

TWO NEW SPECIES OF *CRABRO* FABRICIUS
(HYMENOPTERA, CRABRONIDAE) FROM JAPAN.*

By KUNIO IWATA.

Crabro (Crabro) furuichii sp. nov.

The species is allied to *Crabro (Crabro) nigratarsus* HERR.-SCHAEFFER which is widely distributed in Europe and North Asia although very rare, but it is easily distinguished from the latter in the following characters.

	<i>C. nigratarsus</i>	<i>C. furuichii</i>
1. Head	opaque	polished
2. Punctures of genae	dense, fine	sparse, fine
3. Punctures of frons and vertex	dense, fine	sparse, large
4. Punctures of meso- and metathorax above	dense (mat)	sparse (shining)
5. Scuto-scutellar groove	distinct	indistinct
6. Metapleura and lateral sides of propodeum.	longitudinally striate	polished
7. End-groove of pygidial area of female	short, straight	long, warped-up
8. Epipygidial bristles	short, sparse, yellow	long, dense, red

The species is entirely polished and only sparsely punctate, consequently somewhat resembling the members of *Cuphopterus* A. MORAWITZ, but it belongs to the *nigratarsus* group. The maxillary and labial palpi are 6- and 4-jointed respectively.

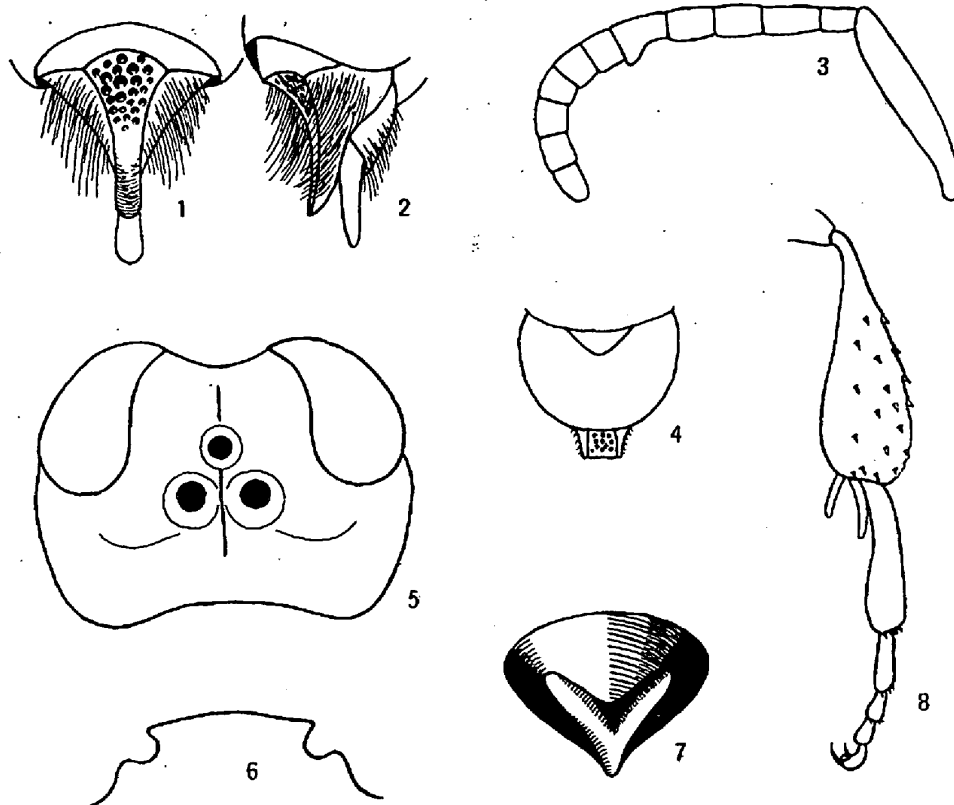
The species is respectfully dedicated to my late friend, Mr. TATSUBO FURUICHI, who was an excellent mountaineer.

Female. Length; body 12 mm., fore wing 9 mm.

Head wider than thorax, two thirds as wide as long at its dorsal aspect, strongly polished; frons before the anterior ocellus somewhat with dense, large punctures and short brown hairs;

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vertex shining, impunctate, POL: OOL = 2:3; genae polished, sparsely with fine punctures from which grow fine white hairs; clypeus dense silvery pile, its anterior margin similar to that of *C. nigritarsus*; scape of antennae three times as long as the distance between eyes at the antennal base, first segment of flagellum $2\frac{1}{2}$ times as long as the width at the end. Thorax entirely polished, bearing brown or gray hairs, with sparse, indistinct punctures excepting mesonotum and episterna; pronotum with rounded shoulder; scutoprescutum with large pun-



1. Dorsal aspect of the pygidial area of the female of *Crabro (Crabro) furuichii* sp. nov.
2. Dorso-lateral aspect of the same.
3. Sinistral antenna of the male of the same species.
4. Dorsal aspect of the epipygium of the same.
5. Head of the female of *Crabro (Coelocrabro) shibuyai* sp. nov., seen from above.
6. Anterior margin of the clypeus of the same.
7. Dorsal aspect of the epipygium of the same.
8. Sinistral hind tibia and tarsus of the same.

ctures and few longitudinal wrinkles, anteriorly with a mesal carina, posteriorly before scutellum finely frilled and in the same level with scutellum, consequently not forming a normal transverse groove or scuto-scutellar groove; scutellum large and its anterior margin round, polished cephalad and densely punctured caudad; metanotum and area dorsalis densely and indistinctly punctate although shining; mesopleura shining and with sparse, large punctures; metapleura, lateral and caudal surfaces of propodeum strongly polished; area dorsalis encircled by short carinae; median groove of propodeum shallow, deepest at the caudal surface. Legs shining and bearing gray hairs, those of the underside of coxae, trochanters and femora long; fore- and middle-tibiae with one short and hind-tibiae with two long apical spurs; middle- and hind-tibiae with short spines on their outer surface. Abdomen polished, sparse, indistinct fine punctures and gray hairs; caudal margin of 5th tergite and lateral surface of pygidial area bearing dense, long coppery coloured bristles; pygidial area very narrowly grooved and warped up dorsad; second sternite with a distinct mat area on both sides. Black; underside of scape, a part of mandibles, small spots on shoulders (sometimes absent), lateral marks on the second and third abdominal segments, small spots on outer side of fore- and hind-tibiae chrome-yellow; apical spurs and wing veins brown.

Male. Length; body 9 mm., fore wing 7 mm.

Closely resembling the female. Antennae 12-jointed, first segment of flagellum $2\frac{1}{2}$ times as long as the width at the end, underside of fourth segment of flagellum narrowed proximad and widened at its distal end. Epipygium with two parallel short ridges caudad, forming a pygidial area. Black; underside of scapes and lateral marks on the second, third and fourth abdominal tergites chrome-yellow; spurs and nervures brown.

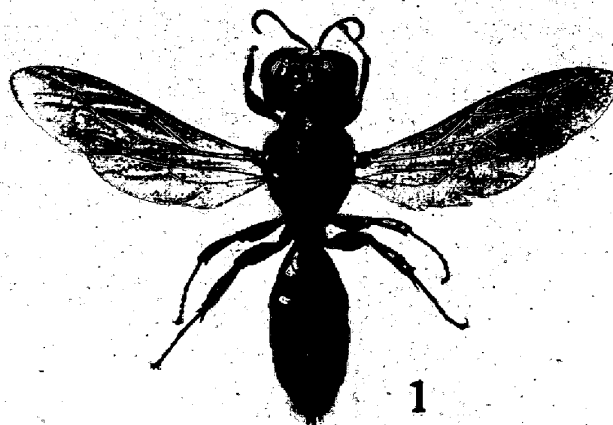
Holotype:—One female; Mt. Hachifuse (600 m. high), Todoromi, Settsu, Honshu; June 19, 1931; collected by the author.

Allotopotype:—One male; collected with the above female in pair.

Paratype:—One female; Takayama (400 m. high), near the above mountain; October 4, 1933; collected by Mr. K. SHIBUYA.

Crabro (Coelocrabro) shibuyai sp. nov.

The species is related most to the widely distributed European species, *Crabro (Coelocrabro) podagricus* v. D. LINDEN, but it is distinguished from the latter in the following points.



1. Female of *Crabro (Crabro) fusuichii* sp. nov.
2. Female of *Crabro (Coelocrabro) shibuyai* sp. nov.

	<i>C. podagricus</i>	<i>C. shibuyai</i>
1. Scuto-scutellar suture	notched	not notched
2. Area dorsalis of propodeum	encircled by notched groove	bordered only by sculptural difference
3. Median impressed line of area dorsalis	distinct	indistinct
4. Lateral surface of propodeum	longitudinally striate	with fine network
5. Hind-tibiae	entirely black	black, with a yellow basal ring

The species belongs to the *Coelocrabro* group whose epipygium has a shallow groove of clover-leaf form at its caudal end. This is gratefully dedicated to Mr. K. SHIBUYA.

Female. Length; body 5.5 mm., fore wing 4 mm.

Head slightly wider than thorax, almost square seen from above, polished and somewhat opaque due to very fine network on the surface; clypeus black and covered with silvery pile, swollen in the middle, its prominent middle plate truncated anteriorly and with a lateral tooth as in the female of *C. podagricus* v. D. LINDEN and *tirolensis* KOHL; frons swelling before ocelli, distance between eyes at the antennal base half the length of scape; vertex wide and its width just before posterior ocelli larger than the half of the head width (9:8), POL:OOL = 2:3, vertex and caudal portion of frons very sparse, with fine punctures and with a distinct mesal line; genae and caudal portion of vertex somewhat densely punctate; mandibles bifid and with a tooth at the middle of their inner margin; first segment of flagella $1\frac{3}{4}$ times as long as the width at the end. Thorax $1\frac{2}{3}$ times as long as the width at the middle; pronotum with round shoulder; scutoprescutum longer than the twice of scutellum (5:2), half mat due to distinct minute network pattern and with sparse, fine punctures, cephalo-mesal and short parapsidal lines present; scutellum rectangular (length: width = 3:4), also with minute network and dense fine punctures; episternal groove notched, mesopleura polished indistinctly with minute network and sparsely with fine punctures; mesosternum

half mat due to fine network and dense punctures, before mesocoxae with a remarkable process; propodeum anteriorly behind metanotum with several short carinae; heart-shaped area dorsalis shining and very finely obliquely striate, bordered by sculptural difference from the other portion instead of encircling notched groove; caudal surface with a mesal groove diverging cephalad, densely punctate and somewhat transversely wrinkled; metapleura and lateral sides of propodeum polished impunctate, the former with feeble, fine longitudinal striae and the latter anteriorly with fine network and posteriorly with indistinct longitudinal striae. Abdomen shining impunctate, first sternite longer than the width at the caudal end (4:3), epipygium with a shallow groove of clover-leaf form as in *C. podagricus* and *tirolensis*, which is finely patterned in network. Wings hyaline, cubital cell of the fore wings receiving recurrent nervure a little behind the middle of cubital nervure. Hind-tibiae remarkably club-shaped (length: maximum width = 3:1) and bearing short thorns on their outer surface, metatarsus of hind legs broad. Black; scape except upperside, spots on shoulders, posterior lobes of pronotum covering first spiracles, tarsi and tibiae of fore- and middle- legs excepting the underside of tibiae; basal ring of hind-tibiae and apical spurs chrome-yellow; wing veins and stigmas dark brown.

Holotype:—One female; Serifu (600 m. high), Kitakuwata, Tamba, Honshu; June 11, 1933; collected by Mr. K. SHIBUYA.

Paratopotypes:—10 females; June 14, 1933; collected by Mr. K. OKAZAKI and the author.

The holotypes of the above species are deposited in the Entomological Laboratory, Kyoto Imperial University, Japan.

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(昭和8年11月4日受領)