

19726

# *Etizenia*

---

*Occasional Publication of the Biological Laboratory  
Fukui University, Japan*

---

No. 59.

ON SOME SPECIES OF THE JAPANESE SPHECIDAE (HYM.)  
NOTES AND DESCRIPTIONS

By K. TSUNEKI  
(Biological Laboratory, Fukui University)

MAY 15, 1972

ON SOME SPECIES OF THE JAPANESE SPHECIDAE (HYM.)  
NOTES AND DESCRIPTIONS\*

By K. TSUNEKI  
(Biological Laboratory, Fukui University)

1. *Sceliphron* (*Sceliphron*) *deforme nipponicum* ssp. nov.  
(A correction to Etizenia No. 58)

"Subsp. *japonicum* Gribodo, 1882 (= *japonicum* Perez, 1905)", in the top line of page 7 of Etizenia No. 58 (1971) should be replaced with "Subsp. *nipponicum* nov." and the paragraph should be changed as follows:

**Subsp. *nipponicum* ssp. nov.**

Beim ~~Männchen~~ dieser Unterart ist die Zeichnung: Gelb sind ein Fleck auf dem Kopfschild, Vorderseite der Fühlerschäfte mit Ausnahme des in der mitte breit ausgedehnten dunkelbräunlichen Makels, eine schmale, in der Mitte unterbrochene Binde auf dem Collare, ein Makel auf den Mesopleuren hinter Schulterbeulen, ein Fleck auf dem Schildchen, eine schmale  $\Delta$ -förmige Zeichnung auf der Hinterwand des Mittelsegmentes über die Einlenkung des Hinterleibsstiels, ein Querfleck mitten am Ende des 1. Tergites (an den Seinten bräunlich), die schmale, nicht zum Seitenende reichende, oft ein- oder zweimal unterbrochene Binde auf den Tergiten 4 und 5 und eine sehr schmale Längslinie auf den Vorder- und Mittelschienen (die auf Mittelbeinen sehr kurz).

Holotypus: ♀, die Provinz Fukui (Iwaya), 8. VIII. 1967, K. Tsuneki leg.

Paratypen: 10 ♀ 10 ♂, die Provinz Fukui (Iwaya, Arashi, Hatogayu und Koike), VII-VIII. 1963-67, K. Tsuneki leg.

2. On the variation of *Nysson spinosus malaisei* Gussakovskij

*Nysson malaisei* Gussakovskij, Art. f. Zool., 24 A, 10: 3, 1932 (the Ussuri region).

*Nysson malaisei*: Yasumatsu, Trans. Sapporo Nat. Hist. Soc., 15 (3): 195, 1938 (Japan); Icon.

Ins. Jap., II, p. 1469, 1950 (Japan).

*Nysson spinosus malaisei*: Tsuneki, Etizenia, 6: 1, 1964 (Japan).

The East-Asiatic specimens of *Nysson spinosus* differs from the typical form in that the legs are largely black, flagellar joints of antennae are slightly longer and the body is somewhat larger (length usually 10-12 mm).

Recently I could have a chance of examining an exceptionally small female example (7.5 mm) captured in Yamanashi Prefecture by Mr. H. Suda and found the following deviation of characters on the specimen:

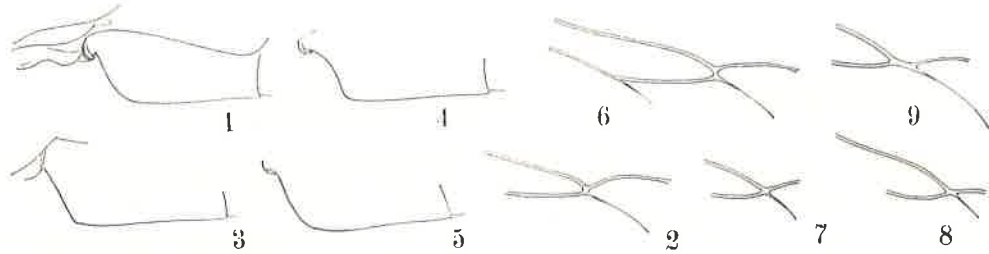
(1) Sternite 2 in profile not acutely angulated at base (Fig. 1).

(2) Transverse anal vein of the hind wing is directly connected with the cubital vein (Fig. 2).

In regard to these characters I reexamined the specimens in my cabinet and found that both the characters concerned here were more or less varied among them (Figs. 3-9). Especially the variation was marked with respect to the venation of the hind wing (Figs. 2, 6-9). In 1 ♀ 2 ♂♂ collected in Fukui Prefecture the anal cell ended considerably far before the origin of the cubital vein (Fig. 9), while in 1 ♀ captured at the

\* Contribution No. 164 from the Biological Laboratory, Fukui University, Japan.

foot of Mt. Haku it reached somewhat beyond the origin of the vein (Fig. 6). However, in other characters including the maculation of the abdomen there was no significant deviation among them.



Figs. 1-9, Variation in *Nysson spinosus malaisei* Gussakovskij.  
1, 3-5: Second sternite in profile. 2, 6-9: Connection of transverse anal vein and cubital vein of hind wing.

### 3. On the status of the common Japanese *Bembecinus*

With respect to the common Japanese *Bembecinus* I made a considerably detailed study on the variation of characters (Etizenia, 8, 1965). As a result I placed it within the specific category of *B. hungaricus*, in consistent with the opinion of Dr. W. J. Pulawski (Polsk. Pism. Ent., 27 (20): 168, 1958) and divided it into two geographic races, *B. h. japonicus* and *B. h. amamiensis*. Later (1967, 68) I found *B. formosanus* (Sonan), occurring in Formosa, the Ryukyus and Korea to be another subspecies of *B. hungaricus* and altered its status.

These East-Asiatic representatives of *Bembecinus* having the shortly petiolated 2nd cubital cell are certainly in many characters well consistent with the European *B. hungaricus*. That the colour patterns become gradually less developed as the locality of the specimens goes northwards is also similar. I placed, however, the subspecific basis of our specimens mainly upon the particular maculation of the body (in some case with the slight difference in morphology).

Recently, in connection with the revisional study of the Formosan as well as the Ryukyu specimens of the genus I have reexamined the specimens of the 4 Japanese main Islands and could disclose the fact that the East-Asiatic forms of *Bembecinus* that were attributed to *B. hungaricus* were distinctly different from the European form of this species in the antennal, as well as the clypeal, characters:

(1) In the male the ratio of the minimum interocular distance at the base of the clypeus to the length of the clypeus is in 3 Spanish specimens: 1.19~1.27. In *japonicus* 1.00~1.18, that is to say, in *japonicus* the clypeus is relatively longer. The same relation is also the case in *amamiensis* and *formosanus*.

(2) Relative length of antennal joints 3-7 as against the width at each apex (seen from above):

Antennal joint	<i>B. h. hungaricus</i>		<i>B. h. japonicus</i>	
	♂	♀	♂	♀
3	2.2	2.3	2.6	2.6
4	1.4	1.7	1.8	1.8
5	1.2	1.3	1.6	1.5
6	1.0	1.1	1.4	1.3
7	0.8	0.8	1.2	1.0

The result shows that the antennal joints is distinctly longer in *japonicus* than in *hungaricus*. The same is also true with the two other subspecies.

On the other hand, I could have examined two female specimens of *B. h. sibiricus* (Mocsáry), one from Outer Mongolia and one from Inner Mongolia. In both the relative length of the antennal joints is almost similar to that of the European form (joints 3-7 respectively 2.3, 1.6-1.7, 1.4-1.5, 1.1, 0.8-0.9).

I further had a chance of describing a Manchurian subspecies of *B. hungaricus* (*B. h. verhoeffi*), but in those days I did not pay attention to this antennal character.

I have a female specimen of *B. cyanescens* Radoszkovsky from Peking that differs from *B. hungaricus* almost only by the quadrangular 2nd cubital cell. In this specimen the length ratio of antennal joints 3-7 is respectively 2.5, 1.9, 1.6, 1.3 and 1.0, that is to say, in this respect it belongs to the *japonicus*-type. In other word, *B. cyanescens* of Peking is more closely related to *formosanus* than *hungaricus*.

In connection with the problem I reexamined the Korean form of *formosanus* collected by myself in Seoul (3 ♀♀ 1 ♂) and confirmed that the antennal character of these specimens was the same as in the Formosan specimens, namely, the ratio of joints 3-7 was respectively 2.7, 1.9, 1.5, 1.3 and 1.0 (♀♀).

According to the result there is a distinct discontinuation or fault between the Mongolian and the East-Asiatic forms of *B. hungaricus* in this regard.

With respect to the form of the male clypeus and the relative length of the antennal joints in both sexes quite a similar relation is present between *B. bimaculatus* of the Ryukyus and *B. tridens tridens* of Europe. Certainly I once placed the former under the specific range of the latter. But now, I am inclining to consider that species to be distinct from this. Similarly I am inclining to consider the East-Asiatic forms of *Bembecinus* having the shortly petiolated 2nd cubital cell as distinct from the European *hungaricus*, because the antennal character is more stable than the form of the 2nd cubital cell.

To settle the problem, however, the phylogenetic investigation of our group of *Bembecinus* dealt with here as to whether they are the Palaearctic derivatives or the Oriental ones is required. In order to confirm the former route the study of the specimens from Manchuria and North China will be necessary and to search for the latter route the investigation of the Oriental forms is needed. It is regret that no mention was made by the previous authors who have dealt with the Oriental *Bembecinus* regarding the venation of the wings.

#### 4. The male of *Gorytes* (s. str.) *fulvohirtus* Tsuneki, 1963

*Gorytes* (s. str.) *fulvohirtus* Tsuneki, Etizenia, 1: 11, 1963 (♀).

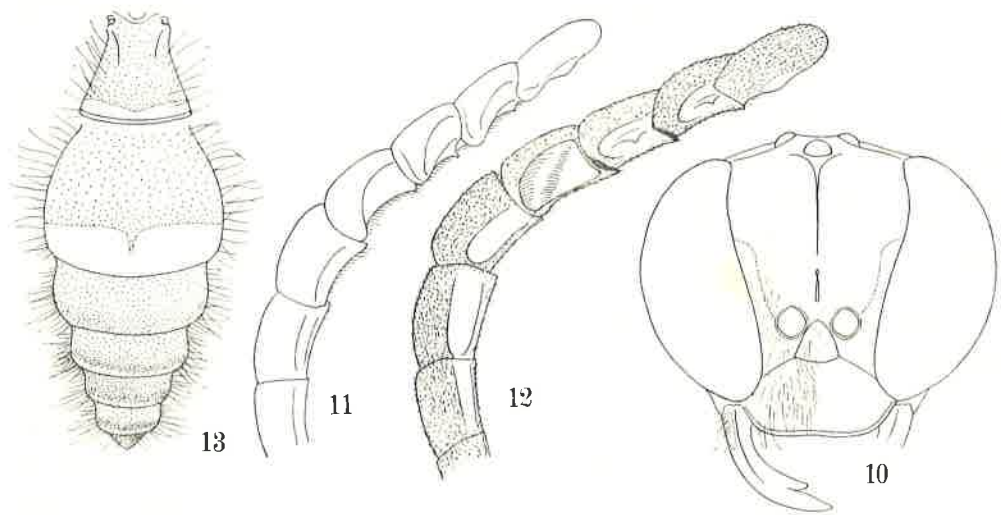
Recently I could capture 17 specimens of the hitherto unknown male of this species in the valley of Arashi, Fukui Prefecture.

♂. Length 9.5-10.5 mm. Very similar to ♀, but the head seen in front with the inner orbits of eyes slightly more strongly convergent towards clypeus, with the triangular supraclypeal area larger (Fig. 10), mandibles bidentate at apex (do.), antennal segments at the apical portion strongly modified (Figs. 11 and 12) and the abdomen distinctly slenderer and without the pygidial area (Fig. 13).

Maculation on the body generally as in ♀, but on head more distinctly outlined and cream yellow in colour; besides the labrum, antennal scape in front, palpi except basal



2 joints yellow; on thorax lateral margins of mesonotum more extensively yellowish, but the legs are more broadly blackish brown (yellow or ferruginous yellow are the articulations of segments, apical portions of femora more or less, tibiae in front and on inner side — in fore legs bright yellow — and tarsi of fore and middle legs partly in front, remaining portions brown to brownish black). Antennae dark brown, beneath somewhat paler, sometimes joints 2 and 3 beneath partly yellowish. Wings hyaline, with anterior marginal area pale brown, slightly darker on radial cell, stigma ferruginous and veins brown. Hair on lower frons, clypeus, sides of thorax and femora of legs silvery, on dorsal side of the body ferruginous, comparatively long and moderately abundant, those on abdomen from tergite 3 apically brown to dark brown.



Figs. 10-13. *Gorytes fulvohirtus* Tsuneki, ♂.

10: Head, 11: Apical portion of antenna in lateral view. 12: Do., ventral view. 13: Abdomen.

Head from above with vertex apparently roundly produced posteriorly, because of the sudden inclination of the upper temples, OOD : POD = 8 : 10, ocelli in a low isosceles triangle, ocellar area enclosed by 3 incomplete furrows; head seen in front: Fig. 10, frontal furrow not strong, supraantennal area longitudinally carinate in middle, clypeus gently roundly raised; head in profile with occipital carina running subparallel with the outer orbit of eye (very slightly convergent below), with temple about two thirds the width of the eye, antennal joint 3 approximately 4 times as long as wide at apex, joints 7-13 more or less modified, 7 and 8 with a glabrous polished area, on 9 the area slightly hollowed and on 10 markedly excavated, on 11-12 the excavation slight, but each with a distinct longitudinal ridge which is topped by a prominent tooth (Figs. 11 and 12), the ultimate joint almost without excavation, but with a tyloideum (do.). Structure of the thorax and propodeum as in ♀, mesonotum with 4 short grooves anteriorly, on mesopleuron below the longitudinal carina broadly disappeared in middle, area dorsalis longitudinally, distinctly, rather coarsely striate. Abdomen: Fig. 13 (each segment was separately seen from above), legs and venation as in ♀.

In punctuation also similar to ♀. On vertex punctures gross but very sparse, posteriorly much sparser, on upper frons punctures irregular in size, not formally dupli-punctate, fairly close, all bearing a hair, mesonotum moderately sparsely punctured with medium-sized hair-bearing punctures, on mesopleuron punctures finer and sparser, propodeum except area dorsalis more grossly and more closely punctured than mesonotum, but the areas in front of the stigmatal furrows without puncture, punctures on tergite 1 basally rather coarse and somewhat close and apically fine and sparse, on tergite 2 finer and sparser, on 3 apically slightly larger and closer, all bearing a long hair, at the anterior constricted part which is in the usual posture of the wasp inserted beneath the preceding tergite the segments without puncture and glabrous; sternite 2 very coarsely punctured, sternites 3-7 at base very minutely and delicately sculptured and on apical portion finely and very closely punctured.

*Material*: 17 ♂♂, Fukui Pref. (Arashi, about 800 m, 26. VIII. 1970; 27, 29. VIII. 1971), K. Tsuneki leg.

*Remarks*. The wasp illustrated in Iconographia Insectorum Japonicorum Colore Naturali Edita, Vol. III (1965) with Pl. 751, Fig. 1, under the name, *Gorytes sinensis* Yasumatsu, is apparently very close to my *G. fulvohirtus*. According to the original description of *Gorytes (Ammatomus) sinensis* Yasumatsu, 1943 (Notes Ent. Chin., Vol. 10, No. 1, pp. 6-9), however, both the species are considered to be different from each other. In *G. sinensis*, ♂ "the first abdominal tergite . . . , its apex about three-times as broad as its base". In *fulvohirtus* the apex is only about twice as broad as its base. Still further, the colour of the legs is considerably different from, and the structure of the antennae and mesonotum is also inconsistent with, each other. In *sinensis* ♂ the legs are brownish black, while in *fulvohirtus* fairly extensively brightly maculated: All femora on apical portion ferruginous (about a half in fore legs and a third in mid and hind legs) and in fore femora, besides, accompanied with two yellow spots; all tibiae in front broadly yellow (in hind legs more or less brownish), greater part of the fore tarsi whitish yellow and mid tibiae also with more or less yellowish or light-brownish maculae. As to the antennal joints (in the length proportion almost consistent), in *sinensis* ♂ "tenth to thirteenth segments somewhat excavated on one side, the excavation of tenth segment very prominent", in *fulvohirtus*, however, the excavation more broadly extended and joints 11-13 ridged and toothed. In *sinensis* ♂ mesonotum with two pairs of longitudinal impressed lines on the anterior margin and its sides distinctly impressed, this is, however, not the case with *fulvohirtus*.

The female of *G. sinensis* differs from *G. fulvohirtus* markedly in colour: Ferruginous are "antennae, clypeus, tegulae, the side of the first abdominal segment, posterior margin (very narrow) of the third to fifth segments, sixth segment except the base". According to this it lacks the yellowish band on the 2nd tergite. No mention was made regarding the form of the 1st tergite.

##### 5. On *Trypoxylon ambiguum* Tsuneki, 1956.

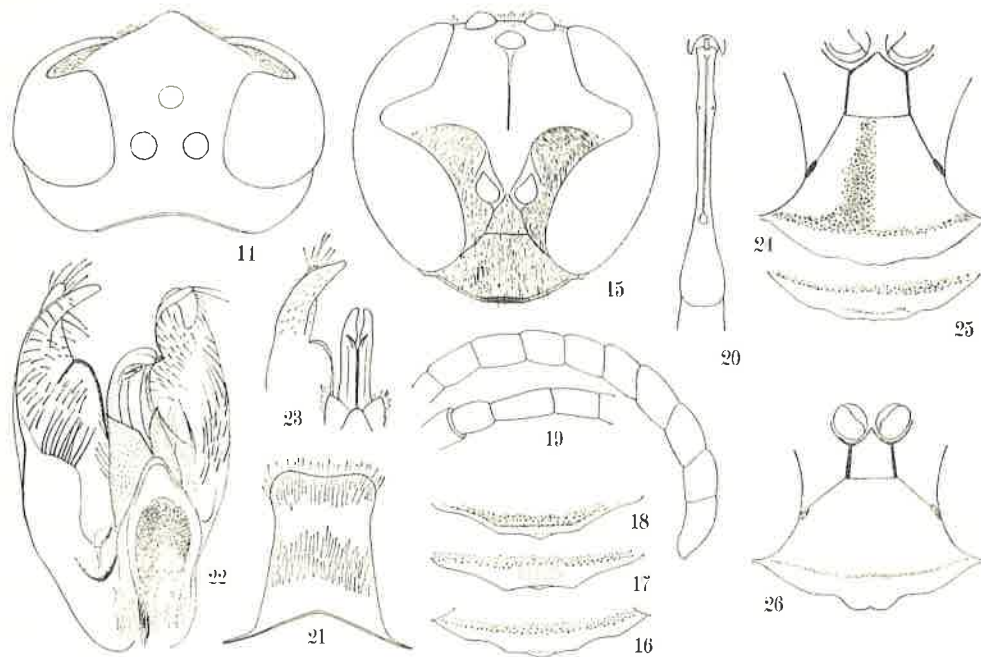
This species (based on the male only) was so closely allied to *T. imayoshii* Yasumatsu that at the moment of my description I could not be free from doubt as to whether it was distinctly a valid species or it was an aberration of this species. Later, however, I have collected a fair number of specimens of both sexes and the study of them made it possible to determine that it was no doubt different from *T. imayoshii*.

As my first description was rather simple, on this occasion of recording the female I redescribed the male characters also and attempted a comparison of both sexes of the two species concerned.

♂. Length 5.5–6.5 mm. Black; mandibles semitransparent ferruginous, apically feebly brownish, anterior margin of clypeus in some population very narrowly and in others comparatively broadly ferruginous (Figs. 16, 17, and 18), apices of antennal joints 1 and 2 dark ferruginous; ferruginous part of legs all semitransparent, rather close to ambur-colour: apices of fore and hind coxae, greater part of middle coxae, all trochanters wholly, base and apex of all femora (sometimes fore femora wholly), fore and middle tibiae wholly and broad basal ring of hind tibiae together with the apical spurs; palpi, fore tarsi wholly and middle metatarsi pale yellowish white, also somewhat semitransparent, apical 4 blackish joints of middle tarsi very striking, hind tarsi basally beneath somewhat brownish; tegulae and basal plates of wings dark brown, posteriorly slightly paler; wings hyaline, as a whole weakly darkened, stigma and veins brownish black. Lower frons, clypeus, temples, mesopleuron and posterior inclination of propodeum densely covered with appressed silvery pubescence, hair on upper frons, vertex, mesonotum shorter, sparser and whitish, area dorsalis almost completely glabrous; the hair on head is so dense that, seen from above, the outline of the frons and temples can not clearly be observed.

Head from above: Fig. 14, OOD : POD = 1 : 2, postocellar width relatively 3, ocelli in an equilateral triangle, anterior ocellus slightly smaller than the others; head seen in front: Fig. 15, interocular distance at vertex and at base of clypeus relatively 5 : 4, the width between the ends of eye incisions relatively 12 (width of head 15.5), antennal hollows appearing obliquely lengthened, because of the elevation of inner upper margin, WAS transversely measured equal to OAD, but IAD smaller than this, supra-antennal elevation not nose-shaped, gently roundly tuberculate and with a short carina on top, a short distance from the lower end of the tubercle; clypeus medianly longitudinally broadly raised and laterally gently inclined, but more gently so than in *T. koikense*, its anterior margin: Figs. 16, 17, 18, more or less varied in form, but always the medio-anterior part subtruncate and beveled anteriorly, with a blunt tooth in middle, maxillary palpi markedly long and slender, antennal joint 3 approximately 2.3 times as long as wide at apex, joint 4 about 1.5–1.7 times so, ultimate joint: Fig. 19, very weakly bent, rather shorter than usual, only slightly longer than penultimate joint and distinctly shorter than 2 preceding joints united, very remarkable is that joints 10–12 longer than joint 9. Collar of pronotum comparatively long, with lateral angles rounded, with anterior margin very gently rounded out and with a minute median tubercle, mesonotum medianly longitudinally weakly impressed as in *T. imayoshii*, with posterior margin crenate; area dorsalis on propodeum distinctly marked off by the narrow, weakly crenulated grooves and medianly longitudinally impressed, the impressed area posteriorly markedly broadened, posterior inclination medianly above broadly impressed, lateral carinae arise near the end of the segment and stretched forwards to the stigmata; abdominal segment 1 long, narrow, subparallel, and only at the posterior portion swollen (Fig. 20), the slender part medianly finely but distinctly grooved, the segment about 5 times as long as broad at apex and slightly more than as long as 3 following tergites united, in lateral view distinctly constricted at apex; 8th sternite: Fig. 21, genitalia: Fig. 22, paramere bifurcate at apex; basiparamere roundly concaved or rolled on the inside, the inner margin of

the rolled part somewhat incrassate and brownish (the same figure, left half), basal appendages behind the basal ring (Fig. 22) with a fringe of hair on outer margin, penis with a pair of sickle-shaped appendages before apex, the appendages not produced sideways as usual, but obliquely produced towards apex (3 specimens examined). Legs slender and long as in most long-petiolated species, each segment longer than in the species having the short abdominal segment 1, venation of wings normal, radial cell ended far before apical margin and transverse cubital vein equal in length to the cubital vein beyond the adjoining point of the recurrent vein.



Figs. 14-26. 14-25. *Trypoxylon ambiguum* Tsuneki, 14-23...♂, 24-25...♀.  
26. *Trypoxylon imayoshii* Yasumatsu, ♀. 14, 15: Head. 16-18, 25: Anterior margin of clypeus. 19: Antenna. 20: Abdominal segment 1. 21: Sternite 8. 22: Genitalia obliquely from beneath. 23: Apical portion of paramere and penis from beneath. 24 and 26: Clypeus.

Upper frons distinctly, moderately closely punctured, with interspaces slightly smaller than punctures, the punctures connected with each other by the very fine impressed lines, vertex similarly, but more sparsely and weakly sculptured, clypeus closely punctured, the punctures transversely arranged and in some direction the clypeus appears transversely punctate-striate; mesonotum as on upper frons punctured and coriaceous, but somewhat less strongly so, mesopleuron finely, sparsely, rather weakly punctured, the punctuation is not well visible owing to the dense appressed pubescence, the medial broad shallow furrow on area dorsalis transversely striate, the striae posteriorly sparser and weaker, disc at base obliquely, then gradually transversely striate, the striae sometimes on anterior portion and sometimes on posterior portion markedly weaker, posterior inclination with a few strong, transverse, somewhat arcuately curved striae, sides of the segment smooth and polished, under high power with faint oblique striae on



anterior portion; petiole of abdomen anteriorly weakly microcoriaceous, not shining, from tergite 2 apically as usual fairly closely covered with fine, hair-bearing punctures.

♀ (hitherto undescribed). Length 5.5-6.5 mm. Very similar to ♂, differing in the following points (except for the sexual characters):

(1) In colour more richly ferruginous. Antennal joints 1 and 2 beneath, greater part of coxae (hind coxae above brownish), all trochanters, femora and tibiae of fore and middle legs, fore tarsi wholly, mid metatarsi, base and apex of hind femora and basal 3rd of hind tibiae ferruginous, otherwise as in ♂, in some specimens, however, middle femora above partly brown.

(2) Clypeus with anterior margin roundly produced anteriorly, without the median tooth (Figs. 24, 25).

(3) Flagellar joints of antennae except the ultimate joints longer, 3rd joint 3.8 times, 4th thrice as long as wide at apex.

Ratio of IODs at vertex and at base of clypeus as in ♂, sculpture also similar.

*Specimens examined*: 3 ♂, Fukui Pref. (2 ♂, Ohno, 18. VI. 1954; 1 ♂, Aobasan, 27. VII. 1971); 2 ♂ 8 ♀, Toyama City, Toyama Pref., 27. VII. 1971, all leg. K. Tsuneki.

*Remarks*. According to the detailed comparison the present species can be separated from *T. imayoshii* (its character is given within parenthesis) by the following distinctions:

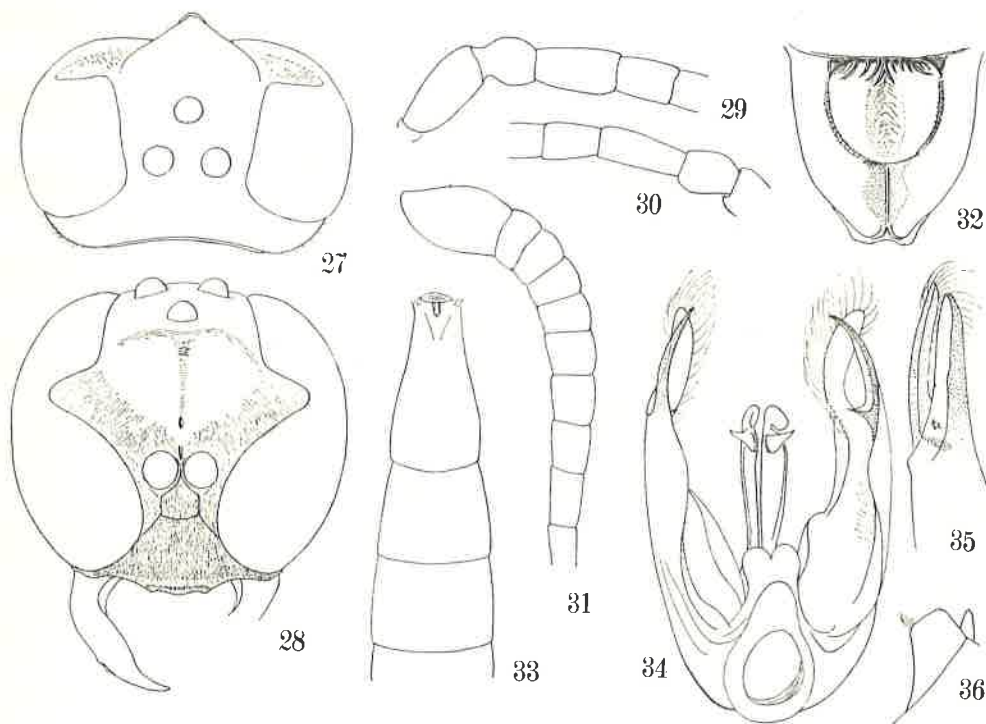
♂. Ultimate antennal joint only slightly more than as long as the preceding joint (more than as long as 2, but less than 3 preceding joints united), parapsidal suture in a fine impressed line (in a fine keel), sculpture on mesonotum somewhat stronger, clypeus longer, ratio of minimum interocular width at base of clypeus and the length in middle of clypeus 1 : 1 (3 : 2), supra-antennal area also longer, ratio of width at anterior margin to length in middle approximately 1 : 1 (3 : 2).

♀. Clypeus in the form of anterior margin and in the relative length dissimilar (Fig. 24, cf. Fig. 26), frontal incassation medianly very feebly impressed, only distinctly so before anterior ocellus (broadly distinctly furrowed, the surface gently inclined towards middle), supra-antennal tubercle comparatively slightly lower, median furrow on mesonotum weaker, collar of pronotum seen vertically from above with anterior margin not emarginate, rather slightly rounded out, with sides not so distinctly roundly swollen (with anterior margin gently roundly emarginate, as a result median area narrowed and the sides more strongly roundly swollen), all trochanters and fore legs except base of coxae completely ferruginous (all trochanters above with a single exception from Utsunomiya vaguely brown maculated, fore femora more or less brownish, usually considerably broadly dark brown) and generally smaller in body size, 5.5-6.5 mm. (larger, 6.5-10.0 mm). As to relative length of antennal joints, finely impressed parapsidal sutures, crenulated posterior margin of mesonotum, sculpture of bodily parts and structure of abdomen including petiole no difference can be observed.

The female specimens used in the present investigation were all collected in the suburbs of Toyama, together with the males, and the males are more brightly coloured than those collected in Fukui Prefecture. When the females are collected in future from other regions, therefore, it seems possible that they are more broadly dark maculated than those dealt with here.

6. *Trypoxylon kodamanum* sp. nov.

This species belongs to the group of *T. varipes* Pérez and the male resembles somewhat *T. nambui* of Japan and the female very closely so *T. chihpense* known from Formosa (♀ alone), but differs distinctly from either of the species as given below regarding the respective sex.

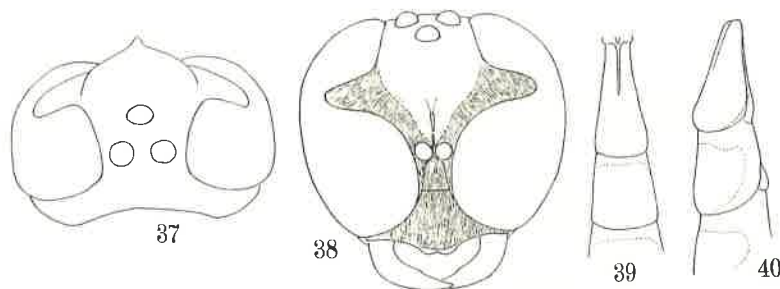


Figs. 27-36. *Trypoxylon kodamanum* Tsuneki, sp. nov., ♂.

27, 28: Head. 29-31: Antenna (29=widest view, 30=narrowest view). 32: Propodeum. 33: Basal portion of abdomen. 34: Genitalia from beneath. 35: Apical portion of paramere. 36: Basal appendages in lateral view.

♂. Length 5.3 mm, differs from *T. nambui* in the form of the clypeus, in the disposition of the ocelli and in the structure of the genital organs. Black; mandibles except reddish brown apex, anterior margin of clypeus (Fig. 28), antennal joint 1 wholly, 2 beneath and at apex and bases of wings ferruginous yellow; palpi and fore and middle legs except the greater part of coxae slightly semitransparent yellowish white, the said legs with femora above partly somewhat ferruginous and with pulvilli black, but the tibial spurs not darkened; apex of coxae, trochanters wholly, both ends of femora and base of tibiae of hind legs also yellowish white, remaining parts of femora and tibiae except inside dark brown, tarsi pale yellowish ferruginous, each joint partly paler, pulvilli black; antennal flagella dark brown, basally paler, beneath ferruginous, apically darkened; wing tegulae transparent brown; base of abdominal tergites 1, 2 and 3, sides of 1 and 2, and base of sternite 3 ferruginous red (possibly with variation). Wings hyaline, apical margin slightly clouded, stigma lustreless brownish black, veins dark brown.

Head from above: Fig. 27, ocelli in an exact equilateral triangle (in closely resembling *T. nambui* slightly low), anterior ocellus somewhat smaller, OOD : POD  $\div$  3 : 5, postocellus as wide as POD, head seen in front: Fig. 28, rather nearer to quadrate in form, frontal incassation distinct, with a weak median impressed line, supra-antennal tubercle somewhat nose-shaped, not strongly high, with an obtuse and less distinct carina on top, the carina short, upwards soon replaced by a longitudinal impression and continued to the weak frontal furrow, OAD slightly less than half as great as the width of antennal hollow, supra-clypeal area with lateral margins distinctly shorter than its anterior margin, clypeus (Fig. 28) with disc bluntly raised towards median line and with anterior margin bluntly tridentate in middle, the dentate part much broader and the teeth more obtuse than in *nambui*; head in profile with temple a third as wide as eye, with posterior margin nearly parallel to the outer orbit; antenna: Figs. 29, 30 and 31, joint 3 in the widest view twice (Fig. 29,) in the narrowest view about 2.5 times as long as wide at apex (Fig. 30), any joint without excavation beneath, ultimate joint as long as 3 preceding joints taken together (Fig. 31). Collar of pronotum with sides rounded, with a transverse furrow before middle, the anterior margin rather keel-like, the posterior part discoloured, appearing pale brownish. Area dorsalis on propodeum: Fig. 32, abdominal segments 1, 2 and 3: Fig. 33, genitalia seen from beneath: Fig. 34, paramere bifurcate at apex, upper arm somewhat lobiform, fringed on the inner margin with long hair, lower arm with the lower half distinctly chitinized, while the upper half transparent, membraneous and likely to be overlooked, the chitinized part with a dentate process at the base which appears to be free at the apex (as in some species), but in reality it is completely inlaid in the membraneous arm (Fig. 35, tr.), basiparamere slightly rolled at the inside, basal processes seen from beneath with apices rounded, but in the lateral view quadrangular and with a small tuft of hair (Fig. 36).



Figs. 37-40. *Trypoxylon kodamanum* Tsuneki, sp. nov., ♀.  
37-38: Head, 39-40: Basal portion of abdomen (40=lateral view).

Punctures on frons fine, with interspaces as wide as, or a little greater than the punctures and microcoriaceous, punctures on vertex slightly weaker, on mesonotum slightly closer than on frons and with similarly microcoriaceous interspaces, on mesopleuron much sparser, with microsculpture weaker and the surface more strongly shining; propodeum (Fig. 32) with surface fairly shining, sides posteriorly weakly microcoriaceous, appearing somewhat obliquely and closely striate, anteriorly together with metapleuron smooth and highly polished, punctures on abdomen as usual.

♀. In comparison with the specimen of *T. chihpense* in the present species the relative width of IOD at clypeus as against that at vertex slightly larger, abdominal segment 1 relatively shorter and more robust and the upper furrow of the median carina of supraantennal tubercle markedly longer and much more distinct.

Length 7.0 mm. Black; mandibles and clypeus in front ferruginous, inner margin and tips of the former and extreme anterior margin of the latter brownish; palpi, antennal joint 1 except a small brownish mark above, 2 beneath and at apex, humeral tubercles, tegulae (semitransparent), basal plates of wings, fore and middle legs except the basal half of coxae and pulvilli and hind legs on apical half of coxae, trochanters, base and apex of femora and tibiae wholly and apex of each tarsal joint (joint 4 wholly) pale ferruginous; fore and middle legs somewhat semitransparent and rather whitish; tibial spurs of middle and hind legs dark brown (very frequently so in this group) and strikingly contrasted to the light coloured tibiae, those of fore legs also partly somewhat brownish; abdominal tergite 2, 3 and 4, all at base and side and sternite 2 and 3 wholly and 4 at base yellowish red, sternites 2 and 3 with a pair of blackish spots before apex; wings hyaline, stigma black and veins darkest brown.

Head from above: Fig. 37, with ocelli in a near equilateral triangle, anterior ocellus slightly smaller, OOD : POD  $\div$  1 : 2, frontal swelling distinct and flattened above, with the medial furrow very weak, represented by a glittering line only; head seen in front (Fig. 38), subquadrate in form, antennal sockets almost contiguous to each other and also to the eyes, supra-antennal tubercle nose-shaped, only the anteriormost part with a carina on top, remaining part medianly distinctly furrowed, the furrow twice as long as the anterior carina and slightly widened and shallowed upwards, reaching the middle of the distance to the median ocellus, IOD at vertex and at base of clypeus 2 : 1, clypeus bluntly raised toward the median line, not ridged nor carinated there, the form of anterior margin (Fig. 38) almost similar to that of *T. chihpense*; antennal joint 3 approximately thrice as long as wide at apex, joint 8 slightly longer than wide. Pronotum with collar medianly slightly narrowed and laterally slightly broadened and rounded at the sides, the transverse furrow passing at a third from anterior margin, behind which the surface discoloured, appearing pale yellowish, mesonotum medianly not impressed, on propodeum area dorsalis distinctly marked off by fine crenate furrow, disc distinctly roundly raised and medianly comparatively broadly furrowed, the furrow slightly broader posteriorly and rounded at the end, not reaching the encircling furrow, the median furrow of posterior inclination comparatively narrow and deep, lateral carinae very feeble, defined only under oblique light, hardly reaching middle of the distance to the base of the segment. Abdominal segments rather short and robust (Fig. 39, in dorsal view and Fig. 40, in lateral view), tergite 1 approximately as long as hind trochanter and femur united, twice as long as broad at apex and 1.5 times as long as tergite 2; legs normal, tarsal joint 4 very short; venation normal, with radial cell not reaching near apex of the wing. Hairing as usual.

Vertex and upper frons finely, rather sparsely punctured, with intervals somewhat larger than the punctures and delicately microreticulate, punctures on mesonotum closer than on vertex, otherwise similar, on mesopleuron finer and sparser, with the ground microsculpture weaker and the surface more glossy, area dorsalis on propodeum at base longitudinally, somewhat obliquely, rather strongly and coarsely striate, medial furrow transversely striate, basal and medial striae extended on to the disc, all turned oblique



and all gradually weaker posteriorly, at the end of the median furrow the weak striae forming concentric circles, rest of the dorsal aspect (outside area dorsalis) and posterior inclination finely closely punctured, metapleuron and sides of the segment smooth and polished, with a trace of oblique striae on posterior portion of propodeal sides. Abdominal tergites finely and rather closely punctured with pile bearing points, on tergite 1 punctures finer and closer.

Holotype: ♂, Kodama, Saitama Pref., 21. VIII. 1971, T. Nambu leg.

Paratype: 1 ♀, the same place, 8. IX. 1971, T. Nambu leg.

*Remarks.* According to the private information from Mr. T. Nambu both the specimens lived in the hollow of the timber of a small rural shrine.

### 7. A new subgenus of *Pemphredon* Latreille

*Pemphredon* (*Susanowo*) subgen. nov.

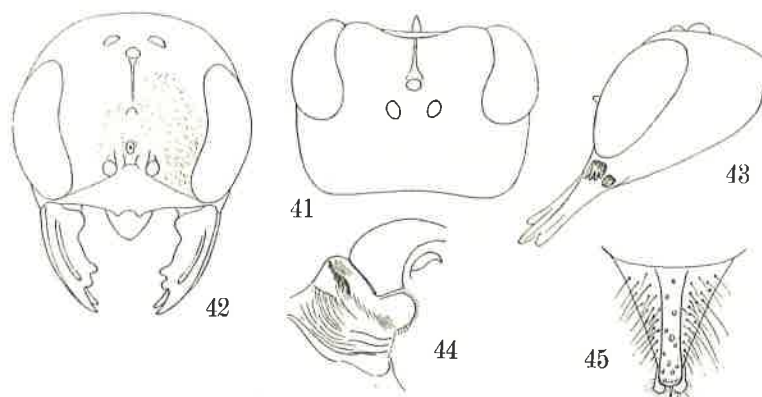
In the general characters including those of the wing venation, the structure of the antennae and the mandibles the new subgenus below described, as far as the female is concerned, well agrees with the subgenus *Pemphredon* (s. str. sensu Latreille, nec sensu Beaumont, 1963), but it has a distinct horn on the supra-antennal area just as in *Ceratophorus* Shuckard.

Type: *Pemphredon* (*Susanowo*) *sudai* Tsuneki, n. sp.

*Pemphredon* (*Susanowo*) *sudai* sp. nov.

♀. Length 9.5 mm. Black; mandibles on outer aspect except base and apex reddish brown, tegulae of wings on periferal areas and articulations of legs dark brown, wings slightly clouded apically, somewhat yellowish.

Head seen from above: Fig. 41, a strong tooth observed on anterior margin in middle, ocelli in a slightly low equilateral triangle, OOD : POD : OCD = 14 : 8 : 25, width of postocellus relatively 4.4; head seen in front: Fig. 42, upper frons from anterior ocellus below longitudinally impressed, the impression first broad, soon narrowed and



Figs. 41-45. *Pemphredon* (*Susanowo*) *sudai* Tsuneki, sp. nov. ♀. 41, 42, 43: Head, 44: Pronotum in lateral view, 45: Pygidial area.

becomes shallower and with a fine carina in middle, the carina reaches below the upper margin of the deeply excavated scapal area, the scapal excavation raised at the sides into the lateral areas of the lower frons, at the centre of the excavation a strong, vertically rising frontal (or supra-antennal) tooth or horn which is in length equal to the diameter of antennal socket and bluntly pointed at apex, IOD at upper frons and at the lateral base of clypeus relatively 43 : 36, OAD : WAS : IAD = 9 : 5.5 : 8.3, clypeus flattened and at anterior margin in middle slightly raised, the margin bidentate and between the teeth deeply roundly emarginate (Fig. 42), mandible quadridentate at apex (ditto), labrum not thickened; head in profile: Fig. 43, with the posterior margin more straightly convergent towards clypeus than in *P. lugubris pacificus* or *P. japonicus* to which the species is somewhat similar; antennal joint 3 thrice as long as wide at apex (in the narrowest view), joint 5 twice as long as wide, joint 10 about 1.5 times as long as wide. Collar of pronotum somewhat thicker than in the species above compared, seen in profile: Fig. 44, mesonotum in dorsal and lateral views as in *P. lugubris*, but the parapsidal furrows more deeply and acutely impressed and reach posteriorly the apical margin of the scutum, scutellum medianly longitudinally slightly impressed, on mesopleuron the triangle area distinctly marked off by 3 broad, distinctly and coarsely crenate furrows (in the compared species the scrobal furrow indistinct), area dorsalis on propodeum as in *lugubris*, encircled by the broad and gently raised limb, in front of the limb the area is slightly depressed, medial furrow narrow and weak and rather indistinct, due to the presence of similar furrows of the area graved by the longitudinal carinae, on posterior aspect the medial furrow deep and broad as in *P. japonicus*. Petiole of abdomen approximately as long as hind metatarsus, distinctly shorter than hind tibia, subparallel seen from above, but from middle apically slightly divergent, pygidial area long, parallel-sided, with apex slightly enlarged and rounded (Fig. 45), as wide in middle as antennal joint 8. The first recurrent vein received by the 1st cubital cell towards middle of its cubital vein, the 2nd by the 2nd at about a third from base; legs normal.

Punctuation generally similar to that of *P. lugubris*, but the punctures on head above grosser and much sparser, with intervals 2-3 times as broad as the width of punctures, upper frons finely closely, but not strongly punctured, on the sides of lower frons the punctures somewhat grosser and slightly sparser, scapal area above the tooth smooth and polished, by its sides longitudinally, somewhat arcuately, rather feebly striate, at the laterally sloping sides the surface sparsely punctured, clypeus very sparsely scattered with mixed punctures of medium-sized and finer ones. Collar of pronotum transversely, finely, closely and somewhat rugosely striate, mixing a few punctures, mesonotum on the lateral areas from middle forwards obliquely, finely and closely striate, on the disc anteriorly finely, closely punctate, the punctures at the broad central area gradually larger, longitudinally lengthened, becoming indistinct on the outline, partly confluent and on the posterior portion the intervals turn into longitudinal coarse striae, scutellum longitudinally rugoso-punctate, with interspaces microcoriaceous, mesopleuron except the coarsely foveolate furrows longitudinally irregularly rugoso-striate, the striae on posterior portion finer and closer, precoxal area and mesosternum rather sparsely punctured, without striae; area dorsalis on propodeum radiately, first rather coarsely, but soon gradually finely and closely striate, at the medio-anterior area alone the striae strongly rugose, on the limb the striae very fine and close, outside the limb anteriorly

very finely, posteriorly and on the posterior inclination rather grossly and irregularly reticulate, sides of the segment anteriorly broadly, together with metapleuron, smooth and shining and posteriorly irregularly reticulate. Petiole carinated, grooved and punctured as in *P. lugubris*, but the medio-posterior groove weaker, with the outline disturbed by the gross punctures. Abdomen finely and sparsely punctured, area pygidialis scattered with medium-sized punctures, with intervals feebly microcoriaceous, but the surface fairly strongly shining.

♂. Unknown.

Holotype: ♀, Mt. Kanayama, Masutomi-spa, Yamanashi Pref., 18. VII. 1968, H. Suda leg.

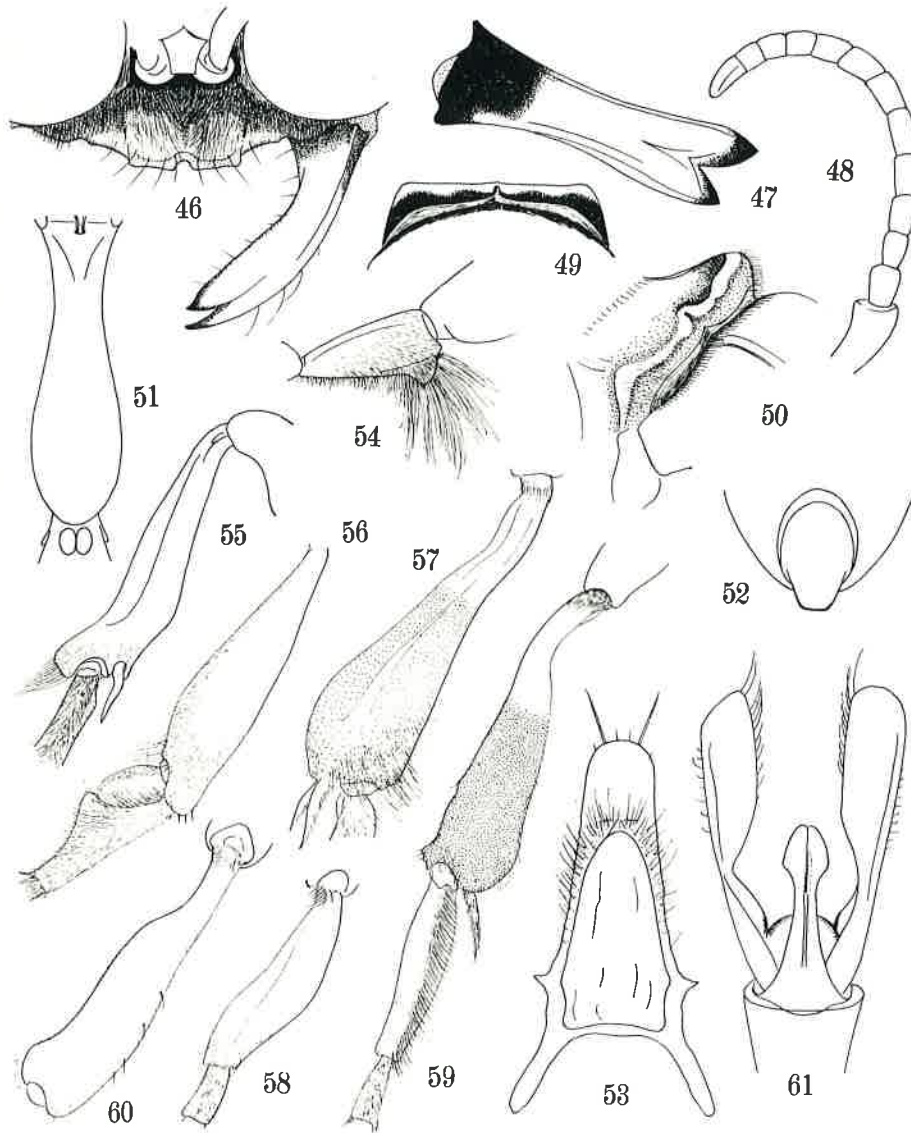
*Remarks.* There will certainly be a considerable variation within the species as to the sculpture of the area dorsalis on the propodeum.

#### 8. The male of *Rhopalum* (*Rhopalum*) *succineicollare* Tsuneki

This is the largest species of *Rhopalum* s. str. of our region and the male of which has long vainly been searched for since the discovery of the female in 1951. This summer (27. VIII. 1971) on the mountain path near Arashi, Fukui Pref., about 800 m. high, I happened to capture two specimens of the long desired male of this species that came under the leaves of a way-side shrub infested by the aphides. The observation showed that they had some interesting characters, quite exceptional to the genus, viz. the strikingly modified legs, the utterly unmodified antennae and the strange pygidial area.

♂. Length 6.5–7.0 mm. In colour slightly different from ♀; yellow in ♀ turns into paraffin white, in some parts somewhat yellowish. Paraffin white are mandibles except blackish base and apex and brownish inner margin, palpi, a medianly longitudinally constricted large marking on clypeus (Fig. 46. anterior margin pale brownish), antennal joint 1 wholly, 2 beneath (above pale brown), humeral tubercles (with a large transparent colourless window), fore legs except the black mark on femora above, mid legs except greater part of coxae, a mark on trochanters and femora, and hind tibiae at a basal third. A band on anterior half of pronotal collar extending to the lateral surfaces and axillae and sometimes two lateral marks of scutellum whitish sulphur yellow; femora beneath of fore and middle legs slightly yellowish; anterior half of petiole, hind coxae except base and hind trochanters beneath wax white; antennal flagella beneath except the apical two joints and above on basal two or three joints pale brown; tegulae semitransparent brown, base of wings also brownish; apices of tergites 1, 2 and 3 and sternites from middle of segment 1 apically and hind tibial spurs yellowish red; wings hyaline, stigma and veins greyish black.

General structure as in ♀, differing, however, very markedly in the characters of clypeus and legs. Clypeus: Fig. 46, anterior margin thickened, with a distinct under surface, mandibles slightly modified, apically slightly enlarged, seen in front: Fig. 46, seen from outside: Fig. 47, interantennal plate flattened, elongated trapeziform, obliquely raised forwards with the apex left free like a pent roof, antennal hollows not contiguous to the eyes,  $AOD \div IAD$  and about a third of the width of antennal hollow; head above flattened, with the surroundings of each ocellus depressed and with the median line from anterior ocellus posteriorly slightly raised,  $OOD : POD = 3 : 1$ . Antenna: Fig. 47, strange to the genus flagellar joints not modified. Pronotum from above: Fig. 49, seen



Figs. 46-61. *Rhopalum (Rhopalum) succineicollare* Tsuneki, ♂.  
 46: Clypeus and mandible, 47: Mandible from outside, 48: Antenna, 49: Pronotum.  
 50: Do, obliquely from above and side, 51: Abdominal petiole, 52: Pygidial area,  
 53: Sternite 8, 54: Fore trochanter (left end is coxa), 55: Fore tibia, 56: Middle  
 tibia and metatarsus, 57 (inner view), 58 (posterior view), 59 (posterior and inner  
 view), 60 (posterior view): Hind tibia and/or metatarsus, 61: Genitalia.



obliquely from backwards: Fig. 50, medianly deeply furrowed, posterior half depressed and discoloured, appearing pale brownish; scutellum and postscutellum as usually structured. Propodeum medianly finely deeply furrowed, the furrow reaches the medial excavation of the posterior slope and further extended as a finer groove till the end of the segment. Petiole of abdomen: Fig. 51, seventh tergite with a strange pygidial area (Fig. 52), apparently the tergite roundly cut off at the base and then attached with the same formed but slightly larger-sized sclerite there, eight sternite: Fig. 53; genitalia in dorsal view: Fig. 61, penis slightly more than half as long as paramere (exceptional to the Japanese species), without the membranous window on the median line of the dorsal surface. In fore leg trochanter beneath fringed with silky white hair, on apical half the hair markedly longer (Fig. 54), femur as in ♀, with sparse short white pubescence which is somewhat longer beneath, tibia with the apical fourth obliquely raised, slightly twisted and provided with a tuft of long silky white hair at apex (Fig. 55), tarsal joints all normal (exceptional to the group); in middle legs trochanters beneath with sparse pubescence, the pubescence slightly longer apically, tibia only a little changed in form, with long hair beneath at apex, metatarsus remarkably changed, on inner margin towards middle very strikingly triangularly produced, the produced part laterally compressed, somewhat lamellate, with the upper slope markedly fringed with long hair (Fig. 56); hind trochanter with hairing as in middle leg, tibia and the following metatarsus strongly incrassate (Fig. 57, seen from inside; Fig. 58, metatarsus, ditto; Fig. 59, from posterior inside; Fig. 60, tibia, from posterior side), tibial spurs somewhat broader than usual. Venation of wings as in ♀, transverse radial vein obliquely inclined.

*Specimens examined*: 2 ♂, Arashi, Fukui Pref., 27. VIII. 1971, K. Tsuneki leg.

#### 9. *Rhopalum (Calceorhopalum) arasianum* sp. nov.

*Rhopalum (Calceorhopalum) calceatum* (a mutant?): Tsuneki, Etizenia, 50; 3, 1971.

Since my first finding of the specimen recorded in the paper above cited which is very close to *R. calceatum* m., but which is almost completely lacking the lateral carinae of the pygidial area (Fig. 2 of the paper) I have obtained six further specimens having the similar character and the reexamination of the specimens preserved at my hand I could find out five additional female specimens of the similar type and the reason of my withholding the erection of a new species was disappeared, because it was clarified that the specimen of my first observation was not a casual mutant. According to the detailed comparison with the abundant specimens of *R. calceatum* from various provinces of Japan I could discover, besides the differences regarding the pygidial area and the abdominal petiole to which I already referred, that the following characters were specific to the species here treated:

(1) Antennal joint 2 in the lateral view very close to equilateral triangle (in *R. calceatum* elongate triangle).

(2) Dorsal side of propodeum only on anterior portion medianly longitudinally, not strongly furrowed, on posterior marginal portion the furrow is always lacking or very feeble and indistinct (in *R. calceatum* a fine groove always distinctly runs through the area).

By adding these characters to the peculiar structure of the pygidial area the separation of the present species from *R. calceatum* can be made without difficulty.

The following differences are applicable to most of the specimens, but there are

some exceptional ones in either of the species; they can, therefore, serve only as the suggestive distinctions:

(a) Fore and middle femora and 2nd joint of antennae wholly yellow in *R. arasianum*, while in *R. calceatum* they carry a more or less broad dark brown mark.

(b) A medio-anterior impressed line on mesonotum is distinct and deep in *R. arasianum* and very weak and indistinct in *R. calceatum*.

(c) Median part of clypeus anteriorly somewhat depressed with the disc somewhat convexed and with the anterior margin slightly raised in *R. arasianum*, but not so in *R. calceatum*.

Generally, further, the specimens of the new species are somewhat smaller than those of the compared species: Length ♀ 4.5-5.3 (in *R. calceatum* 5.0-7.0) mm.

Variations in the colour of the antennae, legs and abdomen are considerable in the compared species.

Holotype: ♀, Arashi, Fukui Pref., 20. IX. 1970, K. Tsuneki leg.

Paratypes: 9 ♀ (2 ♀, mountain region of Arashi, 11. IX. 1963; 25. IX. 1971; 4 ♀, mountain region of Simo-Utinami, 30. VII, 16. VIII. 1971; 2 ♀, Koike, 31. VIII. 1963 — all Fukui Pref.; 1 ♀, Mt. Haku, Ishikawa Pref., 31. VIII. 1958; 1 ♀, Mt. Hakoda, Aomori Pref., 27. VII. 1964.). All leg. K. Tsuneki.

*Remarks.* Colouration as in the usual specimens of *R. calceatum*:

Pale yellow (somewhat semitransparent): Mandibles except apex, antennal joints 1 and 2 wholly and greater part of 3, humeral tubercles, base of wings, fore and middle legs except greater part of coxae, pulvilli and ultimate joint of tarsi, and coxae, trochanters, apex of femora, basal ring and inner stripe of tibiae of hind legs. Antennae beneath ferruginous; in hind legs femora and apical joints of tarsi black, tibiae with the spurs brown, tarsi ochre yellow, with the apical portion of joints 2 and 3 pale brown. Abdomen beneath from apex of segment 1 wholly, base of tergites 1 and 2 and tergite 6 wholly yellowish red. Wings hyaline, stigma black and veins dark brown.

It must be mentioned as regards the pygidial area that the very short lateral carinae are observable at the apex of the area.

This species, according to my observation, makes the nest in the hollow dug by the wasp herself in the pith of *Miscanthus* used for the thatched roof, arranges the cells in a row and provisions them with midges (not Psocopteran insects) as food for the larvae (the biology of *R. calceatum* remains unknown).

#### 10. A new species and two new subspecies of Sphecidae from the Yaeyama Group of the Ryukyus

##### *Liris (Cratolarra) iriomotensis* sp. nov.

Very closely allied to *Liris (Cratolarra) pitamawa* of the Philippines and Formosa, but can be distinguished from this by the following distinctions:

♂. (1) IOD at vertex distinctly more than as long as antennal joints 3 and 4 taken together (ratio 5 : 4).

(2) Flagellar joints of antennae generally relatively slightly shorter. joints 5 in dorsal view 1.5~1.6 times as long as wide at apex (in *pitamawa* 1.7~1.8 times so).

(3) Striae on the sides and posterior aspect of propodeum much finer and closer.

(4) Sternite 8 with apex truncate, not deeply incised in middle as in *pitamawa*.

(5) In genitalia, apical lamellate part of volsella relatively slightly longer (Fig. 62, cf. Fig. 63) and in colour wholly dark brown (in permeating light the upper part slightly paler) in *pitamawa* the upper portion broadly yellow (constant?).

(6) In size much smaller, only 5.0 mm.

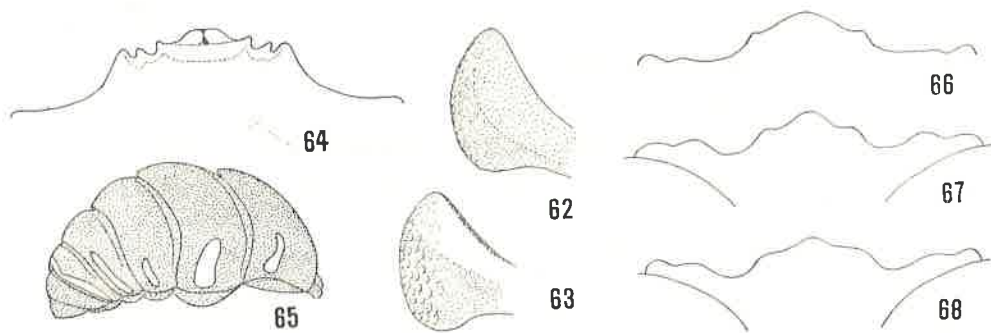
Otherwise (including the form of the clypeus, the character of the pile bands on the abdomen and the wing venation) as in the compared species.

Holotype: ♂, Is. Iriomote (Ohara), 2. VIII. 1969, T. Tano leg (Coll. Tsuneki).

*Tachytes sinensis yaeyamanus* ssp. nov.

The new subspecies is apparently very similar to the Philippine species, *T. suluensis* Williams, but the abdomen has the sericeous bands, clypeus otherwise formed and the sculpture on the median segment is also different. Among the Japanese species it is most closely related to *T. sinensis*, but is smaller, with the legs and the antennal joint 1 markedly different in colour, with the thorax and propodeum more densely pilose and with the medial furrow of the propodeum much shallower and more obsolete. In the structure of the genital organs, however, the specimen before me is essentially the same as this species and in the form of the clypeus and in the relative length of the interocular space at the vertex there is no difference between the specimens. I considered it, therefore, to be a geographical race of *T. sinensis* Smith.

♂. Length 16.0 mm. Black; mandibles except apex, mouth parts, antennal joint 1 wholly, 2-4 at apex, tegulae, bases of wings, legs except the greater part of coxae and of trochanters and basal half of upper part of fore femora ferruginous red. Wings strongly yellowish, with apical margin slightly clouded, veins ferruginous. Pubescence on frons and clypeus very dense, golden in colour, thorax above covered with fine brassy pubescence, on mesonotum along the sides and posterior margin hair partly appressed, thick and dense and the surface appears to be adorned with brassy pile band, as in *T. modestus* Smith, hair on mesopleuron below denser and golden, that on mesosternum and on femora of legs also golden, while the pubescence on propodeum brassy, much closer than in *sinensis* s. str., dense setae on pygidial area silvery.



Figs. 62-68. 62: Volsella of the male genitalia in *Liris (Cratolarra) iriomotensis* sp. nov. 63: Ditto in *Liris (Cratolarra) pitamawa* (Rohwer). 64: Clypeus in *Tachytes sinensis yaeyamanus* ssp. nov. 65: Abdomen of *Ectemnius (Hypocrabro) schlettereri ishigakiensis* ssp. nov. 66-68: Variations in the form of clypeus in *Trypoxylon nambui* Tsuneki, ♂ (66, the form in so-called *kinkadzanense*; 67, typical form; 68, intermediate form).

Clypeus (Fig. 64) as in the fresh specimen of the typical species, interantennal space at vertex very narrow, about half the length of antennal joint 3, medial longitudinal impression of scutellum, postscutellum and propodeum shallower than in *sinensis sinensis*, but the medio-apical impressin of propodeum similar in form and in depth. The form of the pygidial area and the 8th sternite also similar. Genitalia essentially identical in structure, only the penis with the ventro-apical corner not rounded, but angulated and in colour whole the organs much lighter, corresponding to the general body coloration. Sculpture the same. ♀. Unknown.

Holotype: ♂, Is. Iriomote (Furumi-Ohara), 24. V. 1963, T. Haitani leg. (Coll. Tsuneki).

*Remarks.* From the Ryukyus (and Formosa) *Tachytes sinensis* var. *purpureipennis* Matsumura and Uchida, 1926, was described. According to the description this variety is in the colour of the legs very similar to the present subspecies. In reality, however, it is not *Tachtes*, but belongs to *Liris* (*Liris*) *aurulenta* (Fabricius). (See Tsuneki, 1966, Etizenia 20).

*Ectemnius* (*Hypocrabro*) *schlettereri ishigakiensis* ssp. nov.

♂. Length 6.5 mm. Differs from the typical race in (1) abdominal tergites 1, 2 and 3 at base distinctly constricted (in this respect similar to ssp. *sakaguchii* (Matsumura et Uchida)), (2) punctures on abdomen generally finer and closer (on tergite 1 anteriorly sparser) and (3) tergite 1 carries a pair of transverse maculae (2-5 also with maculae: Fig. 65).

Maculation of the thorax and the legs is poorly developed (in this respect markedly differs from ssp. *sakaguchii*) and rather close to that of the typical race from Japan: Yellow are a broadly interrupted band on the collar of pronotum, humeral tubercles and two small spots on postscutellum. Legs black, fore and middle tibiae at base narrowly and a lengthened mark on outside of each fore and hind tibia and a small spot on each of the middle tibiae yellow. ♀, unknown.

Holotype: ♂. Is. Ishigaki (Nosoko), 1. VIII. 1969, T. Tano leg. (Coll. Tsuneki).

11. *Trypoxylon kinkadzanense* is a variation of  
*Trypoxylon nambui* m.

*Trypoxylon nambui* Tsuneki, Etizenia, 16: 1, 1966 (♀♂).

*Trypoxylon kinkadzanense* Tsuneki, Life Study, 15 (1-2): 16, 1971 (♂).

Recently I received from Mr. H. Yamada, Nagoya, a female specimen of the Trypoxylonid wasp which he collected at the same place where the type of *Trypoxylon kinkadzanense* was collected. Upon examining I was surprised to find that it was a female of *Trypoxylon nambui*. According to my request he further sent to me 2 ♀ 4 ♂ of the similar specimens which he collected in Aichi Prefecture. These specimens belonged no doubt to *T. nambui*. Detailed examination revealed that among the male specimens a considerable variation existed in the form of the clypeus and the type of *kinkadzanense* represented the extreme case of variation.

I further compared these specimens of Aichi and Gifu Prefectures (the district of Tōkai) with 8 ♀ 3 ♂ of *T. nambui* collected in Saitama Prefecture (the district of Kantō, the type locality). Apparently the range of variation in the form of the clypeus (Figs. 66-68; 66, the form of *kinkabzanense*, 68, the form of *nambui* and 67, an in-



intermediate form) was larger in the Tôkai specimens than in the Kantô materials and the melanism was slightly more developed. Namely, the black streak on the fore femora was very much stronger and the yellowish parts of the antennae and thorax were less developed. Such minor differences are, however, undeserved of taxonomic separation and I, therefore, suppress the name, *T. kinkadzanense*, as a synonym of *T. nambui* Tsuneki.

#### 12. A strange distribution of *Sceliphron deforme taiwanum* in Japan

Recently I received for identification 10 ♀ 8 ♂ specimens of *Sceliphron* (*Sceliphron*) collected by Mr. H. Suda, an amateur entomologist in Chiba Prefecture, in various districts of his province. They were not *S. (S.) caementarium* (Drury), an adventive wasp from North America after the War II, but belonged distinctly to *S. (S.) deforme* (Smith).

They were much more brightly maculated than the Japanese native race, *S. (S.) deforme nipponicum* m. and made me think of the Formosan race, *S. (S.) d. taiwanum* m. So I compared them with the Formosan specimens and could confirm that there is no difference whatever in the maculation of the body and legs between them, both showing a similar tendency of variation in the developmental degrees.

Chiba Prefecture is situated at the southeastern angle of Honshu, the main Island of Japan, embracing the Bay of Tokyo and constitutes the eastern end of the so-called south coast line of this country where the insects of the southern derivatives have occasionally been discovered to occur.

In Japan, *Sceliphron (S.) deforme nipponicum* is usually an inhabitant of the mountain region and it can not be considered that the representatives of Chiba Prefecture are derived from our native race. Hence it must be presumed that they happened to come to Japan by some course or other from southern region and settled and propagated in Chiba Province. The presumable courses are (1) by typhoon and (2) by being casually transported in their mud nest through man's movement.

At any rate, *S. (S.) deforme taiwanum* has not been discovered from any other region of Japan and it seems an interesting problem to investigate the process of their propagation, as was the case with *S. (S.) caementarium* (Drury).