The Japanese population differs slightly from Korean and Russian populations in body coloration. The females were observed to fly around reed tubes of a thatched roof, in which its probable host, *Osmia jacoti* Cockerell, was nesting. This represents the first record of the family Sapygidae in Japan.

Key Words: *Sapyga coma*; new record; Japan; coloration.

The Sapygidae is a small-sized hymenopteran family containing approximately 80 species widely distributed all over the world except the Australian region (Gauld and Bolton, 1988; Brothers, 1993). Although it is widespread over the Palearctic region and some species are found in the Korean peninsula and Russian Far East, no sapygids have been recorded from Japan. Recently some specimens belonging to this family were collected at two localities in Hyogo Pref., Japan. The specimens are identified as *Sapyga coma* Yasumatsu and Sugiura although some slight differences in body coloration are observed between Japanese specimens and Korean- Russian ones. On this occasion, the family Sapygidae is recorded from Japan for the first time and a description of body coloration based on Japanese specimens is given. The examined specimens are deposited in the collection of Osaka Museum of Natural History (OMNH) unless noted otherwise.

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* Osaka Museum of Natural History, 1-23 Nagai Park, Higashisumiyoshi-ku, Osaka 546-0034, Japan

大阪市立自然史博物館 〒546-0034 大阪市東住吉区長居公園1-23

E-mail: rikio@mus-nh.city.osaka.jp

**Kochi Elementary School, 401-1 Kochinosho, Yumesaki-cho, Himeji, Hyogo, Japan.

姫路市立古知小学校 〒671-2113 兵庫県姫路市夢前町古知之庄401-1

***Hakkei Junior High School, 1205 Hakkei, Sanda, Hyogo 669-1524, Japan

三田市立八景中学校 〒669-1524 兵庫県三田市八景1205

Body coloration of *S. coma* from Japan

Female (Figs. 1, 6). Mostly black with many parts marked yellow or brown as follows. Flagellum slightly brownish below. Clypeus with a pair of rather elongate yellow spots along its latero-dorsal edge, the spots close to each other basally and divergent apically. Eye-emargination mostly yellow. Inner orbit broadly yellow below the eye-emargination and narrowly above the emargination. The yellow inner orbital stripe above the eye-emargination sometimes isolated as a small spot or rarely lost. Frons with a yellow triangular marking above the carina between antennal sockets, median part of the marking more or less black. Outer face of mandible with a small median yellow spot, this spot sometimes lost. Gena with upper and lower small longitudinal spots, the former always larger than the latter, the lower spot sometimes indistinct or lost. Vertex with a pair of tiny spots dorso-medially, these spots obscure in some specimens. Dorsal flat part of pronotum with a yellow band that is broadly interrupted medially. Mesoscutum with a pair of tiny spots in the middle. Mesopleuron with a yellow spot dorsally, the spot rarely indistinct. Metanotum with a pair of transverse spots, these spots quite small in a few specimens. Propodeum with a pair of dorso-lateral spots, these spots quite small or lost in a few specimens. Outer face of fore femur with a small yellow longitudinal spot. Tibiae and tarsi of all legs reddish brown, except outer face of fore tibia with a yellow and a dark brown stripe basally. T2 with three small spots, in some specimens lateral spots lost, or in one specimen T2 completely black. T3 and T4 each with a median transverse broad band, which is slightly narrowed medio-dorsally. T6 with a median large spot. S3 and S4 each with a median transverse band, sometimes these bands interrupted medially. S5 and S6 each with a pair of tiny pale spots, the latter brownish or sometimes lost.

Male (Fig. 4). Sexual dimorphism slight. Similar to female but differs as follows. Underside of flagellum much paler. Clypeus wholly yellow with its apical margin brown. Lower half of eye-emargination and inner orbit between the emargination and a point a little above the upper articulation of mandible yellow. Inner orbit above the eye-emargination black, without yellow spot. Gena with the upper spot only. Occiput without yellow spot dorso-medially. Pronotum with a pair of small transverse spots just behind a transverse carina which divides pronotum into anterior vertical and posterior flat areas. Other parts of mesosoma usually entirely black. In one specimen, metanotum with a pair of small transverse spots. All tarsi pale brown, each tibia with outer face yellow and inner face pale brown to brown. Underside of fore femur with two longitudinal yellow stripes. Yellow spots on T2 variable in size and shape, in one specimen these spots fused to form a transverse broad band, or almost completely lost in another. S2-4 each with a pair of transverse oval spots, these spots are fused or almost fused in each segment. Posterior segments of metasoma (T5-7 and S5-8) completely black.

Distribution: Japan (Honshu); Korea, Eastern Russia (south Primorye), Eastern China.

Specimens examined: *S. coma*: [Honshu] 1 ♂, 5. v. 2005, Koganegatake, Sanda, Hyogo Pref., H. Fukushima leg. (Fukushima collection); 1 ♂, 17. v. 2005, same locality, R. Matsumoto leg.; 1 ♀, 30. v. 2005, Arimafuji Park, Sanda, Hyogo Pref., K. Morimoto leg.; 15 ♀, 21. v. 2006, same locality, R. Matsumoto et al leg. [Korea] 2 ♀, 2. v. 2003, Odaesan, Pyeongchang-gun, Yeonggam-sa, P. Tripotin



Figs. 1-3: Head of *S. coma* in frontal view, female. 1: Japan, 2: Korea, 3: Russia



Figs. 4-5: Head of *S. coma* in frontal view, male. 4: Japan, 5: Russia

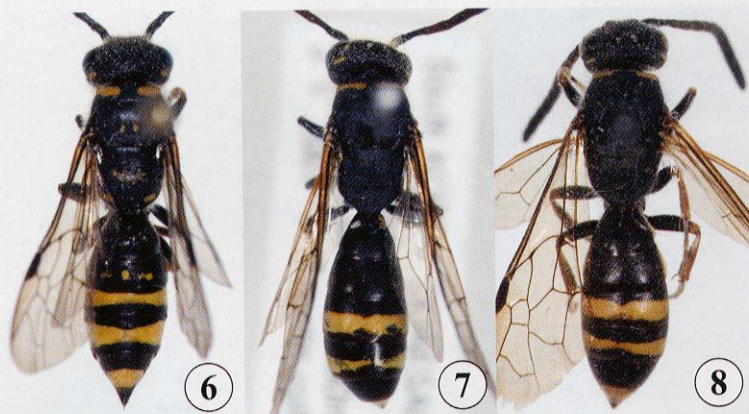
leg. (Tripotin collection); [Russia] 1 ♂ (reared from trap nest), 1998, Primorsky Territory, Lazovsky State Nature Reserve, Lazo settlement, Roman'kova leg.; 1 ♀, 8. vi. 1989, Primorsky Territory, Ussuriysk Reserve, Sidorenko leg. *S. similis*: [Russia] 1 ♂, 29. vi. 1976, Omolon river, 120 km lower Omolon settlement, Chukotka, Marshakov leg. (IBSS); 1 ♀, 26. iv. 1981, Primorsky Territory, Gornotajozhnaja Station, about 30 km SE Ussurijsk, on flowering *Salix* sp., Mutin leg. (IBSS).

Remarks: Judging from the original description of *S. coma* and the comparison with both the specimens of *S. coma* from Korea and Russian Far East and these of a closely related species, *S. similis* (Fabricius) from Russia, the Japanese specimens are identified as *S. coma*. However, the Japanese specimens differ from those of *S. coma* from Korea and Russia as follows (character states for Korean and Russian specimens are shown in parentheses): Female (Fig. 1). Clypeus with a pair of elongate yellow spots along its latero-dorsal edge (entirely black (Figs. 2-3)). Frons with a yellow triangular marking above the carina between antennal sockets, median part of the marking more or less black (black without yellow marking). A pair of yellow markings on pronotum much developed. Inner orbit above eye-emergination usually narrowly yellow (black). Second gastral tergite often with a dorsal small yellow spot which is sometimes accompanied with a pair of lateral spots (entirely black). Yellow marking on the apical sternite obscure (distinctly yellow). Male (Fig. 4). Frons often with a triangular yellow marking (black, without yellow mark (Fig. 5)). Outer face of mandibles almost black with a small yellow spot (black, without yellow mark). All tibiae mostly yellow with inner faces brownish (entirely black). Apical abdominal segment almost dark brown above and beneath (partly light colored).

Although, in the original description, the holotype is stated to be deposited in the Takeuchi collection which is now preserved in Osaka Prefecture University, the search for the type in the

collection was unsuccessful. Therefore, at present, the holotype of *S. coma* is missing.

Sapygid wasps are known to be cleptoparasites or ectoparasitoids of megachilid bees, especially members of the genera *Osmia* and *Chelostoma* (Gauld and Bolton, 1988, Brothers, 1993). At Arimafuji Park, the females were observed to fly around



Figs. 6-8: Female of *S. coma* in dorsal view. 6: Japan, 7: Korea, 8: Russia

reed tubes of a thatched roof, in which its probable host, *Osmia jacoti* Cockerell was nesting. Females were observed to hover above the reed tubes, with their abdomen slightly raised, searching for an opening of the tube to enter it. Although some females entered the tube, in most cases they quickly emerged. The other two males were captured at the top of a hill, to which they may have been blown by the wind from the foot of the hill.

As Japanese names, Yasumatsu and Sugihara (1938) proposed "Mikobachi-ka" for the family Sapygidae, "Hosomikobachi-zoku" for the genus *Sapyga* and "Chosen-hoso-mikobachi" for *S. coma*.

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