

## A Study of the New Genus *Okinawepipona* in the Ryûkyûs and Taiwan (Hymenoptera, Eumenidae)

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### Abstract

A new eumenid genus, *Okinawepipona*, is described based on *Anterhynchium kogimai* GIORDANI SOIKA. Two new subspecies of *O. kogimai* are described from Amami-ôshima (Ryûkyû Islands) and Taiwan.

Key Words: Eumenidae, *Okinawepipona*, Ryûkyûs.

### Introduction

Since several years ago I have noticed the occurrence of a curious eumenid species in the Ryûkyû Islands. Although it seemed to be obvious that it did not belong to any of the known genera, I could not find single characters definitely defining the "new genus". In 1986 GIORDANI SOIKA described it as a new species belonging to the subgenus *Epidynerus* of the genus *Anterhynchium*. He, however, ignored the short parastigma of the fore wing, by which the present species may easily be distinguished from all the known species of *Anterhynchium* (cf. VECHT, 1963). In this paper I describe a new genus comprising the single species by attempting to define it by a combination of characters.

Before going further I thank Dr. Yosiaki ITÔ (Nagoya Univ.), Dr. Jun-ichi KOJIMA (Ibaraki Univ.), Mr. Hirohiko NAGASE (Kamakura-shi) and Mr. Tadashi TANO (Fukui-shi) for their kind help in various ways.

### *Okinawepipona* gen. nov.

♀, ♂. Clypeus moderately convex, as long as wide, apically narrowly emarginate.

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Scutellum flat; metanotum medially not concave. Tegula not extending beyond the apex of posttegula (PT) (Fig. 2). Propodeum without lateral crest. Anterior vertical part of gastral tergite 1 almost impunctate, clearly separable from the dorsal part, but not by a carina; laterally the tergite divided by a sharp carina into upper and lower part. Gastral segment 1 slightly narrower than segment 2. Tergites 1–5 each with a dark apical spot where the integument is weakly impressed. Parastigma of fore wing short, less than half as long as the length of stigma. Basal part of gastral sternite 2 with 14–18 strong, vertical carinae (Fig. 4, BS2).

*Type species: Anterhynchium (Epiodynerus) kogimai* GIORDANI SOIKA.

This genus was first mentioned in a key to the Japanese genera of Eumenidae (referred to as "Okinawa-dorobachi-zoku", YAMANE, 1982). As it has few autoapomorphies, I could find no single character defining it as a separate genus. Although GIORDANI SOIKA (1986) treated the species *kogimai* as belonging to the subgenus *Epiodynerus* of the genus *Anterhynchium*, its short parastigma conflicts with his view. In the *Anterhynchium* species the parastigma of fore wing is much longer, more than half as long as stigma (VECHT, 1963).

### *Okinawepipona kogimai* (GIORDANI SOIKA)

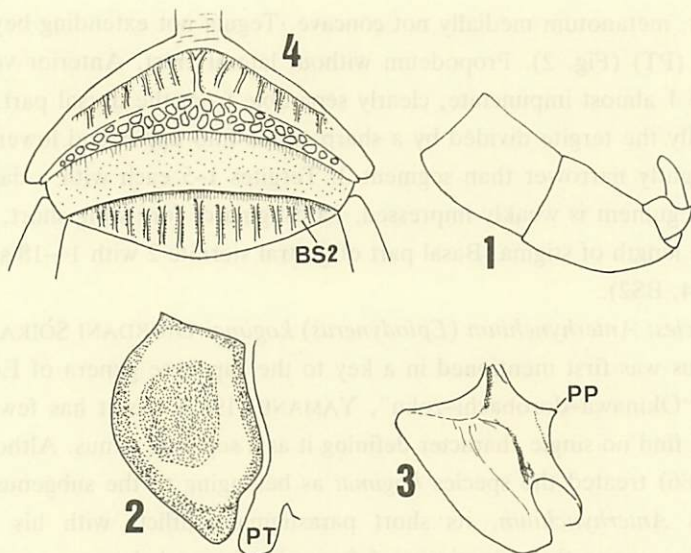
*Anterhynchium (Epiodynerus) kogimai* GIORDANI SOIKA, 1986: 74–76. (Good description of ♀ and ♂.)

♀. Head subcircular, densely punctate. Supraclypeal area with a vertical carina between the antennal sockets; above the carina interantennal region with a narrow vertical groove. Occipital carina complete, but dorsally somewhat indistinct. Ocellar triangle flat; distance between the posterior ocelli slightly longer than or as long as the distance between posterior ocellus and eye. Cephalic fovea not conspicuous. Gena moderately developed, in profile narrower than the eye. Mandible bluntly pointed at apex, but the apex often heavily worn; inner edge with four round teeth.

Thorax somewhat elongate, densely punctate. Anterior carina of pronotum complete, but slightly interrupted dorsally. Anterior vertical part of pronotum virtually without punctures. Posterior one-third of mesoscutum and whole scutellum nearly flat. Dorsal mesepisternum below impunctate. Punctuation sparse on metapleuron. Metanotum slightly convex. Propodeum rather developed; basal triangular area with a median groove, at the lower end of which a median carina starts. Dorso-lateral face of propodeum with a rugose punctuation. Posterior face with striae. Lateral face above with punctures and below with weak striae. Posterior edge of hind coxa with a distinct carina which forms a triangular process (Fig. 3, PP).

Punctuation on gastral tergites much weaker than on thorax and propodeum except on the dorsal face of tergite 1 where the punctures are large and dense but more superficial than on thorax. Punctuation on gastral sternites 2–6 still finer than on tergites.





Figs. 1 - 4. *Okinawepipona kogimai*. 1, Apical segments of male antenna; 2, Tegula and posttegula (PT); 3, Hind coxa, showing posterior process (PP); 4, Gastral sternite 1 and basal part (BS2) of sternite 2.

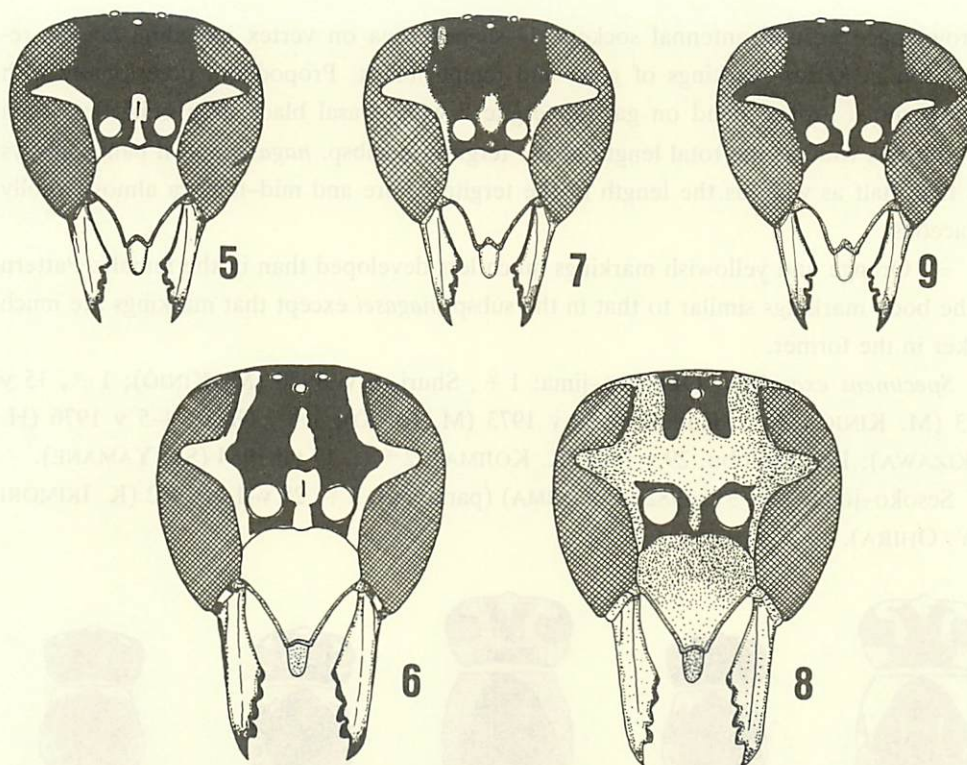
♂. Similar to the female. Apical emargination of clypeus deeper than in the female. Antennal segments 12 and 13 very small (Fig. 1). Inner edge of mandible with three teeth.

***Okinawepipona kogimai nagasei* Sk. YAMANE, ssp. nov.**

(Figs. 5, 6, 10, 11)

♀. Black with yellow and orange yellow markings. Yellow or orange yellow areas are: clypeus wholly (with brownish lower limb), mandible except for apex and inner teeth, a frontal marking which is connected by a narrow line to the yellow of clypeus, a vertical line below anterior ocellus, a stripe along inner edge of eye from the upper margin of clypeus to the top of eye, gena along outer edge of eye, antennal scape below, pronotum extensively, a large spot under wing base, tegula (with a central spot and margins brownish), a pair of short lines on mesoscutum, a line on mesoscutum along the inner edge of tegula, posttegula, scutellum and metanotum largely, apical bands on gastral tergites 1-5 (that on tergite 2 is widest, those on tergites 3-5 very narrow), apical band on gastral sternite 2. Scape above and pedicel brown; flagellum blackish brown above and orange below. Legs testaceous; all the coxae black; basal one-third of fore and mid-femora, and ventral face of hind femur dark.

♂. In coloration very similar to the female, but yellow marking along inner edge of eye not reaching the top of eye. Frons without yellow line just below anterior ocellus. Genal band reduced to a short line. Gastral tergites 6 and 7 wholly black. Legs yellow.



Figs. 5 – 9. Fascial colour pattern in 3 subspecies of *Okinawepipona kogimai*. 5, Subsp. *nagasei* nov., ♂; 6, Ditto, ♀; 7, Subsp. *kogimai*, ♂; 8, Ditto, ♀; 9, Subsp. *taiwana* nov., ♂.

*Holotype*. ♂, Kasari-chô, Amami-ôshima, Kagoshima-ken, Japan, 20 v 1979, H. NAGASE leg. (Will be deposited in the collection of the Entomological Institute, Hokkaido University.)

*Other specimens examined*. Takara-jima (Tokara Is.): 1 ♀, 2–11 viii 1985 (M. KAWANA).

Amami-ôshima: 2 ♀ ♀, Nishinakama, 25–26 vi 1961 (K. TSUNEKI); 2 ♀ ♀, Gusuku, 1 vii 1961 (K. TSUNEKI); 1 ♀, Akaogi, 7 vii 1961 (K. TSUNEKI); 1 ♀, Kachiura, 3 vii 1961 (K. TSUNEKI); 1 ♀, Santaro-pass, 23 vii 1967 (T. MUROTA); 1 ♀, Shimmura, 1 viii 1969 (T. MUROTA); 1 ♂ 1 ♀, Yuwan-dake, 20 vi 1983 (K. NICHÔ).

### *Okinawepipona kogimai kogimai* (GIORDANI SOIKA)

(Figs. 7, 8, 12, 13)

*Anterhynchium* (*Epidolynerus*) *kogimai* Giordani SOIKA, 1986: 74–76 (♀, ♂).

♀. Similar to the preceding form, but body markings much darker, especially on frons, vertex, thorax and gastral tergites 1 and 2. Head extensively orange or rufous;

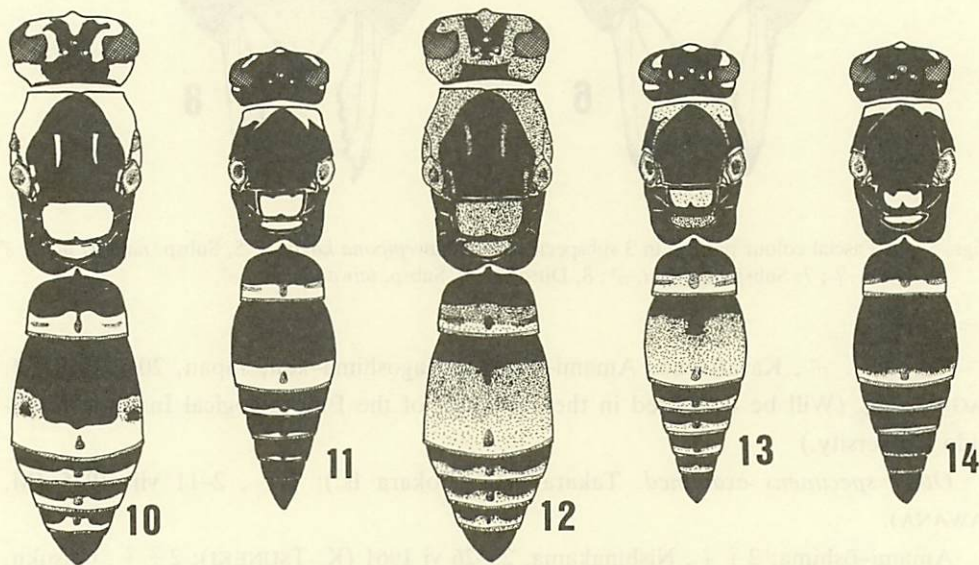


narrow space around antennal sockets, U-shaped area on vertex including ocellar region, and posterior markings of gena and temple black. Propodeum occasionally with reddish spots. Apical band on gastral tergite 2 wide; basal black area being less than one-third as wide as the total length of the tergite (in subsp. *nagasei* apical bands always less than half as wide as the length of the tergite). Fore and mid-femora almost wholly testaceous.

♂. Orange and yellowish markings much less developed than in the female. Pattern of the body markings similar to that in the subsp. *nagasei* except that markings are much darker in the former.

*Specimens examined.* Okinawa-jima: 1 ♀, Shuri, 6 vi 1970 (M. KINJŌ); 1 ♂, 15 v 1973 (M. KINJŌ); 1 ♂, Kudeken, 15 v 1973 (M. KINJŌ); 1 ♀, Nago, 4-5 v 1976 (H. TAKIZAWA); 1 ♀, Motobu, 29 v 1981 (K. KOJIMA); 2 ♀♀, 17 vii 1984 (Sk. YAMANE).

Sesoko-jima: 1 ♀, 9 v 1982 (J. KOJIMA) (paratype); 1 ♀, 28 v-1 vi 1982 (K. IKIMORI & Y. OHIRA).



Figs. 10-14. Body colour pattern in 3 subspecies of *Okinawepipona kogimai*. 10, Subsp. *nagasei* nov., ♀; 11, Ditto, ♂; 12, Subsp. *kogimai*, ♀; 13, Ditto, ♂; 14, Subsp. *taiwana* nov., ♂.

*Okinawepipona kogimai taiwana* Sk. YAMANE, ssp. nov.

(Figs. 9, 14)

♂. Similar to the male of the subsp. *nagasei*, but yellow apical bands on gastral tergites narrower, especially on tergite 2. Gastral sternite 1 and lower part of tergite 1 extensively brownish. Ground colour of sternite 2 tinged with red.

♀ not known.

*Holotype.* ♂, Puli, Nantou County, Taiwan, 26 iv 1980, Sk. YAMANE leg. (Will be

deposited in the collection of the Entomological Institute, Hokkaido University.)

*Another specimen examined.* Taiwan: 1 ♂, Peishankeng, Nantou County, 5 v 1980 (Sk. YAMANE).

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(Received June 11, 1987)