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Two new synonyms in Oriental Crabronidae (Hymenoptera)

Wojciech J. Pulawski

Department of Entomology, California Academy of Sciences, 55 Music Concourse Drive, Golden Gate Park, California 94118, USA

Corresponding author: *Wojciech J. Pulawski* (wpulawski@calacademy.org)

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Abstract

Malaygorytes konishii Nemkov, 1999 (now *Argogorytes konishii*) from Western Malaysia is synonymized with *Argogorytes matangensis* (Turner, 1914) from Eastern Malaysia. *Cerceris bantamensis* van der Vecht, 1964 from Java is synonymized with *Cerceris ferox* F. Smith, 1856 (which also occurs in Sumatra and Malaysia). Recognition characters of the two species are discussed and illustrated.

Keywords

Indonesia, Malaysia, *Malaygorytes konishii*, *Argogorytes matangensis*, *Cerceris bantamensis*, *Cerceris ferox*

Introduction

While incorporating the sphecid collection of the late Giles C. Roche, recently transferred to the California Academy of Sciences, I found two species that I have confirmed to be junior synonyms. Details are provided below.

The following are the abbreviations used in the text: BMNH: British Museum (Natural History), London, United Kingdom (currently: The Natural History Museum). CAS: California Academy of Sciences, San Francisco, California, USA. RMNH: Rijksmuseum van Natuurlijke Historie (currently: Nationaal Natuurhistorisch Museum), Leiden, the Netherlands.

Taxonomy

Argogorytes matangensis (Turner)

Gorytes matangensis R. Turner 1914:252, ♀. Holotype: ♀, Malaysia (East): Sarawak: Matang (BMNH), examined. – Maidl and Klima 1939: 55 (in catalog of world Astatinae and Bembicinae). – As *Argogorytes matangensis*: R. Bohart and Menke 1976: 492 (new combination, listed).

Malaygorytes konishii Nemkov 1999:3 ♀. Holotype: ♀, Malaysia: Malay Peninsula: Nageri Sembilan: Pasoh Forest Reserve (National Institute of Agro-Environmental Sciences, Tsukaba, Japan), not examined. New synonym. – As *Argogorytes konishii*: Nemkov and Pulawski 2009: 11 (new combination, in cladistic analysis of Gorytini).

The only female of this species in the CAS collection agrees to perfection with the type of *Argogorytes matangensis* and both specimens fit very well the good description of *Malaygorytes konishii* by Nemkov (1999). Their three most important characters are: scutellum with round preapical fossa whose diameter is about half midocellar width (Fig. 1a), terga II–V narrowly double-edged, and a narrow apical fascia of golden setae present on each terga I–IV (Fig. 1e). Other significant features include: basal scutellar sulcus foveolate (Fig. 1a); postscutellum longitudinally ridged (Fig. 1a); mesopleuron with conspicuous longitudinal ridges that do not extend down to mesopleural signum (Fig. 1b); metapleuron microscopically punctate; tergal punctures minute; tergum I with erect setae, the longest ones (on the tergum's side) slightly longer than midocellar width; median carina of sternum I triangular in profile; sternum II moderately angulate anteromesally, with fine, dense, and larger, sparse punctures; sterna III and IV punctate throughout (punctures conspicuous and sparse mesally); pygidial plate unusually narrow, practically parallel-sided, with glabrous median carina (Fig. 1d); body all black except at least hindfemur reddish brown (all femora reddish brown in holotype of *matangensis*; mid- and hindfemora reddish brown in CAS specimen), wings mostly hyaline but marginal cell and beyond conspicuously infumate as well as anterior portions of submarginal cells II and III (Fig. 1c). Length 11.1–11.4 mm.

Male unknown.

Argogorytes fuliginosus Tsuneki, 1968, from Taiwan, whose type I have also examined, is similar to *matangensis* in having double-edged terga and a small preapical fossa on the scutellum as well as a conspicuously ridged mesopleuron. It differs in having the mesopleural ridges attaining the mesopleural signum, the legs all black, and all wings conspicuously infumate.

Records (Fig. 2). MALAYSIA: Pahang: Genting Tea Estate, Genting Sempah (1 ♀, CAS). **Nageri Sembilan:** Pasoh Forest Reserve (Nemkov 1999). Sarawak: Matang (1 ♀, BMNH, holotype of *Gorytes matangensis*).

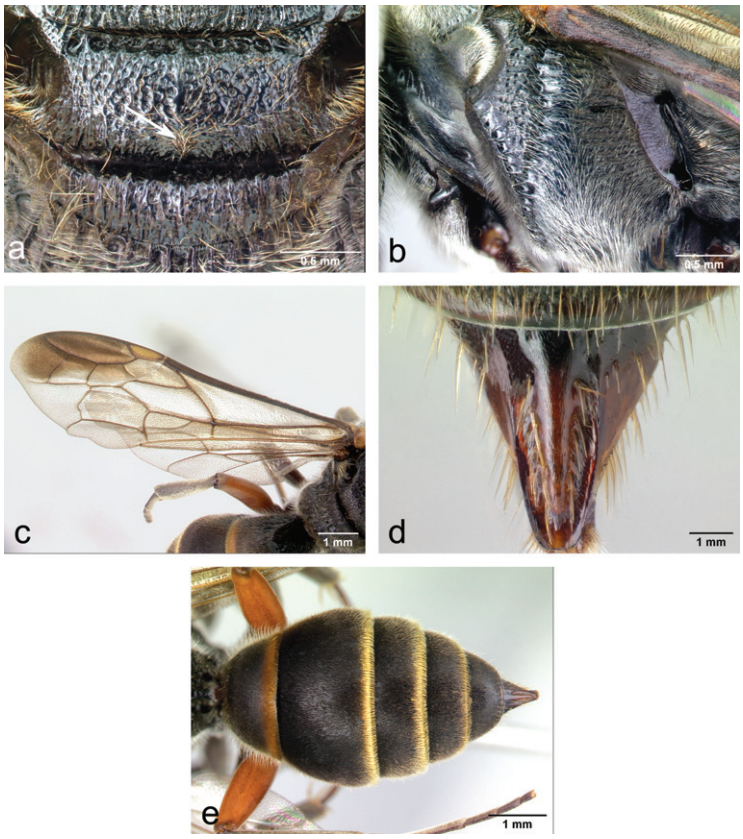

Figure 1. *Argogorytes matangensis* (F. Smith), female: **a** scutellum (arrows indicate scutellar fossa) **b** mesopleuron **c** left wings **d** pygidial plate **e** gaster in dorsal view.

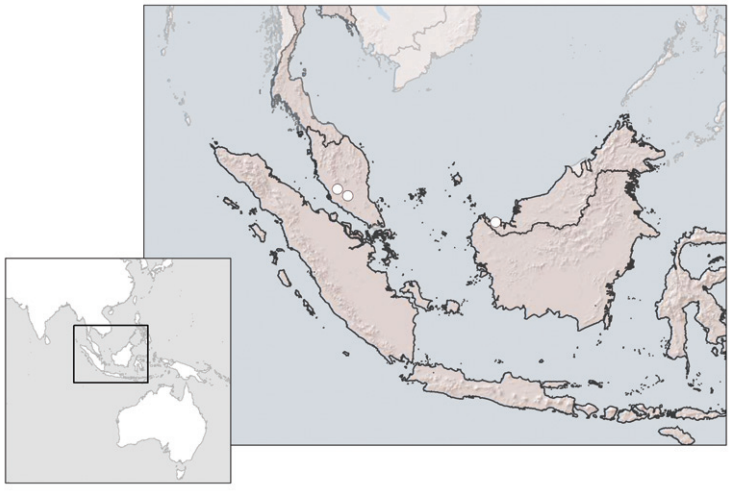

Figure 2. Collecting localities of *Argogorytes matangensis* (F. Smith).

***Cerceris ferox* F. Smith**

Cerceris ferox F. Smith 1856:454, ♀. Holotype: ♀, Indonesia: Sumatra: no specific locality (BMNH), examined. – Schletterer 1887: 491 (listed); Cameron 1890: 248 (listed); nec Bingham 1897: 309 and 1905: 46 (= *Cerceris binghami* R. Turner 1912); Dalla Torre, 1897: 459 (in catalog of world Hymenoptera); R. Turner 1912:816 (comparison with *Cerceris ferocior* and *shelfordi*); R. Bohart and Menke 1976:580 (listed); Hua 2006: 278 (in list of Chinese insects, geographic distribution).

Cerceris annandali Bingham 1903:v, ♂. Holotype or syntypes: ♂, Malaysia: "Biserat, Jalor", now Thailand (BMNH). Synonymized with *Cerceris ferox* by R. Turner 1912: 816. – Bingham 1905: 47 (Malaysia: Biserat, now Thailand), pl. A Fig. 5 (illustration of habitus and pygidial plate).

Cerceris bantamensis van der Vecht 1964: 367, ♂. Holotype: ♂, Indonesia: Java: Bantam: Malingping (RMNH), examined. – R. Bohart and Menke 1976: 577 (listed). New synonym.

In his description of *Cerceris bantamensis,* based on a single male, van der Vecht (1964) commented that "This is perhaps the unknown male of *C. ferox* Smith, described from Sumatra and also known from Malaya, but this must remain uncertain so long as the sexes have not been collected together". I was able to study a series of both males and females collected in West and East Malaysia by Kenneth M. Guichard and C. Giles Roche, several of them in the same locality. The detailed description of *bantamensis* by van der Vecht leaves no doubt about the identity of the males, and a study of the holotypes of both *bantamensis* and *ferox* confirmed that they are indeed conspecific. The main characteristics of *ferox* are the following: the terga have no apicomedian pits, the hindcoxa is not carinate ventrally, sternum II has no basal plate, and the propodeal enclosure is longitudinally ridged throughout (Fig. 3d). As in some other Southeast Asian species, tergum I has well defined, relatively large punctures (Fig. 4c, d), whereas terga II–V are densely microscopically punctate and have some fine punctures many diameters apart; also, tergum I is elongate (Fig. 4c, d): length about 1.2 × maximum width in the female, 1.6–1.7 × in the male, and the female mesopleuron has a conspicuous, vertical prominence just below the scrobe (Fig. 3e, f). The species can be further recognized by a coarsely punctate scutum (Fig. 3c), punctures being elongate in female, only posteriorly so in male, and puncture bottoms microscopically punctate, and the sides of the propodeal dorsum with coarse, round to oval punctures (Fig. 3d), with puncture bottoms finely punctate. In the female, the head is unusually wide in the ventral half (Fig. 3a), the clypeus has a sharp tooth on each side of the free margin (distance between teeth markedly greater than distance between a tooth and eye margin, Fig. 3b), and the depressed part of the free margin is uniformly, slightly concave between the teeth; the clypeus also has a median transverse prominence next to the foremargin that overhangs the margin (free margin of prominence is evenly arcuate); the inner mandibular margin has one subbasal tooth and is only slightly broad-

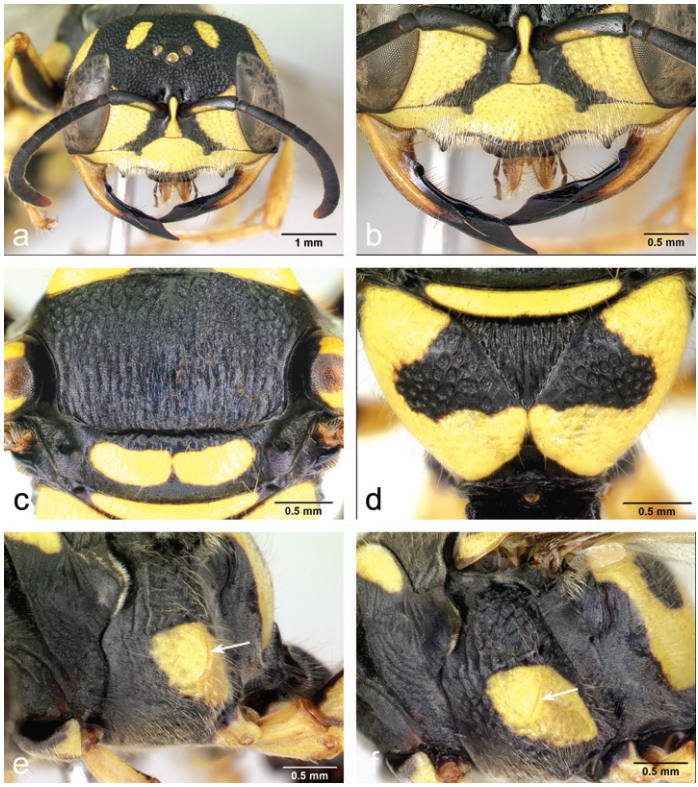

Figure 3. *Cerceris ferox* F. Smith, female: **a** head in frontal view **b** clypeus in frontal view **c** mesoscutum in dorsal view **d** propodeum in dorsal view **e** thorax and propodeum in anterolateral view (arrow indicates vertical prominence) **f** thorax and propodeum in lateral view (arrow indicates vertical prominence).

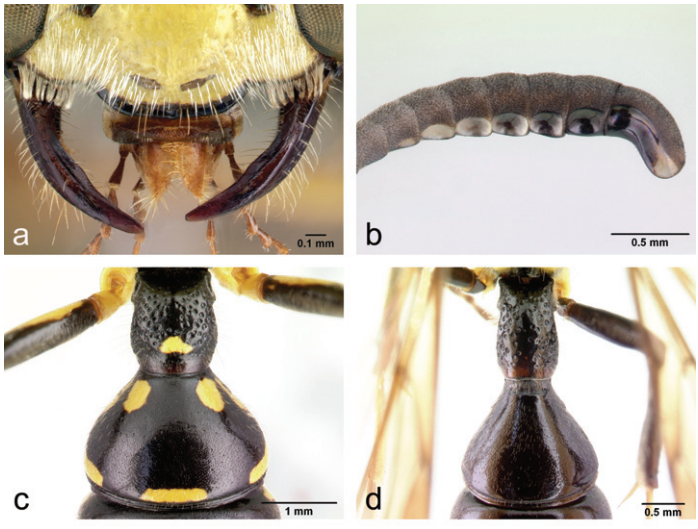

Figure 4. *Cerceris ferox* F. Smith: **a** male clypeus in frontal view **b** apical flagellomeres of male **c** gastral terga I and II of female **d** gastral terga I and II of male.

Figure 5. Collecting localities of *Cerceris ferox* F. Smith.

ened preapically (Fig. 3b). In the male, the free margin of the median clypeal lobe is nearly truncate and rounded laterally (Fig. 4a); flagellomeres VI–X or VII–X each has a round, unsculptured concavity on the ventral surface (Fig. 4b), flagellomeres VI–IX are sharply prominent apicoventrally, and flagellomere XI is markedly curved (Fig. 4b), with the ventral surface concave, impunctate, asetose; sternum VII has no particular distinguishing structures.

Records (Fig. 5). INDONESIA: Sumatra: no specific locality (1 ♀, BMNH, holotype of *Cerceris ferox*). Java: Bantam: Malingping (1 ♂, RMNH, holotype of *Cerceris bantamensis*). EAST MALAYSIA: Sabah: Kota Kinabalu (1 ♀, CAS, as Jesselton), Poring Springs in Kota Kinabalu (1 ♀, 1 ♂, CAS), Sandakan (1 ♂, CAS), Kampung Ulu Dusun (2 ♀, 1 ♂, CAS). WEST MALAYSIA: Johore: Kota Tinggi (1 ♂, CAS), Sungai Seluyut (1 ♀, 3 ♂, CAS). Perak: Tapah Hills (1 ♀, CAS). Perlis: Kangar (1 ♂, CAS). THAILAND: Yala (= Jalor): Biserat (Bingham, 1903, 1905).

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package by Syncroscopy, Jere Schweikert prepared a database for map localities, and Michelle Koo generated the distribution maps using GIS program.

References

Bingham CT (1897) Hymenoptera. – Vol. I. Wasps and bees. In: Blanford WT (Ed) Fauna of British India, including Ceylon and Burma. Taylor and Francis, London.

Bingham CT (1903) Diagnoses of Aculeate Hymenoptera. Fasciculi Malayenses. Zoology 1: iii–vii.

Bingham CT (1905) Report on the Aculeate Hymenoptera. Fasciculi Malayenses. Zoology 3: 16–19, pl. A, [1].

Bohart RM, Menke AS (1976) Sphecid wasps of the world. A generic revision. University of California Press, Berkeley, Los Angeles, London, 1 color plate, IX + 695pp.

Cameron P (1890) Hymenoptera Orientalis [*sic*], or contributions to a knowledge of the Hymenoptera of the Oriental Zoological Region. Part II. Memoirs and Proceedings of the Manchester Literary & Philosophical Society (Series 4) 3: 239–284, pls. IX–X.

Dalla Torre CG (1897) Catalogus Hymenopterorum hucusque descriptorum systematicus et synonymicus, Volumen VIII: Fossores (Sphegidae). Guilelmi Engelmann, Lipsiae [= Leipzig], 749 pp.

Hua L (2006) Superfamily Apoidea (Sphecoidea) In: Hua L (Ed) List of Chinese insects. Vol. IV. Sun-Yat-sen University Press, Guangzhou, 274–299.

Maidl F, Klima A (1939) Pars 8: Sphecidae I. (Astatinae – Nyssoninae). In: Hedicke H (Ed) Hymenopterorum Catalogus. Dr. W. Junk, Verlag für Naturwissenschaften, 's-Gravenhage, 150 pp.

Nemkov PG (1999a) New genus and species of the digger wasps of tribe Gorytini (Hymenoptera: Sphecidae, Nissoninae [*sic*]) from Malay Peninsula. Far Eastern Entomologist 74: 1–5.

Nemkov PG, Pulawski WJ (2009) A cladistic analysis of Gorytina (Hymenoptera: Crabronidae: Bembicini), with a reclassification of the subtribe. Zootaxa 2009: 1–17.

Schletterer A (1887) Die Hymenopteren-Gattung *Cerceris* Latr. mit vorzugsweiser Berücksichtigung der paläarktischen Arten. Zoologische Jahrbücher. Abtheilung für Systematik, Geographie und Biologie der Thiere 2: 349–510, pl. XV.

Smith F (1856) Catalogue of hymenopterous insects in the collection of the British Museum. Part IV. Sphegidae, Larridae and Crabronidae. Taylor and Francis, London, 207–497.

Turner RE (1912) A monograph of wasps of the genus *Cerceris* inhabiting British India. With notes on other Asiatic species. The Journal of the Bombay Natural History Society 21: 476–516, pls. A-B (31 Mar.), 794–819, pls. C–D (30 July).

Turner RE (1914) Notes on fossorial Hymenoptera. – XII. On some new Oriental species. The Annals and Magazine of Natural History (Series 8) 14: 245–257.

Vecht J van der (1964) The *Cerceris* species of Java (Hymenoptera Sphecoidea). Zoologische Mededelingen (Leiden) 39: 348–368.