

Provisional Distributional Checklist of Hong Kong Social Wasps (Hymenoptera: Vespidae: Vespinae, Polistinae, Stenogastrinae)

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ABSTRACT

We list 27 species of social vespids recorded to date in Hong Kong in the subfamilies Stenogastrinae, Polistinae and Vespinae. Synonymies, generic revisions and species distribution along with literature references are also given.

Key words: Vespidae, Stenogastrinae, Polistinae, Vespinae, *Eustenogaster*, *Vespa*, *Vespula*, *Polistes*, *Ropalidia*, *Parapolybia*

INTRODUCTION

The social wasps, i.e. hornets, yellow-jackets, paper wasps and hover wasps are well represented in Hong Kong. To date, however, there is no checklist for these Hong Kong social wasps that includes well corroborated taxonomic information, although attempts have been made previously in an identification guide (Barthélémy, 2005) and a monograph on hornets occurring in Hong Kong (Lee, 2010).

The social wasps all construct nests, with the number of cells ranging in Hong Kong from several thousand in large nests of hornets (*Vespa velutina* Lepeletier, 1836 and *Vespa affinis* (Linnaeus, 1764) to less than 20 for hover wasps. All the social wasps in Hong Kong are seasonal in their colony activities, save for *Vespula flaviceps* (Smith, 1858), which may initiate nests all year long. Many species select man-made structures for nesting sites. All species are predaceous on other arthropods as food for larvae, while the adults feed essentially on carbohydrates emanating from plant sources (nectar, sap). As such social wasps play important roles in ecosystems and should be regarded as valid bio-indicators of environmental conditions and their predaceous habits make them potentially effective biological control agents (Nugroho et al. 2011).

The Vespidae comprise six monophyletic subfamilies worldwide (Pickett & Carpenter 2010), of which three, the Stenogastrinae, Polistinae and Vespidae, are social (Carpenter 1982) and represented locally. The Stenogastrinae are distributed from India to New Guinea and comprise 61 valid species, of which one is known to occur in Hong Kong. The Polistinae are cosmopolitan and are divided into four tribes, of which two are present in Hong Kong, the Polistini (about 220 species worldwide, nine species in Hong Kong) and the Ropalidiini (about 270 species worldwide, seven species in Hong Kong). Finally the cosmopolitan Vespinae comprise nearly 70 species, of which ten occur in Hong Kong. Most vespine species (especially *Vespa* species) show

remarkable colour variation, which historically has led to the formal recognition of many subspecies. Archer (1991, 1992, 1994, 1995 and 1997) synonymised subspecies of *V. affinis*, *V. crabro*, *V. ducalis*, *V. mandarinia*, *V. tropica* and *V. velutina* under the nominate species, and Carpenter and Kojima (1997) sank all remaining subspecies into their nominate species.

We concur with Nixon and Wheeler (1990) that in a phylogenetic system a subspecies has no place; however, the species level taxonomy in the Polistinae is yet much behind that of the Vespinae and still include many subspecific taxa of which proper status, diagnosable species or synonyms, have not yet been determined. Consequently, we have maintained subspecies for the genus *Polistes*, following the most recent practice.

The present species checklist was made based on specimens that we collected in Hong Kong and are deposited in our personal collections and in the Natural History Collection at Ibaraki University, Mito, Japan. Nomenclatural information was basically compiled by extracting the information from the checklists/catalogues of social wasps uploaded on the web pages of one of the authors (JK; <http://iunh2.sci.ibaraki.ac.jp/wasp/list.html>).

The arrangement of the species in each genus/subgenus is alphabetical and each name is accompanied by the original citation, followed by synonymies and generic changes (incorrect spellings are indicated by an exclamation mark in square brackets), which are listed chronologically. We also provide a distributional summary for which we have chosen to designate Hong Kong and Taiwan independently of China for the sole purpose of reflecting the distributional records. The type depositories (as far as they were determined based on the literature) are given in brackets after the original locality(ies). The abbreviations of the museums/institutions in which the type materials are deposited are as follows:

BMNH: The Natural History Museum, London, UK.
 FAKU: Department of Entomology, Faculty of Agriculture, Kyushu University, Fukuoka, Japan
 FSCA: Florida State Collection of Arthropods, Gainesville, USA.
 FSU: Faculty of Science, Kagoshima University, Japan.
 HEC: Hope Entomological Collection, University Museum, Oxford, UK.

- HNHM: Hungarian Natural History Museum, Budapest, Hungary.
- IEBR: Institute of Ecology and Biological Resources, Hanoi, Vietnam.
- IUNH: Natural History Collection at Ibaraki University, Mito, Japan.
- IMZ: Istituto e Museo di Zoologia, Università di Torino, Italy.
- ISEZ: Instytut Systematyki i Ewolucji Zwierząt, Polska Akademia Nauk, Kraków, Poland.
- IZAS: Institute Zoology Academia Sinica, Beijing, PRC.
- KIZAS: Kunming Institute of Zoology, Academia Sinica, Kunming, China.
- MCZ: Museum of Comparative Zoology, Harvard University, Cambridge, USA.
- MHN: Museum d'Histoire Naturelle, Genève.
- MNHN: Museum National d'Histoire Naturelle, Paris, France.
- MSNG: Museo Civico di Storia Naturale di Genova Giacomo Doria, Genova, Italy.
- NHMB: Naturhistorisches Museum, Basel, Germany.
- NIAES: National Institute of Agro-environmental Studies, Tsukuba, Japan.
- NUS: Zoological Reference Collection, Department of Zoology, National University of Singapore, Singapore.
- RMNH: Nationaal Natuurhistorisch Museum (formerly Rijksmuseum van Natuurlijke Historie), Leiden, Netherland.
- SEIHU: Systematic Entomology Institute, Hokkaido University Museum, Sapporo, Japan.
- TARI: Taiwan Agricultural Research Institute, Wufeng, Taichung, Taiwan.
- USNM: National Museum of Natural History, Washington, D.C, USA.
- ZMA: Zoologisch Museum Amsterdam, Amsterdam, Netherland.
- ZI: Zoological Institute, Russian Academy of Sciences, St Petersburg.
- ZMHU: Zoologisches Museum der Humboldt-Universität, Berlin, Germany.
- ZMUC: Universitets Kobenhavn, Zoologisk Museum, Kobenhavn, Denmark.
- ZMUU: Zoological Museum, Uppsala University, Uppsala, Norway.
- ZSBS: Zoologisches Sammlung des Bayerischen Staates, München, Germany.
- ZSNM: Zoologische Sammlung, Naturhistorisches Museum, Wien, Austria.

CHECKLIST OF SOCIAL VESPIDAE OCCURRING IN HONG KONG

Subfamily *Stenogastrinae* Bequaert, 1918

Genus *Eustenogaster* van der Vecht

Eustenogaster van der Vecht, 1969, *in* Nature and Life in S. E. Asia 6: 165.

Type species: *Ischnogaster micans* de Saussure, 1852, by original designation

Paravespa Bell, 1936, J. Bombay Nat. Hist. Soc. 38: fig. 1, 803, 806.

Type species: *Paravespa eva* Bell, 1936 (= *Stenogaster eximioides* Dover and Rao, 1922), by subsequent designation of van der Vecht and Carpenter, 1990, Zool. Verh., Leiden 260: 44. Junior homonym of *Paravespa* Radoszkowski, 1886.

nigra Saito and Nguyen

Eustenogaster scitula (Bingham, 1897): Nguyen and Khuat, 2003: 696 (misidentification, partly).

Eustenogaster nigra: Nguyen and Khuat, 2004: 38, 40. Nomen nudum.

Eustenogaster nigra Saito and Nguyen, 2006, Am. Mus. Novitat. 3534: 1-5 – “Viet Nam: Tam Dao (outside town), ca. 900 m, Vinh Phuc” (holotype female, IUNH as a long term loan from the IEBR).

Distribution: Vietnam. South China. **Hong Kong.**

Subfamily *Polistinae*

Tribe *Polistini* Lepageletier, 1836

Genus *Polistes* Latreille

Subgenus *Gyrostoma* Kirby

Gyrostoma Kirby, 1828, *in* Kirby and Spence, Introd. Entomol. Ed. 5 (of whole work), Ed. 2 (of vol. 3): 36, 631, replacement name for *Cyclostoma* Kirby, 1826, non Lamarck, 1799 (Mollusca).

Cyclostoma Kirby, 1826, *in* Kirby and Spence, Introd. Entomol. Ed. 1, 3: 36, 633, genus.

Type species: *Cyclostoma gigas* Kirby, 1826, by monotypy.

Megapolistes van der Vecht, 1968, Bijdr. Dierk. 38: 97, subgenus of *Polistes* Latreille.

Type species: *Vespa olivacea* DeGeer, 1773, by original designation.

Nygmopolistes Richards, 1973, Rev. Bras. Entomol. 17: 91, 93, 98, subgenus of *Polistes* Latreille.

Type species: “*Polistes sulcatus* Smith, 1852 (= *P. rugifrons* Cameron, 1900)” by original designation.

Megapostes [!]; Lee, 1982, *Hornets Agric. Regions China*: 122, 124, 126.

gigas (Kirby)

Cyclostoma gigas Kirby, 1826, in Kirby and Spence, *Introd. Entomol. Ed. 1, 3*: 36 - "China".

Polistes orientalis Lepeletier, 1836, *Hist. Nat. Insect. Hym. 1*: 519 - "de la Chine".

Polistes gyrostoma de Saussure, 1854, *Et. Fam. Vesp. 2*: 104 - "les Indes Orientales" (BMNH).

Gyrostoma orientalis "Kirby" de Saussure, 1854, *Et. Fam. Vesp. 2*: 104. As synonym of *Polistes gyrostoma* de Saussure. Unavailable under Art. 11(e) of the International Code of Zoological Nomenclature.

Polistes confusus Smith, 1857, *Cat. Hym. Br. Mus. 5, Vesp.*: 102 - "India, China" (BMNH).

Distribution: India: Sikkim. Vietnam. South China. **Hong Kong.** Taiwan.

olivaceus (DeGeer)

Vespa olivacea DeGeer, 1773, *Mem. Hist. Insect. 3*: 582, pl. 29 fig. 9 - "en Amérique" (incorrect labelling).

Vespa hebraea Fabricius, 1787, *Mant. Insect. 1*: 292 - "in India orientali" (India) (ZMUC).

Vespa undata Olivier, 1791, *Encyc. Method. 6*: 684 - "Indes Orientales" (India).

Vespa macaensis Fabricius, 1793, *Entomol. Syst. 2*: 259 - "in Macao Indiae" (BMNH & ZMUC).

Polistes flavipennis de Saussure, 1853, *Et. Fam. Vesp. 2*: 52 - "Le cap de Bonne-Espérance" (MNHN).

Polistes hebreus [!]; Radoszkowski, 1871, *Horae Entomol. Soc. Ross. 8*: 195.

Polistes olivaceous [!]; Sonan, 1943, *Trans. Nat. Hist. Soc. Taiwan 33(242)*: 467-484.

Distribution: Madagascar. Reunion. Mauritius. Tanzania: Zanzibar. Amirantes. Seychelles. Chagos Archipelago. Egypt. Oman. Iran. Afghanistan. India: Jammu and Kashmir, Assam, Himachal Pradesh, Karnataka, Madhya Pradesh, Manipur, Sikkim, Tripura, Uttar Pradesh, West Bengal. Sri Lanka. Nepal. Myanmar. Southern China. **Hong Kong.** Vietnam. Laos. Cambodia. Thailand. Malaysia. Singapore. Indonesia: Kalimantan. Marianas. New Caledonia. Fiji. Tongas. Samoa. Society Islands: Tahiti. Tuamotu Archipelago: Fakarava. Marquesas: Tahuata, Hiva Oa. Introduced: Chile: Easter Islands; USA: Hawaii; Australia: Queensland; New Zealand.

jokahamae Radoszkowsky

Polistes jokahamae Radoszkowski, 1887, *Horae Entomol. Soc. Ross. 21*: 435 - "Japon: Jokahama" (ISEZ).

Polistes japonicus Cameron, 1900, *Ann. Mag. Nat. Hist. (7)6*: 417, non de Saussure, 1858 - "Japan" (lectotype female, HEC).

Polistes jadvigae Dalla Torre, 1904, *Genera Insect. 19*: 70. Replacement name for *japonicus* Cameron, 1900, non de Saussure, 1858.

Polistes perkinsi Kohl, 1908, *Denkschr. Akad. Wiss., Wien 81*: 313.

Polistes okinawensis Matsumura and Uchida, 1926, *Insect. Matsum. 1(1)*: 34 - "Okinawa (Okinawa-honto, Ishigakijima)", (SEIHU).

Polistes macaensis tahitensis Cheesman, 1928, *Ann. Mag. Nat. Hist. (10)1*: 180 - "Tuamotu Arch.: Napuka, ... Society Is.: Tahiti, ... Bora Bora" (BMNH).

Polistes perkinsii [!]; Liu, 1937, *Peking Nat. Hist. Bull. 11(3)*: 313.

Polistes fadwigae [!]; Yoshikawa, 1962, *J. Biol. Osaka City Univ. 13*: 20.

Polistes okinawaensis [!]; Yoshikawa, 1962, *J. Biol. Osaka City Univ. 13*: 33.

Distribution: India. China. **Hong Kong.** Taiwan. Mongolia. Korea. Japan: Hokkaido, Honshu, Shikoku, Kyushu, Ryukyu Islands. Society Islands: Bora Bora, Tahiti. Tuamotu Archipelago: Napuka. Introduced in the USA: Hawaii.

rothneyi grahami van der Vecht

Polistes rothneyi grahami van der Vecht, 1968, *Bijdr. Dierk. 38*: 104 - "Hangchow" (China) (USNM), also from various places in China.

Distribution: China. **Hong Kong**

Subgenus *Polistella* Ashmead

Polistella Ashmead, 1904, *Proc. U.S. Natl. Mus. 28*: 133.

Type species: *Polistes manillensis* de Saussure, 1853, by original designation. (Misidentification of *Protopolybia sedula* (de Saussure) = *P. exigua* (de Saussure)).

Stenopolistes van der Vecht, 1972 (1971), *Entomol. Essays to commemorate the retirement of Prof. K. Yasumatsu*: 101, subgenus of *Polistes* Latreille.

Type species: *Polistes lateritius* Smith, 1857, by original designation.

japonicus de Saussure

Polistes japonicus de Saussure, 1858, *Rev. Mag. Zool. (2) 10*: 260 - "le Japon" (lectotype, MHN).

Polistes erythrocerus Cameron, 1900, *Ann. Mag. Nat. Hist. (7) 8*: 418 - "Kamakura, Japan" (BMNH).

Polistes japonicus var. *formosana* form *koshunensis* Sonan, 1938, Arbeit. Morphol. Taxon. Entomol. Berlin Dahlem 5: 68. Unavailable under Art. 45(g) (ii)(1) of the International Code of Zoological Nomenclature.

Polistes japonicus [!]; Kuo and Yeh, 1987, J. Natl. Chiayi Inst. Agric. 16: 81.

Polistes hengchunensis Kuo, 1987, in Kuo and Yeh, J. Natl. Chiayi Inst. Agric. 16: 81.

Polistes hengchun [!]; Kuo and Yeh, 1987, J. Natl. Chiayi Inst. Agric. 16: 82.

Polistes shekouensis Kuo, 1987, in Kuo and Yeh, J. Natl. Chiayi Inst. Agric. 16: 82.

Polistes japonicus var. *fomosanus* [!]; Kuo and Yeh, 1987, J. Natl. Chiayi Inst. Agric. 16: 83.

Distribution: Vietnam. China. **Hong Kong**. Taiwan. Korea. Japan: Honshu, Shikoku, Kyushu, Osumi Islands.

sagittarius sagittarius de Saussure

Polistes sagittarius de Saussure, 1853, Et. Fam. Vesp. 2: 56 - "Les Indes Orientales, la Chine" (India & China) (MHN & BMNH).

Polistes sagittarium [!]; Das and Gupta, 1989, Orient. Insect. Monogr. 11: 67.

Distribution: India: Himachal Pradesh, Delhi, Uttar Pradesh, Sikkim, West Bengal, Assam, Nagaland, Manipur, Tripura. Nepal. China. **Hong Kong**. Myanmar. Thailand. Malaysia. Singapore. Indonesia: Sumatra, Kalimantan, Java, Bali, Sulawesi.

stigma stigma (Fabricius)

Vespa stigma Fabricius, 1793, Entomol. Syst. 2: 275 - "India orientali" (ZMUC).

Distribution: Thailand. Malaysia. Singapore. Indonesia: Sumatra, Java, Bali, Lombok. **Hong Kong**. Taiwan.

strigosus strigosus Bequaert

Polistes strigosus Bequaert, 1940, Trans. Am. Entomol. Soc. 66: 269 - "Wong-Sa-Shui, South Kwangsi, China" (MCZ).

Polistes strigosus [!]; Das and Gupta, 1984, Orient. Insect. 17: 415.

Distribution: China. **Hong Kong**. Taiwan.

Subgenus *Polistes* Latreille

Polistes Latreille, 1802, Hist. Nat. Crust. Insect. 3: 363.

Type species: *Vespa gallica* Linnaeus, 1767, by subsequent designation of Latreille, 1810, Consid. Gen. Crust. Arachn. Insect.: 438.

Polistes [!]; Palisot de Beauvois, 1818, Insect. Recueill. Afrique Amerique: pl. 8; du Buysson, 1892, Ann. Soc. Entomol. France 61: 59; H. von Ihering, 1896, Zool. Anz. 19: 452.

Eupolistes Dalla Torre, 1904, Genera Insect. 19: 68, name for "Premiere division" of *Polistes* Latreille in de Saussure, 1853, Et. Fam. Vesp. 2: 45 (61 species).

Type species: *Vespa gallica* Linnaeus, 1767, by subsequent designation of Richards, 1973, Rev. Bras. Entomol. 17 (13): 86.

Pseudopolistes Weyrauch, 1937, Zool. Jahrb. (Abt. Syst. Okol. Geogr. Tiere) 70: 266. Unavailable; no type species designated.

Sulcopolistes Bluthgen, 1938 (1937), Konowia 16: 273, subgenus of *Polistes* Latreille.

Type species: *Polistes semenowi* Morawitz, 1889, by original designation.

Polistula Weyrauch, 1938, Arbeit. Physiol. Angewand. Entomol. 5(3): 273. Unavailable; no type species designated.

Polistula Weyrauch, 1939, Arch. Naturgesch. (N. E) 8(2): 148.

Type species: *Polistes kohli* Dalla Torre, 1904 (= *Polistes biglumis* Linnaeus, 1758) by original designation.

Pseudopolistes Weyrauch, 1939, Arch. Naturgesch. (N. F) 8(2): 195, validation by type selection of *Pseudopolistes* Weyrauch, 1937.

Type species: *Polistes sulcifer* Zimmermann, 1930, by original designation.

Leptopolistes Bluthgen, 1943, Arch. Naturgesch. (N. F) 12(1): 99, 121, subgenus of *Polistes* Latreille.

Type species: *Polistes associus* Kohl, 1898, by original designation.

chinensis chinensis (Fabricius)

Vespa chinensis Fabricius, 1793, Entomol. Syst. 2: 261 - "in China" (ZMUC).

Polistes caspicus Yoshikawa, 1962, J. Biol., Osaka City Univ. 13: 21, nomen nudum.

Distribution: Russia: Siberia. China. **Hong Kong**. Taiwan. Japan: Okinawa.

Tribe **Ropalidiini**

Genus *Parapolybia* de Saussure

Parapolybia de Saussure, 1854, Ét. Fam. Vesp. 2: 207, division of subgenus *Polybia* of genus *Polybia* Lepeletier.

Type species: *Polybia indica* de Saussure, 1854, by subsequent designation of Bingham, 1897, Fauna Br. India, Hym. 1: 382.

indica (de Saussure)

Polybia indica de Saussure, 1854, Ét. Fam. Vesp. 2: 207, pl. 26 fig. 3 (in division *Parapolybia*), female - "La Chine" (MNHN).

Stelopolybia indica; du Buysson, 1913, Bull. Soc. Entomol. France 1913: 298.

Parapolybia indica; von Schulthess, 1913, Mitt. Schweiz. Entomol. Ges. 12: 153 & 154, pl. 11 fig. 1, pl. 11B fig. 7.

Parapolybia indica indica; van der Vecht, 1966, Zool. Verh., Leiden 82: 26, 27, fig. 11a-b.

Distribution: India. Nepal. Myanmar. Thailand. Vietnam. China. **Hong Kong**. Taiwan. Korea. Japan.

Remarks: Currently four subspecies, nominotypical subspecies, *bioculata* van der Vecht, 1966, *fulvinerva* (Cameron, 1900) and *tinctipennis* (Cameron, 1900), are recognized in *P. indica*. Their taxonomic status, diagnosable species or local colour forms, have not yet been determined; furthermore there could be more than two unnamed species in the one currently treated as *P. indica indica* (F. Saito-Morooka & J. Kojima, unpublished data).

nodosa van der Vecht

Parapolybia nodosa van der Vecht, 1966, Zool. Verh., Leiden 82: 25 & 39 - "Formosa: ... Pilam" (RMNH). Also from four other localities in Taiwan; Myanmar (Tenasserim); China (Fukien); India (Umbaso); Thailand.

Distribution: India. Nepal. Myanmar. Thailand. Vietnam. China. **Hong Kong**. Taiwan.

varia (Fabricius)

Vespa varia Fabricius, 1787, Mant. Insectorum 1: 293 (in subgenus *Parapolybia*) - "China" (ZMUC).

Polistes varia; Fabricius, 1804, Syst. Piez.: 279.

Polybia orientalis de Saussure, 1854, Ét. Fam. Vesp. 2: 208, pl. 26 fig. 2 - "La Chine" (BMNH).

Polybia artifex Smith, 1860 (1861), J. Proc. Linn. Soc. Zool. 5: 90, female - "Makassar" (Sulawesi) (HEC).

Icaria quadrimaculata Cameron, 1900, Ann. Mag. Nat. Hist. (7) 6: 496, male - "Bengal, probably Barrackpore" (HEC).

Icaria carinata Cameron, 1900, Ann. Mag. Nat. Hist. (7) 6: 499, male - "Khasia Hills" (India) (HEC). Junior primary homonym of *Icaria carinata* de Saussure, 1890.

Icaria wroughtoni Cameron, 1900, Ann. Mag. Nat. Hist. (7) 6: 500, - "Poona" (holotype female, BMNH no. 18.730).

Icaria fuscipennis Cameron, 1900, Ann. Mag. Nat. Hist. (7) 6: 501, female - "Khasia Hills" (India), (HEC).

Icaria cameroni Dalla Torre, 1904, Genera Insectorum 19: 73, replacement name for *Icaria carinata* Cameron, 1900, non de Saussure, 1890 - (*I. Cameroni* [!]).

Icaria singaporensis Cameron, 1904, J. Straits Br. R. Asiat. Soc. 41: 120, female - "Singapore", (type depository unknown, though indicated as NUS in the original citation).

Icaria carinifera Schulz, 1906, Berlin. Entomol. Zeitschr. 51: 328, replacement name for *Icaria carinata* Cameron, 1900, non de Saussure, 1890.

Polybia varia; Schulz, 1912, Berlin. Entomol. Z. 57: 86, 101, (syn.: *Polybia orientalis* de Saussure).

Icaria annulipes Cameron, 1913, Ind. For. Rec. 4: 115 - "Dehra Dun" (India: Uttar Pradesh) (BMNH no. 18.732a & b).

Stelopolybia disticha du Buysson, 1913, Bull. Soc. Entomol. France 1913: 298, female - "Chine: Kiang-si ...; Chang-Hai" (MNHN).

Stelopolybia orientalis; du Buysson, 1913, Bull. Soc. Entomol. France 1913: 298, 299.

Parapolybia orientalis; von Schulthess, 1913, Mitt. Schweiz. Entomol. Ges. 12: 153, 155, pl. 11 fig. 3, 11B fig. 8; 1927, Suppl. Entomol., Berlin 16: 83.

Parapolybia orientalis var. "*carinata* Smith i. litt."; von Schulthess, 1913, Mitt. Schweiz. Entomol. Ges. 12: 155, 156, pl. 11B fig. 9.

Parapolybia disticha; von Schulthess, 1927, Suppl. Entomol., Berlin 16: 83.

Parapolybia varia; Liu, 1936-37, Peking Nat. Hist. Bull. 11 (3): 205, 348.

Parapolybia varia varia; Giordani Soika, 1976, Ann. Hist. Nat. Mus. Natl. Hung. 68: 287.

Distribution: India. Nepal. Myanmar. Thailand. Malaysia: Peninsular Malaysia, Sabah, Sarawak. Indonesia: Sulawesi, Sumbawa, Sumba, Riouw Archipelago (= Kepulauan Riau). Philippines. Vietnam. China. **Hong Kong**. Korea. Japan.

Genus *Ropalidia* Guérin-Méneville

Ropalidia Guérin-Méneville, 1831, in Duperrey, Voyage de la Coquille, Zoologie, Atlas, Insectes: pl. 9 fig. 8.

Type species: *Ropalidia maculiventris* Guérin-Méneville, 1831, by monotypy.

Rhopalidia Guérin-Méneville, 1838, in Duperrey, Voyage de la Coquille, Zoologie 2, 2^e partie, 1^{ère} division: 266. Non *Rhopalidia* Lepeletier, 1836, but treated as an incorrect spelling of *Ropalidia* Guérin-Méneville, 1831 and suppressed by

Opinion 1051 (ICZN, 1976).
Rhopalia [!] Guérin-Méneville, 1838, in Duperrey, Voyage de la Coquille, Zoologie 2: 317 (in explanation of plates). Incorrect spelling of *Ropalidia* Guérin-Méneville.

Anthreneida White, 1841, Ann. Mag. Nat. Hist. (1) 7: 321, as genus. Synonymized under *Ropalidia* Guérin-Méneville by Kojima, 1997, Nat. Hist. Bull. Ibaraki Univ. 1: 102.

Type species: *Anthreneida coronata* White, 1841 (= *Vespa sumatrae* Weber, 1801), by monotypy.

Icaria de Saussure, 1853, Ét. Fam. Vesp. 2: 22, pls. 4 & 5.

Type species: "*I. maculiventris* (Guer.)" (= *Ropalidia maculiventris* Guérin-Méneville, 1831), by subsequent designation of Bingham, 1897, Fauna Br. India, Hym. 1: 385.

Anthreneidea [!] de Saussure, 1854, Ét. Fam. Vesp. 2: 235. Incorrect spelling of *Anthreneida* White.

Icharia [!] Gribodo, 1892 (1891), Boll. Soc. Entomol. Ital. 23: 243. Incorrect spelling of *Icaria* de Saussure.

Icariastrum Dalla Torre, 1904, Genera Insectorum 19: 72, name for group I of genus *Icaria* de Saussure in de Saussure, 1862, Stettin. Entomol. Ztg. 23: 132 (5 species). Synonymized under *Anthreneida* White by van der Vecht, 1962: Zool. Verh. Leiden 57: 5.

Type species: *Icaria opulenta* Smith, 1857, by subsequent designation of Meade-Waldo, 1913, Ann. Mag. Nat. Hist. (8) 11: 46.

Icarielia Dalla Torre, 1904, Genera Insectorum 19: 72, name for group II of genus *Icaria* de Saussure in de Saussure, 1862, Stettin. Entomol. Ztg. 23: 132 (9 species). Synonymized under *Ropalidia* Guérin-Méneville by Kojima, 1997: Nat. Hist. Bull. Ibaraki Univ. 1: 103.

Type species: *Icaria flavopicta* Smith, 1857, by subsequent designation of Meade-Waldo, 1913, Ann. Mag. Nat. Hist. (8) 11: 46.

Icariella [!] Dalla Torre, 1904, Genera Insectorum 19, Index: 96. Incorrect spelling of *Icarielia* Dalla Torre.

Icariola Dalla Torre, 1904, Genera Insectorum 19: 72, name for group III of genus *Icaria* de Saussure in de Saussure, 1862, Stettin. Entomol. Ztg. 23: 133 (11 species). Synonymized under *Anthreneida* by Das and Gupta, 1989: Ori. Ins. Monogr. 11: 108.

Type species: *Icaria gregaria* de Saussure, 1853, by subsequent designation of Meade-Waldo, 1913, Ann. Mag. Nat. Hist. (8) 11: 46.

Zuba Cheesman, 1952, Ann. Mag. Nat. Hist. (12) 5: 2, 3 & 23, subgenus of *Ropalidia* (14 species). Unavailable: no type species designated.

Zuba Richards, 1978, Aust. J. Zool. Suppl. Ser. 61: 57; validation by type selection of *Zuba* Cheesman.

Type species: *Icaria gregaria* de Saussure, 1853, by original designation.

Paraicaria Gribodo, 1892 (1891), Boll. Soc. Entomol. Ital. 23: 248, as genus. Synonymized under *Ropalidia* Guérin-Méneville by Kojima, 1997: Nat. Hist. Bull. Ibaraki Univ. 1: 103.

Type species: *Paraicaria bicolor* Gribodo, 1892 (= *Ropalidia bicolorata* van der Vecht, 1962, replacement name), by monotypy.

Polistratus Cameron, 1906, in Wichmann, Nova Guinea 5, Zool. 1: 59, as genus. Synonymized under *Ropalidia* Guérin-Méneville by Kojima, 1997: Nat. Hist. Bull. Ibaraki Univ. 1: 103.

Type species: *Polistratus cariniscutis* Cameron, 1906 (= *Icaria brunnea* Smith, 1858), by monotypy.

fasciata (Fabricius)

Eumenes fasciata Fabricius, 1804, Syst. Piez.: 290 - "Java" (syntypes, ZMUC).

Polistes bioculata Fabricius 1804, Syst. Piez.: 278 - "nova Cambria" (ZMUC).

Icaria picta de Saussure, 1854, Ét. Fam. Vesp.: 238 - "Le Bengale" (India) (MNHN).

?*Icaria pendula* Smith; de Saussure, 1867, Reise Novara, Zool. 2, 1 Hym.: 22.

Icaria variegata Smith; Bingham, 1897, Fauna Br. India, Hym. I: 386 & 388 - "Poona, Bombay; Bangalore; Tenasserira" (India).

Icaria maculifrons Cameron, 1903b, J. Straits Br. R. Asiat. Soc. 39: 172 - "Santubong" (Borneo) (BNHM).

Icaria intermedia Cameron, 1905, Tijdschr. Entomol. 48: 70, female - "Tjandi near Semarang" (lectotype, ZMA).

Icaria ferruginea; Kuroiwa, 1908, Prov. List Hym. Loochoo: 5, misidentification.

Ropalidia variegata; Dover, 1929, Bull. Raffles Mus., Singapore 2: 47.

Ropalidia picta; van der Vecht, 1941, Treubia 18: 104, 111 & 145.

Ropalidia fasciata; van der Vecht, 1959, Arch. Neerl. Zool. 13(1), suppl. 1958: 245.

Distribution: Nepal. India. Myanmar. Thailand. Malaysia: Peninsular Malaysia, Sabah, Sarawak. Indonesia: Sumatra, Kalimantan, Nias, Bangka Island, Java, Karimon Djawa Island, Bali, Komodo, Flores, Timor. Vietnam. South China. **Hong Kong**. Taiwan. Philippines: Palawan. Japan: Ryukyu Islands.

hongkongensis (de Saussure)

Icaria hongkongensis de Saussure, 1854, Ét. Fam. Vesp. 2: 239 - "La Chine. Hong-Kong" (BNHM).
Ropalidia hongkongensis; Dover, 1926, China J. Sci. Arts 4: 233.

Ropalidia hongkongensis juncta van der Vecht, 1941, Treubia 18: 141, male, female - "Tjiboerial near Buitenzorg, W.-Java" (holotype, RMNH).

Distribution: South China. **Hong Kong.** India: Meghayala. Myanmar. Vietnam. Indonesia: Bangka, Java.

marginata (Lepeletier)

Vespa ferruginea Fabricius, 1793, Entomol. Syst. 2: 280 - "India orientali" (ZMUC). Junior primary homonym of *Vespa ferruginea* Gmelin, 1790, and *Vespa ferruginea* Olivier, 1792.

Polistes ferruginea; Fabricius, 1804, Syst. Piez.: 277.

Polistes sumatrae Fabricius, 1804, Syst. Piez.: 273 - "Sumatra" (ZMUC) - non *Ropalidia sumatrae* (Weber) (= *Vespa sumatrae* Weber, 1801).

Epipona marginata Lepeletier, 1836, Hist. Nat. Insectes Hym. 1: 541, male, female - "Inde" (IMZ?).

Icaria ferruginea; de Saussure, 1853, Ét. Fam. Vesp. 2: 38 - "Indes Orientales" (MNHN).

Icaria marginata; de Saussure, 1854, Ét. Fam. Vesp. 2: 237 - "Indes Orientales".

Icaria ferruginea; Smith, 1871, J. Proc. Linn. Soc. Zool. 11: 378.

Icaria jucunda Cameron, 1898, Mem. Proc. Manchr. Lit. Philos. Soc. 42 (11): 46, female - "New Guinea" (HEC).

Icaria pruinosa Cameron, 1906, Tijdschr. Entomol. 49: 228, female - "Digoel" (New Guinea) (ZMA).

Ropalidia marginata; Dover and Rao, 1922, J. Asiat. Soc. Bengal (n. ser.) 18: 244.

Ropalidia jucunda; Bequaert, 1932, Rés. Scient. Voyage Indes Or. Néerl. Léopold de Belgique 4 (5): 50.

Ropalidia pruinosa; Bequaert, 1932, Rés. Scient. Voyage Indes Or. Néerl. Léopold de Belgique 4 (5): 51.

Ropalidia marginata var. *sundaica* "v. d. Vecht (*in lit.*)" Bequaert and Yasumatsu, 1939, Tenthredo 2: 315. Nomen nudum.

Ropalidia marginata sundaica Esaki, 1939, Vol. Jubilaré pro Prof. S. Yoshida: 238. Nomen nudum. van der Vecht, 1941 Treubia 18: 122, - "Koeripan, between Batavia and Buitenzorg, W. Java" (holotype, RMNH).

Ropalidia marginata jucunda; van der Vecht, 1941, Treubia 18: 104 (syn: *I. pruinosa* Cameron), 124.

Ropalidia marginata marginata; van der Vecht, 1941, Treubia 18: 109, 117.

Ropalidia marginata indica van der Vecht, 1941, Treubia 18: 121 ("holotype" from Amballa) (replacement name for *Vespa ferruginea* Fabricius, 1793).

Ropalidia canaria Cheesman, 1952, Ann. Mag. Nat. Hist. (12) 5: 3, 19 - "Papua, Kokoda" (BMNH).

Distribution: Pakistan. India. Sri Lanka. **Hong Kong.** New Guinea. New Britain. Australia: Thursday Island, Queensland. Malaysia: Peninsular Malaysia, Sabah, Sarawak. Indonesia: Bangka, Sumatra, Kalimantan, Java, Kariman Djawa, Lesser Sunda Island, Sulawesi, Talud Island, Tukang Besi Island. Philippines. Mariana Islands. Palau. Volcano Islands.

stigma (Smith)

Polybia stigma Smith, 1858, J. Proc. Linn. Soc. Zool. 2: 114 - "Borneo (Sarawak)" (HEC).

Icaria bioculata (Fabricius); de Saussure, 1867, Reise Novara Zool. 2 (Hym.): 22.

Parapolybia stigma; von Schulthess, 1913, Mitt. Schweiz. Entomol. Ges. 12: 164 (incertae sedis).

Icaria stigma; du Buysson, 1913, Bull. Soc. Entomol. France 1913: 296.

Ropalidia stigma stigma; van der Vecht, 1941, Treubia 18: 110, 126.

Distribution: India. Sri Lanka. Myanmar. Thailand. Malaysia: Peninsular Malaysia, Sabah, Sarawak. Vietnam. **Hong Kong.** Indonesia: Sumatra, Java, Bali. Philippines.

Subfamily **Vespinæ**Genus *Vespa* Linnaeus

Vespa Linnaeus, 1758, Syst. Nat., ed. 10, 1: 343, 572.

Type species: "*Vespa crabro*, Fab." (= *Vespa crabro* Linnaeus, 1758), designated by Latreille, 1810, Consid. Gén. Arachn. Ins.: 438.

Macrovespa Dalla Torre, 1904, Gen. Ins. 19: 64.
Type species: *Vespa crabro* Linnaeus, 1758, Designated by Bequaert, 1930, Bull. Brooklyn Ent. Soc. 25:64.

Nyctovespa van der Vecht, 1959, Zool. Meded. Leiden 36(13): 210.

Type species: *Vespa binghami* du Buysson, 1905 by original designation.

affinis (Linnaeus)

Apis affinis Linnaeus, 1764, Mus. Ludov. Ulricæ:

417 - "in *Calidis regionibus*" (holotype, ZMUU). *Vespa affinis* Fabricius, 1787, Mant. Ins. 1: 287 - "in China" (ZMUC). Junior secondary homonym of *Vespa affinis* (Linnaeus, 1764).

Vespa unifasciata Olivier, 1791, Encycl. Méthod. Ins. 6: 677 - "Indes orientales" (type depository unknown). Junior primary homonym of *Vespa unifasciata* Gmelin, 1790.

Vespa alduini Guérin-Méneville, 1831, in Duperrey, Voyage Coquille, Zool., Ins. Hym. Atlas: pl.9 fig. 6; 1838, Texte 2(2): 264 - (Indonesia) (holotype, MSNG).

Vespa bimaculata Guérin-Méneville, 1838, in Duperrey, Voyage Coquille, Zool., Ins. Hym. Texte 2(2) : 264. Unnecessary replacement name for *Vespa alduini* Guérin-Méneville. Junior primary homonym of *Vespa bimaculata* Geoffrey, 1785 and of *Vespa bimaculata* Olivier, 1792.

Vespa nigripennis de Saussure, 1854, Et. Fam. Vesp. 2: 156 - "Les Philippines" (holotype, BMNH). Junior primary homonym of *Vespa nigripennis* DeGeer, 1773.

Vespa cincta var. *picea* du Buysson, 1905, Ann. Soc. Ent. France 73: 537 - (New Guinea) (lectotype, MSNG). Designation of lectotype by van der Vecht, 1959, Zool. Meded., Leiden 36: 214.

Vespa indosinensis Pérez, 1910, Act. Soc. Linn. Bordeaux 64: 8 - "Anam" (lectotype, MNHN).

Vespa formosana Sonan, 1927, Tans. Nat. Hist. Soc. Formosa 17 (89): 125 - (Taiwan) (lectotype, TARI).

Vespa affinis continentalis Bequaert, 1936, Treubia 15(4): 350 - "India: Mangalore" (holotype, USNM).

Vespa affinis var. *hainanensis* Bequaert, 1936, Treubia 15(4): 349 - "China: Hainan Island" (holotype, MCZ).

Vespa affinis nigriventris van der Vecht, 1957, Zool. Verh., Leiden 34: 29 - "Palawan" (Philippines) (holotype, FSCA).

Vespa affinis rufonigrans van der Vecht, 1957, Zool. Verh., Leiden 34: 29 - "Pulau, Northwest Celebes" (Indonesia) (holotype, RMNH).

Vespa affinis archiboldi van der Vecht, 1957, Zool. Verh., Leiden 34: 32 - "Hollandia" (Indonesia) (holotype, RMNH).

Vespa affinis moluccana van der Vecht, 1957, Zool. Verh., Leiden 34: 32 - "Sapura Island near Amboina" (Indonesia) (holotype, RMNH).

Vespa affinis alticincta van der Vecht, 1957, Zool. Verh., Leiden 34: 33 - "New Britain" (holotype, BMNH).

Distribution: India: Bihar, West Bengal, Maharashtra, Karnataka, Tamil Nadu, Kerala,

Sikkim, Assam. Sri Lanka. Myanmar. China: Guangdong, Fujian, Guangxi, Hunan, Hubei, Shanghai. **Hong Kong.** Taiwan. Japan: Ryukyu Islands south of Miyako I. Thailand. Laos. Vietnam. Malaysia: Peninsular Malaysia, Sabah, Sarawak. Singapore. Indonesia: Sumatra, Nias, Bangka, Java, Kalimantan, Sulawesi, Talaud Island, Buton, Salayar, Sinda Is., Timor, Moluccas (Morotai, Ternate, Tidore, Halmahera, Bacan, Buru, Ambon, Saparua, Haruku, Seram), Kai Misool, Salawati, Waigeo, Sorong, Yapen, New Guinea (Irian Jaya). Papua New Guinea, including New Britain and New Ireland. Philippines: Palawan, Dumarán, Labuan, Mindanao, Samar, Luzon.

analís Fabricius

Vespa analís Fabricius, 1775, Syst. Ent.: 363, (BMNH).

Vespa crabro sphinx Christ, 1791, Naturgesch. Ins.: 217.

Vespa tyrannica Smith, 1857, Cat. Hym. Brit. Mus. 5, Vesp.: 119 - "Singapore" (lectotype, BMNH). Designation of lectotype by van der Vecht, 1959, Zool. Meded., Leiden 36: 215.

Vespa japonica Smith, 1868, Ent. Mon. Mag. 4: 279 - "Hakodadi, in Japan" (lectotype, BMNH). Junior primary homonym of *Vespa japonica* Radoszkowski, 1857, and of *Vespa japonica* de Saussure, 1858. Designation of lectotype by Kojima, 1997, Nat. Hist. Bull. Ibaraki Univ. 1: 20.

Vespa parallela André, 1884, Ann. Soc. Ent. France (6)4, Bull.: lxi - "Wladivostock, sur l'Amour, Sibérie orientale" (MNHN).

Vespa insularis Dalla Torre, 1894, Cat. Hym. 9: 147. Replacement name for *Vespa japonica* Smith, 1868.

Vespa tridentata Cameron, 1903a, Entomologist 36: 278 - "Japan" (lectotype, BMNH). Designation of lectotype by Kojima, 1997, Nat. Hist. Bull. Ibaraki Univ. 1: 20.

Vespa nigrans du Buysson, 1903, Bull. Soc. Ent. France 1903: 175 - "Yun-nam, Tsé-Kou" (China) (MNHN).

Vespa parallela var. *Biroi* du Buysson, 1905, Ann. Soc. Ent. France 73: 487 & 513 - "Singapore" (lectotype, MNHN). Designation of lectotype by van der Vecht, 1957, Zool. Verh., Leiden 34: 14.

Vespa analís var. *tenebrosa* du Buysson, 1905, Ann. Soc. Ent. France 73: 516 - "Java, Goban... Gondang" (Indonesia) (lectotype, MNHN). Designation of lectotype by van der Vecht, 1957, Zool. Verh., Leiden 34: 14.

Vespa analís var. (or subsp.) *barbouri* Bequaert, 1939, Tans. Am. Ent. Soc. 65: 38 & 40 - "Teesta Valley, Sikkim" (India) (MCZ).

Vespa analís var. (or subsp.) *kuangsiana* Bequaert, 1939, Tans. Am. Ent. Soc. 65: 38 & 42 - "Kwangsi, China" (MCZ).

Vespa analis eisa Yamane, 1987, Kontyu 55(4): 628 & 631 - "Yona, Okinawa-jima" (Japan) (FSKU).
Vespa analis nagatomii Yamane, 1987, Kontyu 55(4): 628 & 632 - "Koza-dake, Iriomote-jima" (Japan) (FSKU).

Vespa maguanensis Dong, 2001, J. S.-W. Agric. Univ. 23: 82 - "Yunnan China" (KIZAS).

Vespa hekouensis Dong and Wang, 2003, J. S.-W. Agric. Univ. (Nat. Sci.) 25 (5): 407 - "Hekou, Yunnan" [in Chinese characters] (KIZAS).

Distribution: India: Kashmir, Uttar Pradesh, West Bengal, Tamil Nadu, Meghalaya, Sikkim, Assam. Nepal. China: Sichuan, Yunnan, Hainan, Guangxi, Fujian, Hubei, Zhejiang, Heilongjiang. **Hong Kong.** Taiwan. Myanmar. Thailand. Laos. Vietnam. Peninsular Malaysia. Singapore. Indonesia: Sumatra, Bangka, Sunda Islands (Sebesi, Sangijiang, Sebuku, Sertung, Madura, Lombok, Legundi, Rakata, Krakatau, Panaitan, Deli), Java, Bawean, Bali. Korea. Japan: Hokkaido, Honshu, Shikoku, Kyushu, Nansei Islands. Russia: Amur, Primor'ye.

bicolor Fabricius

Vespa bicolor Fabricius, 1787, Mant. Ins. 1: 288 - "in China" (ZMUC).

Vespa lutea Coquebert, 1804, Illustr. Iconogr. Insect. 3 : 94 - "Massiliae lecta, in navi ex India" (type depositary unknown).

Vespa auraria var. *citriventris* du Buysson, 1905, Ann. Soc. Ent. France 73: 552 - "Sikkim, de Padamstin a Lingtou" (India) (lectotype, MNHN). Also from West Bengal and China. Designation of lectotype by van der Vecht, 1959, Zool. Meded., Leiden 36: 218.

Distribution: India: Uttar Pradesh, West Bengal, Sikkim, Assam, Meghalaya. Bhutan. Nepal. China: Sichuan, Yunnan, Guangxi, Jiangxi, Fujian. **Hong Kong.** Myanmar. Thailand. Laos. Cambodia. Vietnam.

ducalis Smith

Vespa ducalis Smith, 1852, Trans. Ent. Soc. Lond. (N.S) 2(2):39 - "Tein-tung, near Nigo-po-foo" (China) (BMNH).

Vespa ducalis var. *pulchra* du Buysson, 1905, Ann. Soc. Ent. France 73: 519 - "Corée, Séoul... Japon ...: Yokohama" (lectotype, MNHN). Designation of lectotype by van der Vecht, 1959, Zool. Meded., Leiden 36: 224.

Vespa matsumurai Sonan, 1935, Trans. Nat. Hist. Soc. Formosa. 25(145): 370 - "Tokyo" (Japan) (holotype, TARI).

Vespa esakii Sonan, 1935, Trans. Nat. Hist. Soc. Formosa. 25(145): 371 - "Izuhara in Tsushina Island" (Japan) (FAKU).

Vespa tropica loochooensis Bequeart, 1936,

Treubia 15(4): 336 & 343 - "Iriomote Island, in the Loo-Choo (or Riu-Kiu) Archipelago" (Japan) (MCZ).
Vespa tropica pseudosoror van der Vecht, 1959, Zool. Meded. 36(13): 224 - "Indo-China: Anam ... Lién-Chièn près Tourane, 1000m" (Vietnam) (MNHN). Also from elsewhere in Vietnam and Taiwan.

Distribution: India: Sikkim, Meghalaya. Nepal. Myanmar. Thailand. Vietnam. China: Gansu, Sichuan, Hainan, Guangdong, Fujian, Hunan, Shanghai, Jiangsu, Liaoning. **Hong Kong.** Taiwan. Russia: Primor'ye. Korea. Japan: Honshu, Shikoku, Kyushu, Ryukyu Islands.

mandarinia Smith.

Vespa mandarinia Smith, 1852, Trans. Ent. Soc. Lond. (N.S) 2(2): 38 - "Tein-tung, near Ning-po-foo, amongst the mountains" (China) (BMNH).

Vespa magnifica Smith, 1852, Trans. Ent. Soc. Lond. (N.S) 2(2): 45 - "Nepal" (BMNH & HEC).

Vespa japonica Radoszkowski, 1857, in Motschulsky, Et. Ent. 6 : 410 - "Japan" (ZI).

Vespa bellona Smith, 1871, Proc. Zool. Soc. Lond.:248 - "Yunan" (China) (BMNH).

Vespa magnifica var. *latilineata* Cameron, 1903a, Entomologist 36: 278 - "Japan ... Hitoyoshi" (BMNH).

Vespa mandarina [!] Dalla Torre, 1894, Cat. Hym. 9:149. Incorrect spelling of *Vespa mandarinia* Smith.

Vespa magnifica var. *nobilis* Sonan, 1929, Tans. Nat. Hist. Soc. Formosa. 19(101): 137 & 140 - "Musha" (Taiwan) (Holotype, TARI). Also from other localities in Taiwan.

Vespa magnifica sonani Matsumura, 1930, Illust. Thousand Ins. Japan 2: 1 - "Taiwan, Sina" (lectotype, SE). Designation of lectotype by Kojima, 1997, Nat. Hist. Bull. Ibaraki Univ. 1: 22.

Distribution: India: Himachal Pradesh, Uttar Pradesh, West Bengal, Sikkim, Assam, Meghalaya. Sri Lanka. Nepal. Bhutan. Myanmar. Thailand. Laos. Vietnam. Malaysia: Peninsular Malaysia. China: Sichuan, Yunnan, Jiangxi, Fujian, Hubei, Shanghai, Jiangsu. **Hong Kong.** Taiwan. Russia: Primor'ye. Korea. Japan: Hokkaido, Honshu, Shikoku, Kyushu, Yaku-shima and Tanega-shima Island (Osumi Islands).

mocsaryana du Buysson

Vespa mocsaryana du Buysson, 1905, Ann. Soc. Ent. France 73: 490 & 537 - "Presqu'île de Malacca : Pérak ... ; Sikkim ... ; Assam : Khasia Hills ... ; Tenasserim : Thagata" (HNHM; ZSNM; BNHM & MSNG).

Distribution: India: Meghalaya, Sikkim, Assam. China: Sichuan, Fujian, Anhui. **Hong Kong.** Myanmar. Thailand. Laos. Vietnam. Malaysia:

Peninsular Malaysia. Indonesia: Sumatra.

soror du Buysson

Vespa ducalis var. *soror* du Buysson, 1905, 1905, Ann. Soc. Ent. France 73 : 490 & 519 - "Chine ... Kiang-si" (lectotype, MNHN). Also from elsewhere in China; India; Vietnam. Designation of lectotype by van der Vecht, 1957, Zool. Verh., Leiden 34: 16.

Distribution: China: Yunnan, Hainan, Fujian. **Hong Kong.** Thailand. Laos. Vietnam.

tropica Linnaeus

Sphex tropica Linnaeus, 1758, Syst. Nat., ed. 10, 1: 571 - "in Indiis" (holotype, ZMUU).

Vespa cincta Fabricius, 1775, Syst. Ent.: 362 - "ad littora Malabarica" (India) (ZMUC). Junior primary homonym of *Vespa cincta* Drury, 1773 and of *Vespa cincta* Degeer, 1773.

Vespa crabro tenebrionis Christ, 1791, Naturgesch. Ins.: 216.

Vespa deusta Lepeletier, 1836, Hist. Nat. Ins. Hym. 1: 506 - "Patrie inconnue" (lectotype, IMZ). Designation of lectotype by van der Vecht, 1959, Zool. Meded., Leiden 36: 226.

Vespa unicolor Smith, 1863, J. Proc. Linn. Soc. Lond., Zool. 7: 44 - "Bouru" (Indonesia) (HEC). Junior primary homonym of *Vespa unicolor* Lichtenstein, 1796.

Vespa cinta [!] Wroughton, 1889, J. Bombay Nat. Hist. Soc. 4: 35. Incorrect spelling of *Vespa cincta* Fabricius.

Vespa eulemoides du Buysson, 1905, Ann. Soc. Ent. France 73: 491 & 530 - "Ile Andaman : port Blair" (India) (MSNG).

Vespa affinis var. *tresignata* Pérez, 1910, Act. Soc. Linn. Bordeaux 64: 8 - "Timor" (Indonesia) (MNHN).

Vespa rubricans Pérez, 1910, Act. Soc. Linn. Bordeaux 64: 10 - "Lindi (afrique Orientale Allemande)" (lectotype, MNHN). Designation of lectotype by van der Vecht, 1957, Zool. Verh., Leiden 34: 24.

Vespa tropica var. *anthracina* Bequeart, 1936, Treubia 15(4): 335 & 341 - "Philippines Islands: Sibuyan" (holotype, USNM). Also from other localities in the Philippines.

Vespa tropica var. *haematodes* Bequeart, 1936, Treubia 15(4): 336 & 338 - "India: Kooloo" (holotype, MCZ). Also from other localities in India; Sri Lanka; Myanmar and China.

Vespa tropica leefmansii van der Vecht, 1957, Zool. Verh., Leiden 34: 19 - "Solok, Padang, Sumatra" (Indonesia) (holotype, RMNH). Also from Vietnam; Thailand; Malaysia and other Islands of Indonesia. *Vespa tropica trimeres* Vecht, 1957, Zool. Verh.,

Leiden 34: 19 & 22 - "Palu, west Celebes" (Indonesia) (RMNH).

Vespa tropica cebuana Kojima and Reyes, 1984, Kontyû 52(2): 260 - "Cebu City" (Philippines) (NIAES).

Distribution: Afghanistan. Pakistan. India: Himachal Pradesh, Bihar, West Bengal, Maharashtra, Karnataka, Tamil Nadu, Kerala, Sikkim, Assam, Meghalaya, Andaman and Nicobar Islands. Sri Lanka. Nepal. Bhutan. China: Yunnan, Fujian. **Hong Kong.** Myanmar. Thailand. Laos. Cambodia. Vietnam. Malaysia: Peninsular Malaysia, Sarawak. Singapore. Indonesia: Anambas Islands, Sumatra, Nias, Batu, Enggano, Bangka, Belitung, Sunda Islands (Sangijiang, Sebesi, Sebuku, Legundi, Krakatau, Panaitan), Java, Bawean, Madura, Kangean Islands, Bali, Lombok, Komodo, Sumbawa, Sumba, Flores, Wetar, Timor, Kalimantan, Sulawesi, Salayar, Sula Islands, Moluccas (Morotai, Halmahera, Ternate, Tidore, Bacan, Obi, Buru, Ambon, Haruku, Seram), Banda, Waigeo, Aru, New Guinea (Irian Jaya). Papua New Guinea including New Britain. Philippines: Luzon, Lubang, Mindoro, Samar, Leyte, Sibuyan, Panay, Negros, Cebu, Palawan, Jolo, Mindanao, Basilan.

velutina Lepeletier

Vespa velutina "De Haan" Lepeletier, 1836, Hist. Nat. Ins. Hym. 1: 507 - "Inde: Java" (Indonesia) (coll. Serville).

Vespa crabro var. *immaculata* Morawitz, 1889, Horae Soc. Ent. Ross. 23: 161 - "Kansu. Nanpin." (China) (ZI). Junior primary homonym of *Vespa immaculata* Gmelin, 1790.

Vespa fruhstorferi Stadelmann, 1894, Sitz.-Ber. Ges. Naturf. Freunde Berl. 1894 (3): 89 - "in den alpinen Theilen von West-Java auf dem Gunung-Gede . . . in einer Höhe von 8000 Fuss" (Indonesia) (ZMHU?).

Vespa velutina var. *ardens* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 550 - "Lombok, Sapit (2000' . . .); I. Sumbawa, près Java" (Indonesia) (ZSNM; HNHM; ZSBS & MNHN).

Vespa auraria var. *nigrithorax* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 553 - "Dardjiling" (India) (lectotype, MNHN). Also from Sikkim and Bhutan; China; Indonesia: Sumatra, Sulawesi. Designation of lectotype by van der Vecht, 1957, Zool. Verh., Leiden 34: 37.

Vespa velutina var. *Celebensis* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 12 - "Bua-Kraeng (Sud-Célèbes)" (Indonesia) (holotype, MNHN).

Vespa velutina var. *megei* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 13 - Kouëï-Tchéou (Chine centrale)" (MNHN).

Vespa mongolica var. *divergens* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 16 - "Perak" (Malaysia) (lectotype, MNHN). Designation of lectotype by van der Vecht, 1957, Zool. Verh., Leiden 34: 38.

Vespa flavitarsus Sonan, 1929, Trans. Nat. Hist. Soc. Formosa 19 (101): 137 & 142 - "Taiko-san (Kagi)" (Taiwan) (holotype, TARI). Also from other localities in Taiwan.

Vespa auraria flavitarsis [!] Ma, 1937, Ent. Phytopath. 5 (2): 31. Incorrect spelling of *Vespa flavitarsus* Sonan.

Vespa velutina sumbana van der Vecht, 1957, Zool. Verh., Leiden 34: 34 & 40 - "Kananggar, E. Sumba, 700 m" (Indonesia) (holotype, RMNH).

Vespa velutina variana van der Vecht, 1957, Zool. Verh., Leiden 34: 35 & 37 - "North Siam...Doi Hua Mot, 3000" (RMNH). Also from other localities in Thailand; Laos; Vietnam.

Vespa velutina karnyi van der Vecht, 1957, Zool. Verh., Leiden 34: 35 & 38 - "Deli" (Indonesia: Sumatra) (holotype, RMNH).

Vespa velutina timorensis van der Vecht, 1957, Zool. Verh., Leiden 34: 35 & 40, - "Mollo, 1350m, Timor" (Indonesia) (NHMB).

Vespa velutina floresiana van der Vecht, 1957, Zool. Verh., Leiden 34: 35 & 40 - "Labuan Badjo, Flores" (Indonesia) (RMNH). Also from Komodo.

Distribution: India: West Bengal, Sikkim, Assam. Bhutan. China: Sichuan, Jiangxi, Fujian, Hubei, Zhejiang. **Hong Kong.** Taiwan. Myanmar. Thailand. Laos. Vietnam. Malaysia: Peninsular Malaysia. Indonesia: Sumatra, Java, Bali, Lombok, Sumbawa, Komodo, Sumba, Flores, Timor, Sulawesi. Introduced in France, Korea and Japan (Tsushima Island).

Genus *Vespula*

Vespula Thomson, 1869, Opusc. Ent. 1: 79, subgenus of *Vespa*.

Type species: *Vespa austriaca* Panzer, 1799, by subsequent designation of Ashmead, 1902, Can. Ent. 34: 164.

Pseudovespa Schmiedeknecht, 1881, Ent. Nachr. 7: 314, subgenus of *Vespa* Linnaeus.

Type species: *Vespa austriaca* Panzer, 1799, by monotypy.

Paravespula Blüthgen, 1938 (1937), Konowia 16: 271, subgenus of *Dolichovespula* Rohwer.

Type species: *Vespa vulgaris* Linnaeus, 1758, by original designation.

Allovespula Blüthgen, 1943, Stettin. Ent. Ztg. 104: 149, subgenus of *Paravespula* Blüthgen.

Type species: "*Paravespula rufa* (Linné)" (= *Vespa rufa* Linnaeus, 1758), by monotypy.

Rugovespula Archer, 1982, Kontyû 50 (2): 261, 264, subgenus of *Vespula* Thomson.

Type species: *Vespa koreensis* Radoszkowski, 1887, by original designation.

flaviceps (Smith)

Vespa japonica de Saussure, 1858, Rev. Mag. Zool. (2)10: 261 - "Japon" (MHN). Junior primary homonym of *Vespa japonica* Radoszkowski, 1857.

Vespa flaviceps Smith, 1870, in Horne and Smith, Trans. Zool. Soc. Lond. 7(3): 174 & 191, pl. XXI figs. 10, 11 - "Binsur, Kumaon, North-west Provinces of India" (BNHM).

"*Vespa Lewisii*, Sauss. Guêpes Soc. (MS.)" Smith, 1873, Trans. Ent. Soc. Lond. 1873 (2): 198. Nomen nudum.

Vespa "lewisii, Sauss. MS." Cameron, 1903a, Entomologist 36: 280, as a synonym of *Vespa japonica* de Saussure, 1858.

Vespa Saussurei Schulz, 1906, Spolia Hym.: 231. Replacement name for *Vespa japonica* de Saussure.

Vespa karenkona Sonan, 1929, Trans. Nat. Hist. Soc. Formosa. 19(101): 137 & 148 - "Karenkô (3000–6500 ft.)" (Taiwan) (holotype, TARI).

Vespa quadrimaculata Sonan, 1929, Trans. Nat. Hist. Soc. Formosa. 19 (101): 137 & 148 - "Arisan" (Taiwan) (holotype, TARI).

Vespa vulgaris var. *flavior* Stolfa, 1934, Bull. Soc. Venez. Stor. Nat. 1: 49 - "*India*: Bagarkote 8000 piedi. Kumaon W. Himalaia . . . Dal, sopra Dharmsala, 5500 piedi Punjab . . . Pindi Point, Murree 7242 piedi. Punjab . . . Rive del fiume Deo Gad e Foresta S. O. di Pinath, 7 miglia da Kausani Distr. Almora" (type depository unknown).

Vespula japonica pionganensis Giordani Soika, 1976, Ann. Hist.-Nat. Mus. Natl. Hung. 68: 287, 290, (in subgenus *Vespula*) "Za-mo san, 60 km NE from Pyongyang" (Korea) (HNHM). Also from other localities in Korea.

Vespa vulgaris var. *flavitor* [!] Das and Gupta, 1984 (1983), Orient. Ins. 17: 449. Incorrect spelling of *Vespa vulgaris* var. *flavior* Stolfa.

Vespula gracilia Lee, 1986, Sinozool. 10 (4): 201, 203, 206, fig. 2 - "Zhoushan, Zhejiang Province" (China) (IZAS). Also from Fujian.

Vespula yulongensis Dong and Wang, 2002, in Dong et al., J. S.-W. Agric. Univ. 24: 392 - "Yunnan China" (KIZAS).

Distribution: India: Kashmir, Himachal Pradesh, Punjab, Uttar Pradesh, Sikkim, Assam, Manipur, Meghalaya. Nepal. Myanmar. Thailand. China: Xizang, Yunnan, Shanxi, Sichuan, Heilongjiang, Jilin, Jiangsu, Beijing, Fujian, Zhejiang. **Hong Kong.** Taiwan. Russia: Primor'ye. Korea. Japan: Hokkaido, Honshu, Shikoku, Kyushu, Amami Island in Ryukyu Islands.

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