

Checklist of the species in the subfamily Vespinae (Insecta: Hymenoptera: Vespidae)

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Abstract A checklist of the species in the subfamily Vespinae is presented, including synonyms and distributional summaries. Sixty-seven extant species in four genera are treated as valid, with an additional ten fossil species listed. No subspecies are recognized. Lamarck (1801) did not designate *Vespa crabro* Linnaeus as the type species of the genus *Vespa*. However, Latreille's (1810) designation of the same species is the first valid one, therefore existing generic nomenclature need not be disturbed. The following nomenclatural change is made: *Vespa variabilis* du Buysson, 1905, is a junior primary homonym of *Vespa variabilis* Fabricius, 1781. It is replaced by *Vespa variabilis fumida* van der Vecht, 1959, which is elevated to species rank, NEW STATUS. The lectotype of *Vespa annulata* Smith, 1858, is designated.

Key words Hymenoptera, Vespidae, Vespinae, *Vespa*, checklist

Introduction

In recent years, several checklists of hornets and yellowjackets (Vespinae) have been published (Edwards, 1980; Matsuura and Yamane, 1984, 1990; Archer, 1989). Their usefulness as taxonomic tools is quite limited however. Matsuura and Yamane's and Archer's lists include summaries of distributional data, but otherwise all four lists consist of no more than names, authors and the year of publication. The original publications are not cited at all, the minimal requirement for utility in taxonomic research. Users of these lists must canvass the literature on their own to access the data contained in the original publications. In addition, all four lists perpetuate some nomenclatural errors.

The present checklist provides original references, and moreover includes information on types, namely, sex, type locality, and type depository. Preparation of this list also revealed some problems in the nomenclature of Vespinae, which are rectified here.

The status given each taxon generally follows Archer (1989, 1991a), but without recognition of any subspecies. Archer has studied the entire subfamily worldwide, and he (1991b, 1992, 1994b, 1995, 1997) is in the process of synonymizing all subspecies in the genus *Vespa* (Zalat, 1992, has already done so for some subspecies of *orientalis*). We concur: subspecies have no place in a phylogenetic system, rather, diagnosable taxa are to be treated as species (Nelson and Platnick, 1981; Nixon and Wheeler, 1990). We accept Archer's work as a basis for extending the synonymy to the remaining subspecies here, namely sinking all subspecies under the nominate species. There is an exception to Archer's classification. We follow Yamane and Tano (1985) in treating *Vespula arisana* as a valid species, rather than Archer's (1982) treatment as a subspecies of *orbata*, which would lead to synonymy here. Yamane and Tano (1985) illustrated differences in the male genitalia between *arisana* and *orbata*. Their sample was not large (one male specimen of *arisana*), but that is irrelevant until intergrades are shown to exist.

We have followed Archer in other synonymies for which there is variance in recent usage. First, Matsuura and Yamane (1984, 1990) and Yamane and Tano (1985) recognized *Vespula schrenckii* as a valid species, in contrast to Archer's (1981) treatment as a subspecies of *V. rufa*. Yamane et al. (1980: 34, footnote) suggested that two species occurred in northeastern Asia, and Matsuura and Yamane (1984: 305 and 1990: 250) argued that because *rufa* and *schrenckii* coexist, two species are indicated. Overlap while remaining distinct might indeed indicate phylogenetic species, however Matsuura and Yamane's discussion indicated that instead the forms do not remain distinct, rather the color characters by which they are distinguished intergrade. The forms are therefore treated as synonyms.

Second, Eck (1993) continued to recognize *Dolichovespula loekena*e as a species (which she described), but Pekarrinen (1995) has shown that it intergrades with *D. norvegicoides* and *pacifica*. Archer (1989) treated *loekena*e as a subspecies of *pacifica*, while Matsuura and Yamane (1984, 1990) and Pekkarinen (1995) treated both *loekena*e and *pacifica* as subspecies of *norvegicoides*. (Note also that Pekkarinen (1995: 66) confirmed a diagnostic difference, the elevation between gena and clypeus, which Archer (1989) had used to distinguish the two species, *norvegicoides* and *pacifica* (including *loekena*e).) Pekkarinen (1995: 68) cited allopatry as a reason for regarding them as subspecies. This is similar to the argument by Starr (1992) and Martin (1993) for recognition of *Vespa wilemani* as a species, merely on the basis that that is geographically segregated from *V. vivax*. Extrinsic features such as distribution are scarcely characters, diagnostic in the phylogenetic sense (Nixon and Wheeler, 1990; Carpenter, 1997).

It may be noted that the synonymy of subspecies leads to recognition of five Holarctic species (*Dolichovespula adulterina* and *D. norvegica*, and *Vespula austriaca*, *V. rufa* and *V. vulgaris*), aside from two other adventive species (*Vespa crabro* and *Vespula germanica*). The Palearctic and Nearctic representatives of the Holarctic species were first described as separate species, but their identity was recognized by Bequaert (1932). He treated some of these species as varieties of Holarctic species, but recognized none for *austriaca* and *vulgaris*. Ever since, these latter two taxa have been treated as Holarctic species. Miller (1958, 1961) raised the nearctic varieties of the other species to species rank. Subsequent study has confirmed this status for *Vespula acadica*, *V. atropilosa*, *V. consobrina* and *V. vidua*, and *Dolichovespula norvegicoides* (Wagner, 1978; Archer, 1989). But *D. albida* and *D. arctica*, and *V. intermedia* have come to be treated as subspecies, of *D. norvegica* and *D. adulterina*, and *V. rufa*, respectively (Eck 1981, 1984; Archer, 1981, 1989; Pekarrinen, 1995). There are no fixed differences, even of color, which might serve to diagnose phylogenetic species (Archer, 1981; Matsuura and Yamane, 1984 and 1990; Pekarrinen, 1995). The Nearctic and Palearctic taxa are therefore synonymized here. Note also that the distinction between *D. maculata* and *D. media* merits further study (Bequaert, 1932: 113; Eck, 1988), although there appear to be fixed differences in color.

The arrangement of the checklist is alphabetical. Each species is followed by the original citation, and then synonyms, which are listed chronologically. Each publication is cited in abbreviated form, to facilitate ready reference. Where two dates are listed, the first is the true date of publication, so far as can be determined, with the date following in parentheses being the date printed on the publication. The original locality is quoted for each description, and the type depository is then listed in parentheses. Museums or institutions where the types are kept are as follows: the code word designating the museum or institution in the present checklist is the city containing the collection.

Beijing: Institute Zoology Academia Sinica

Bergen: Zoologisk Museum, Universitetet I Bergen
 Berlin: Zoologisches Museum der Humboldt–Universität
 Budapest: Hungarian Natural History Museum
 Calcutta: Zoological Survey of India
 Cambridge: Museum of Comparative Zoology, Harvard University
 Dresden: Staatliches Museum für Tierkunde
 Edinburgh: Royal Scottish Museum
 Fukuoka: Department of Entomology, Faculty of Agriculture, Kyushu University
 Gainesville: American Entomological Institute
 Genève: Museum d’Histoire Naturelle
 Genova: Museo Civico di Storia Naturale
 Hangzhou: Zhejiang Museum of Natural History
 Kagoshima: Faculty of Science, Kagoshima University
 Kobenhavn: Universitets Zoologisk Museum
 Leiden: Nationaal Natuurhistorisch Museum
 Linnean Society, London
 London: The Natural History Museum
 Lund: Museum of Zoology, Lund University
 Marburg: Philipp-Universität Marburg, Zoologisches Institut
 München: Zoologisches Sammlung des Bayerischen Staates
 Ottawa: Biosystematics Research Institute
 Oxford: Hope Entomological Collection, University Museum
 Paris: Laboratoire d’Entomologie, Museum National d’Histoire Naturelle
 Philadelphia: Department of Entomology, Philadelphia Academy of Natural Sciences
 Sapporo: Systematic Entomology, Faculty of Agriculture, Hokkaido University
 Shinjuku, Tokyo: National Science Museum
 Seoul: Korea University
 St. Petersburg: Zoological Institute, Russian Academy of Sciences
 Stockholm: Naturhistoriska Riksmuseet (Entomologiska)
 Taichung: Taiwan Agricultural Research Institute
 Torino: Istituto e Museo di Zoologia, Università di Torino
 Tsukuba: National Institute of Agro-environmental Studies
 Uppsala: Entomology Department, Zoological Museum, Uppsala University
 Washington: U. S. National Museum of Natural History
 Wien: Zoologische Sammlung, Naturhistorisches Museum

In the final paragraph for each species, under Distribution:, distributional data are summarized by country, where the states in the U. S. A. and provinces in Canada are abbreviated as follows.

AK: Alaska	HI: Hawaii	MI: Michigan
AL: Alabama	IA: Iowa	MN: Minnesota
AR: Arkansas	ID: Idaho	MO: Missouri
AZ: Arizona	IL: Illinois	MS: Mississippi
CA: California	IN: Indiana	MT: Montana
CO: Colorado	KS: Kansas	NC: North Carolina
CT: Connecticut	KY: Kentucky	ND: North Dakota
DC: Washington, DC	LA: Louisiana	NE: Nebraska
DE: Delaware	MA: Massachusetts	NH: New Hampshire
FL: Florida	MD: Maryland	NJ: New Jersey
GA: Georgia	ME: Maine	NM: New Mexico

NV: Nevada	TX: Texas	B. C.: British Columbia
NY: New York	UT: Utah	Man.: Manitoba
OH: Ohio	VA: Virginia	N. B.: New Brunswick
OK: Oklahoma	VT: Vermont	N. W. T.: North West Territories
OR: Oregon	WA: Washington	Ont.: Ontario
PA: Pennsylvania	WI: Wisconsin	P. E. I.: Prince Edward Island
RI: Rhode Island	WV: West Virginia	Que.: Quebec
SC: South Carolina	WY: Wyoming	Sask.: Saskatchewan
SD: South Dakota		
TN: Tennessee	Alta.: Alberta	

Varvio-Aho et al. (1984) published phenetic and cladistic analyses of an allozyme data set for eight species of European Vespinae, and Schmitz and Moritz (1990) published a phenogram based on an mtDNA restriction fragment size polymorphism data set for six species of European Vespinae. Carpenter (1987a, 1992) showed that the phylogenetic conclusions of neither study were actually supported by the data sets, which were demonstrated to be quite ambiguous.

Phylogenetic relationships among the genera are: *Vespa* + (*Provespa* + (*Dolichovespula* + *Vespula*)) (Carpenter, 1987b). Carpenter (1987b) synonymized all subgenera, and also discussed support for species groups in *Dolichovespula* and *Vespula*. Archer (1994a) provided a cladistic analysis of the species within the genus *Vespa*.

Before proceeding further, we must take up the troubling matter of the type species of the genus *Vespa*.

What is the type species of the genus *Vespa*?

For two centuries, the type species of *Vespa* has usually been taken to be *Vespa crabro*, one of 17 originally included species, and the first listed (Linnaeus, 1758). The initial subdivision of the genus is largely due to Latreille (1802), who separated such genera as *Polistes*, *Eumenes*, *Synagris* and *Odynerus* (all Vespidae in the present sense). Among presently recognized species, that work left three of the originally included species in *Vespa*: *crabro*, *rufa* and *vulgaris*. Latreille (1802: 364) cited only *vulgaris* as "Exemple" of *Vespa*. But he later (1810: 438) cited *crabro* as "Type." This type designation was generally followed. Thus, in the first subdivision of *Vespa* in the restricted sense (= Vespinae in the present sense), Thomson (1869) included only one species, *crabro*, in the subgenus *Vespa*. He included eight species in his subgenus *Vespula*, among them *rufa* and *vulgaris*.

However, in this century, most workers have followed Bequaert (1930), who considered Lamarck's (1801: 271) earlier citation of *crabro* to have designated the type species of *Vespa*. A few previous workers (Bingham, 1897; Ashmead, 1902) had accepted Latreille's (1802) citation as designating *vulgaris* as the type species. This disagreement presented no particular difficulties, until Thomson's subgenus came to be recognized as a genus (Ashmead, 1902) and was subdivided in turn (Rohwer, 1916), with those subdivisions themselves being raised to generic status (Blüthgen, 1938). Bischoff (1931b) accepted Latreille's citation of *vulgaris* as the valid type designation, with the consequence that *Vespula* is a synonym of *Vespa* (although Bischoff did not draw that conclusion, erroneously refusing to accept Ashmead's (1902) designation of *austriaca* as type species of *Vespula*). It then followed that *Macrovespa* Dalla Torre, 1904, is the available name for the genus including *crabro*, while *Vespa* applies to Thomson's *Vespula*.

Bequaert (1932: 75–76) decried Bischoff's classification, stating:

“The divergence of opinion in this case seems to show once more the utter futility of hoping for stability if one follows an intricate system of rules, recommendations and opinions, which invariably leads to mere casuistry.”

Bequaert rejected Bischoff’s classification, and in this he has been followed ever since by vespid taxonomists.

However, the “intricate system of rules, recommendations and opinions” to which Bequaert referred was Opinion 79 of the International Commission on Zoological Nomenclature (1924), which Bischoff had followed. That Opinion specifically stated that Lamarck’s (1801) work “is not to be accepted as designation of type species” (and see Direction 32, International Commission on Zoological Nomenclature, 1956). Bequaert (1932) thus contravened the Commission, and thereby, the present International Code of Zoological Nomenclature (Article 78). And this fact has not occasioned comment from subsequent vespid taxonomists, most of whom have followed Bequaert, including the authors of the most recent generic catalog (van der Vecht and Carpenter, 1990).

Bequaert (1930: 61) characterized the consequences of accepting Latreille’s (1802) citation of *vulgaris* as “disturbing.” Indeed. But Bequaert’s course will not do for those who follow the Rules. Lamarck’s citation must be set aside.

An earlier subdivision of *Vespa* than that of Latreille (1802) exists, but has been ignored, namely that of Christ (1791). Christ (1791: 205) listed *Vespa* as the name for “Die Wespen.” That author then proposed (1791: 212) a division of *Vespa* into two genera, which he called *Vespa crabro*, for “Hornisse,” and *Vespa*, for “Gemeine Wespen.” On the same page, he stated “Die Hornisse. V. Crabro.” He then proceeded to describe hornets, and stated (p. 213) “Das Wort *Crabro* leget Linne der Hornisse bei,” leaving no doubt he was referring to the species *Vespa crabro* Linnaeus. It was the only species listed in this section. The designation “Die Hornisse. V. Crabro” was repeated on p. 214, under the heading “Beischreibung der Arten.” Christ included 16 taxa within “*Vespa crabro*,” all with trinomina. Christ intended his *Vespa crabro* in the near-universal sense followed since, as meaning Hornisse (hornets in English, frelon in French). Thus, Christ’s repeated citation of *Vespa crabro* as Hornisse appears a clearer “type designation” of *Vespa* in the sense of Thomson and auct. (including Latreille), than the oft-disputed “examples” cited by the systematists of a decade later than Christ. That unambiguous distinction was followed by Thomson when he subdivided *Vespa*. Interpreting this distinction as a type designation would allow existing nomenclature to remain undisturbed.

We prefer however an alternative course. Arguments about whether the citations by Christ (1791), Lamarck (1801), and Latreille (1802) are valid are obviated by rejecting all of them. The first valid designation of the type species of *Vespa* in the scope of the Code is that by Latreille (1810: 438), as suggested by Blüthgen (1938: 289) and discussed below. Generic nomenclature is not disturbed, as *crabro* remains the type species of *Vespa*.

Christ’s (1791) “*Vespa crabro*” was a genus in his terminology. The Code is of course quite clear that nomenclature above the species level is uninominal (Article 4). Christ’s newly proposed names for taxa within his *Vespa crabro* have nevertheless universally been considered as available, as species level trinomina (see, e.g., *Vespa crabro germana*). Interpreting Christ’s trinomina as subspecies is evidently unexceptionable. But however Christ intended his *Vespa crabro*, his citation could thus be interpreted as meaning no more than the designation of a type of “Hornisse” – not the type of the genus *Vespa*.

The Code is also quite clear that mere mentioning of a species as an example of a genus is not a designation (Article 67(c)). And, as alluded to above, Opinion 79 specifically stated that

Lamarck (1801) cited “a known species, or rarely several” as examples. Opinion 79 therefore excluded Lamarck’s listings as valid type designation.

In Latreille (1802), the description of each genus (or subdivision within a genus) is followed by citation of one or a few species as “Exemple.” It is clear that such mention of a species as an example is not a valid designation of a type species under the Code. Therefore, Latreille’s citation of *vulgaris* is an example, and not designation of a type species.

It should be mentioned that Bequaert (1930) also stated that Latreille (1804: 181) designated *crabro* as type species of *Vespa*. This is an error; on the cited page, Latreille in fact mentioned no species under *Vespa*.

In contrast to all of the foregoing works, in 1810 Latreille cited species in the genera he listed under the heading “Table des genres avec l’indication de l’espece qui leur sert de type.” For *Vespa* he cited only *crabro*. And Opinions 11 (1910) and 136 (1939) of the International Commission on Zoological Nomenclature have specifically ruled this particular list as validly designating type species, where no previous valid designation existed, and where Latreille cited only one (originally included) species. Those conditions are fulfilled in this case. *Vespa crabro* is therefore (and thankfully) really the type species of the genus *Vespa*.

There do not seem to be any grounds for disputing this conclusion, but if for some reason other workers were to disagree, an appeal should be made to the Commission for use of plenary powers, either explicitly to rule Christ’s (1791) citation as a binding type designation, to modify Opinion 79 to accept Lamarck’s (1801) citation as a type designation, or to set aside Latreille’s (1802) citation in favor of Latreille (1810). The present generic nomenclature has been stable for more than sixty years as regards the interpretation of *Vespa*, and with minor exceptions, for more than a century (and indeed longer, as shown here). However accomplished, this stability should be maintained.

Designations of lectotypes

In order to avoid future taxonomic confusion, we here designate the lectotype of *Vespa annulata* Smith, 1859, which is in Oxford and labelled as the lectotype by C. O’Toole; that designation has never been published. The specimen is labelled “SAR” (circular label), “*Vespa annulata* Smith”, “Lectotype *Vespa annulata* Smith, 1859, Design. C. O’Toole, 1993”. Another female in Oxford with the same locality label is the paralectotype.

In his 1957 and 1959 work, van der Vecht designated the lectotypes of 13 taxa previously described in *Vespa* (*Vespa barthelemyi* du Buysson, 1905, is now placed in *Provespa*). Besides those properly designated as the lectotypes, he referred to type specimens of the following taxa as “the type”; *Vespa parallela* var. *biroi* du Buysson, 1905 (in Paris; 1957: 13), *Vespa rubricans* Pérez, 1910 (in Paris; 1957: 24), and *Vespa mongolica* var. *divergens* Pérez, 1910 (in Paris; 1957: 38). Du Buysson (1905: 513) listed Budapest and London as the depository of the types of *V. parallela* var. *biroi*, but judging from the fact that the label data given by van der Vecht agree with those in the original description, a specimen from the type series may have kept by du Buysson and deposited in Paris. Thus, van der Vecht’s statement inadvertently referring it as “the type” is considered as the designation of the lectotype (under Article 74(b) in the Code).

Pérez (1910: 10) provided a range of the body length for *Vespa rubricans*, suggesting that his description was based on more than one specimen. However, he did not give any statement allowing the inference of the number of specimens he examined when he described

Vespa mongolica var. *divergens*. Subsequently, van der Vecht statements are also considered as the designations of the lectotypes of both taxa.

Moreover, van der Vecht's two articles include ambiguous statements with respect to certain lectotype designations. He (1957: 41) mentioned "**Vespa velutina celebensis** Pérez . . . Bua Kraëng . . . (type in coll. Pérez, MP)". Judging from the description by Pérez (1910: 12), the taxon was based on a single female; thus the specimen is the holotype.

In the list of synonyms of *Vespa multimaculata multimaculata*, van der Vecht (1957: 44) stated "*V. multimaculata*; 'Brunei, Java'; type in MP) (Brunei is in North Borneo! v.d.V.)", and in the list of the specimens he examined, "Brunei (type in coll. Pérez, MP)". However, he (1957: 44) mentioned, in the discussion of synonymy, "the type in the collection Pérez (MP) bears a label 'Brunei, Borneo'". Pérez (1910: 14), providing a range of the body length, may have described the species based on more than one specimen; van der Vecht's mention of "the type" is here regarded as the designation of the lectotype.

Van der Vecht (1959: 214) gave the label data of the type of *Vespa alduini* Guérin-Méneville, 1831, and said "(type, MCG)". The description (figure) of *Vespa alduini* was very probably based on a single specimen, and that is the holotype.

Finally, concerning *Vespa oberthuri* du Buysson, 1902, van der Vecht (1959: 218) stated "**Vespa crabro oberthuri** . . . 3 ♀ Se-Tchouen, Sio-Lou, leg. R. Oberthür (type and paratypes, MP); 2 ♀ Ta-Tsien-Lou (paratypes, MP, ML)". All of these five females are apparently syntypes. Under the Code, van der Vecht's statement cannot be regarded as the designation of the lectotype. We have not seen the specimens that van der Vecht examined, and therefore leave the designation of the lectotype of this taxon for future study.

Checklist of Vespinae (Vespariae Latreille, 1802)

Genus *Dolichovespula* Rohwer

Dolichovespula Rohwer, 1916, Conn. State Geol. Nat. Hist. Surv. Bull. 22: 642, subgenus of *Vespula* Thomson.

Type species: *Vespa maculata* Linnaeus, 1763, by original designation.

Pseudovespula Bischoff, 1931 (1930), Sitz.-Ber. Ges. Naturf. Freunde Berl.: 346, subgenus of *Pseudovespa* Schmiedeknecht.

Type species: "*Ps. adulterina* Buyss." [= *Vespa norwegica* var. *adulterina* du Buysson, 1905], by original designation.

Boreovespula Blüthgen, 1943, Stettin. Ent. Ztg. 104: 149, subgenus of *Dolichovespula* Rohwer.

Type species: "*Dolichovespula norwegica* (F.)" [= *Vespa norwegica* Fabricius, 1781], by original designation.

Metavespula Blüthgen, 1943, Stettin. Ent. Ztg. 104: 149, subgenus of *Dolichovespula* Rohwer.

Type species: "*Dolichovespula silvestris* (Scop.)" [!; = *Vespa sylvestris* Scopoli, 1763], by original designation.

adulterina (du Buysson)

Vespa borealis Lewis, 1897, Trans. Am. Ent. Soc. 24: 171 (key), 174, female, male –

“United States, New York, Mt. Washington, British Columbia; Amherst, Mass.” (Philadelphia?). Junior primary homonym of *Vespa borealis* Kirby, 1837, *Vespa*



borealis Zetterstedt, 1838, *Vespa borealis* Smith, 1843, and of *Vespa crabro* var. *borealis* Radoszkowski, 1863.

Vespa norvegica var. *adulterina* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73 (3): 499 (key), 600, 628, female – “Europe: Piémont . . . ; Vosges, Remiremont . . . ; Suisse, Engadine, Rosegethal . . . Amérique; Orégon, Corvallis” “Mongolie . . . Ile Sakhaline. Village de Lasevo, pès de la station de Viterbsk, Russie” (Paris, München, Washington, St. Petersburg).

Vespula arctica Rohwer, 1916, Conn. State Geol. Nat. Hist. Surv. Bull. 22: 642 (in subgenus *Dolichovespula*). Replacement name for *Vespa borealis* Lewis.

Vespa norvegica saxonica natio colchica Birula, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S. 31 (2): 314, male – [Georgia] “Adsharien (Batum-Gebiet, Alpenwiesen, s. g. Jailag, bei Sarytschair auf der Höhe von etwa 2300 m ü. d. M . . .)” (St. Petersburg). Unavailable under Articles 45e and 45f(iii) of the International Code of Zoological Nomenclature.

Dolichovespula adulterina montivaga Yamane, 1982, Trans. Shikoku Ent. Soc. 16: 109, female, male – “Mt. Kariba (1500 m alt.), Hokkaido, Japan” (holotype female Kagoshima); also from Honshu.

Distribution: Norway; Sweden; Finland; Belgium; France; Switzerland; Italy; Poland; Russia: Kola Peninsula, Caucasus to southwestern Siberia, Primor'ye, Sakhalin; Turkey; Georgia; Mongolia; Taiwan; Japan; Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: AK, WA, OR, CA, NV, ID, MT, WY, UT, CO, AZ, NM, ND, MN, WI, IL, MI, IN, KY, TN, OH, NY, PA, VT, NH, ME, MA, CT, RI, NJ, DE, MD, WV, VA, NC, GA.

alpicola Eck

Dolichovespula alpicola “Wagner” Eck, 1984, Ent. Abhand. Staat. Mus. Tierk. Dresden 48 (4): 40 (key), fig. 3L, female – “westliches Nordamerika”; 1987, Ent. Abhand. Staat. Mus. Tierk. Dresden 50 (10): 191 (lectotype female from “WYO Albany County, Medicine Bow Nat. For.”, Dresden).

Distribution: Canada: Yukon Terr., B. C., Alta.; U. S. A.: AK, WA, OR, MT, WY, CO, UT, NM, AZ.

arenaria (Fabricius)

Vespa arenaria Fabricius, 1775, Syst. Ent.: 365 – “in America arenosis” (London).

Vespa borealis Kirby, 1837, Fauna Bor.-Am. 4, Ins.: 264 – [Canada] “Lat. 65°” (type depository unknown).

Vespa Diabolica de Saussure, 1854, Ét. Fam. Vesp. 2: 138, female – [U. S. A.] “L'Amérique du Nord, Philadelphie” (Torino).

Vespa fernaldi Lewis, 1897, Trans. Am. Ent. Soc. 24: 171 (key), 173, female – [U. S. A.] “Colorado” (Philadelphia?).

Distribution: Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: AK, WA, OR, CA, NV, ID, MT, WY, UT, CO, AZ, NM, NE, ND, SD, MN, NE, IA, WI, IL, MI, IN, KY, TN, OH, NY, PA, VT, NH, ME, MA, CT, RI, NJ, DE, MD, WV, VA, NC, GA.

asiatica Archer

Vespula sylvestris var. *intermedia* Birula, 1930, Ann. Mus. Zool. Acad. Sc. U. R. S. S. 31 (2): 330, 331, female, male – [Uzbekistan] “Zeravschan-Tal und der östlichen

Buchara" (lectotype female from "Ost-Buchara . . . im Gebirgsrücken Peter des Grossen . . . Engpass Kamtschirák" in St. Petersburg). Junior primary homonym of *Vespa rufa* var. *intermedia* du Buysson, 1905. – Archer, 1981, Ent. Scand. 12: 189 (designation of lectotype).

Dolichovespula asiatica Archer, 1981, Ent. Scand. 12: 187, 189. Replacement name for *Vespula sylvestris* var. *intermedia* Birula.

Distribution: Kazakhstan; Uzbekistan; Turkmenistan; Afghanistan; Pakistan; India: Kashmir; Mongolia; China: Xinjiang, Gansu.

baileyi Archer

Dolichovespula baileyi Archer, 1987, Ent. Mon. Mag. 123: 30, female – "CHINA, Szechwan, Lin Yang, 2500 m" (Edinburgh); also from another locality in Sichuan.

Distribution: China: Sichuan.

flora Archer

Dolichovespula flora Archer, 1987, Ent. Mon. Mag. 123: 27, female – "BURMA, Adung Valley" (London); also from China.

Distribution: Myanmar; China: Sichuan, Yunnan.

kuami Kim and Yoon

Dolichovespula kuami Kim and Yoon, 1996, Korean J. Syst. Zool. 12(3): 199, figs. 1, 2, female – "Korea: Chungcheongbuk-do Province, Sokrisan" (Seoul); also from Kyeonggi-do Prov.

Distribution: South Korea.

lama (du Buysson)

Vespa lama du Buysson, 1903, Bull. Soc. Ent. France 1903: 175, female – [India] "Sikkim" (holotype Paris).

Dolichovespula nyalamensis Lee, 1986, Sinozool. 10 (4): 195, 197, figs. 1(4), 2(2), female – {China} "Nelam, Xizang (Tibet), 3300 m" (Beijing).

Distribution: India: Uttar Pradesh, Sikkim; China: Xizang.

maculata (Linnaeus)

Vespa maculata Linnaeus, 1763, Amoenit. Acad. 6: 412 – [U. S. A.] "Pensylvania" (lectotype female Stockholm). – Day, 1979, Biol. J. Linn. Soc. 12: 66 (designation of lectotype).

Vespa maculata americana Christ, 1791, Naturgesch. Ins.: 239 – "mitternachtlichen Amerika" (destroyed). Junior primary homonym of *Vespa americana* Fabricius, 1775.

Distribution: Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: AK, WA, OR, CA, NV, ID, MT, WY, UT, CO, AZ, NM, ND, SD, MN, NE, IA, KS, MO, OK, AR, TX, LA, AR, MO, WI, IL, MI, IN, OH, NY, PA, VT, NH, ME, MA, CT, RI, NJ, DE, MD, KY, WV, VA, TN, NC, SC, MS, AL, GA, FL.

media (Retzius)

Vespa Crabro medius Retzius, 1783, C. Degeer Gen. Spec. Ins.: 63 (type depository unknown).

- Vespa Geerii* Lepeletier, 1836, Hist. Nat. Ins. Hym. 1: 510, female, male – “La Suède et les environs de Paris . . . Versailles . . . dans la forêt de Saint-Germain-en-Laye” (type depository unknown).
- Vespa crassa* Herrich-Schäffer, 1841, Fauna Ins. Germ. 179: 33, fig. 179.4, male (destroyed).
- Vespa similis* Schenck, 1853, Jahrb. Ver. Naturk. Nassau 9 (1): 15 (key), 24, female, male – [Germany] “Weilburg” (Marburg?).
- Vespa rufoscutellata* Schenck, 1853, Jahrb. Ver. Naturk. Nassau 9 (1): 15 (key), 28, male – [Germany] “Wiesbaden” (Marburg?).
- Vespa flavicineta* Schenck, 1853, Jahrb. Ver. Naturk. Nassau 9 (1): 16 (key), 27, female – [Germany] “Weilburg” (Marburg?). Junior primary homonym of *Vespa flavicineta* Gravenhorst, 1807.
- Vespa Geeri*; Dalla Torre, 1904, Gen. Ins. 19: 65. Incorrect spelling of *Vespa geerii* Lepeletier.
- Vespa media* var. *lineolata* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 17, female – [France] “Millau” (Paris).
- Vespula media media* var. *lugubris* Birula, 1927, Ann. Mus. Zool. Acad. Sci. U. R. S. S. 28: 80, female – “Nord- und Mittelteilen Ost-Europas . . . Norden” (St. Petersburg). Unavailable under Articles 45e and 45f(iii) of the International Code of Zoological Nomenclature.
- Dolichovespula media* var. *conjugens* Paul, 1943, Stettin. Ent. Ztg. 104: 142 – [Poland] “Stettin: Eckerberger Wald” (type depository unknown).
- Dolichovespula media sugare* Ishikawa, 1969, Bull. Nat. Sci. Mus. Tokyo 12 (2): 180, figs. 1–3, female, male – “Japan (Honshu) . . . Tsuta, Towada, Aomori Pref.” (holotype female Shinjuku, Tokyo); also from numerous other localities on Honshu.
- Dolichovespula borealis* Lee, 1986, Sinozool. 10 (4): 195, 196, figs. 1(2), 2(3), female – [China] “Hengdaohezi, Heilongjiang province” (Beijing). Junior secondary homonym of *Vespa borealis* Kirby, 1837, *Vespa borealis* Zetterstedt, 1838, and *Vespa borealis* Lewis, 1897.

Distribution: Norway; Sweden; Finland; Denmark; France; Spain; Germany; Austria; Italy; Poland; Bulgaria; across Russia to the Sea of Okhotsk, Lake Baikal, southwestern Siberia, Sakhalin; Mongolia; China: Heilongjiang, Liaoning; Korea; Japan. Occasionally U. K.: England.

***norvegicoides* (Sladen)**

Vespa norvegicoides Sladen, 1918, Ottawa Nat. 32: 71, male, female – [Canada] “N.S. to B.C.” (lectotype female from “Amherst, Nova Scotia” in Ottawa). – Miller, 1961, Can. Ent., Suppl. 22: 36, 38 (designation of lectotype).

Distribution: Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: AK, WA, OR, CA, ID, MT, WY, ND, MN, WI, MI, KY, TN, NY, PA, VT, NH, ME, MA, CT, RI, NJ, MD, WV, VA, NC, SC.

***norwegica* (Fabricius)**

Vespa norwegica Fabricius, 1781, Spec. Ins. 1: 460 – “in Norwegia” (Kobenhavn).

Vespa britannica Leach, 1814, Zool. Misc. 1: 112, pl. 50, female, male – “in Britannia; in Anglia rarius, in Caledonia vulgatissime” (London).

Vespa marginata Kirby, 1837, Fauna Bor.-Am. 4, Ins.: 265, pl. VI fig. 2, female – [Canada] “Taken in the Route from New York, and again in Lat. 65°” (type depository unknown). Junior primary homonym of *Vespa marginata* Gmelin, 1790.

Vespa borealis Zetterstedt, 1838, Ins. Lappon. Descr.: 454, female – “Lapponia” (Lund?). Junior primary homonym of *Vespa borealis* Kirby, 1837.

Vespa norvegica Olivier, 1792, Encycl. Méthod. Ins. 6: 680; Smith, 1858, Cat. Brit. Fossor. Hym., Form. Vesp.: 220. Unjustified emendation of *Vespa norvegica* Fabricius.

? *Vespa peruana* de Saussure, 1867, Reise Novara., Zool. 2, Hym.: 18, female – “**Peru altior**; Quito” [error] (Wien).

Vespa albida Sladen, 1918, Ottawa Nat. 32: 71, male, female – [U. S. A.] “Alaska” (lectotype male Ottawa). – Miller, 1961, Can. Ent., Suppl. 22: 28, 29 (designation of lectotype).

Vespa saxonica var. *arctica* Friese, 1919, Mémoires Acad. Sci. Russ. (8) 28 (15): 1, female, male – [Russia] “Chanema-Fluss . . . Sobj-Tal . . . Longot-johan-Tal . . . Berezov” (St. Petersburg). Junior secondary homonym of *Vespula arctica* Rohwer, 1916.

Dolichovespula norvegica var. *Zetterstedti* Blüthgen, 1937, Mitt. Ent. Ges. Halle 15: 37. Replacement name for *Vespa saxonica* var. *arctica* Friese.

Distribution: Norway; Sweden; Finland; Denmark; Ireland; U. K.: Scotland, Wales, England; Belgium; France; Spain; Germany; Austria; Poland; Slovakia; Hungary; Bulgaria; across Russia to Sakhalin; Turkey; China: Xinjiang; Mongolia; Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: AK, ME.

omissa (Bischoff)

Vespa tripunctata Schenck, 1861, Jahrb. Ver. Naturk. Nassau 16: 17 (key), 25, female – [Germany] “Bamberg” (München). Junior primary homonym of *Vespa tripunctata* Fabricius, 1787.

Vespula norvegica saxonica morpha *ingrica* Birula, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S. 31 (2): 309, female – [Russia] “Leningrader Gouvernement” (lectotype from “Leningrad, Kaipolova”, St. Petersburg). Unavailable under Articles 45e and 45f(iii) of the International Code of Zoological Nomenclature. – Blüthgen, 1961, Abh. Dtsch. Akad. Wissenschaft. Berlin, Kl. Chem. geol. Biol. 2: 42 (designation of lectotype).

Vespa omissa Bischoff, 1931, Mitt. Deutsch. Ent. Ges. 2 (1): 6, female – [Austria] “Thüringen” (Berlin); also from Tirol.

Vespula ingrica “(Birula)” Bequaert, 1932, Ent. Am. n. ser. 12 (2): 89, footnote. Available under Articles 10c, 23j and 50c of the International Code of Zoological Nomenclature.

Distribution: Norway; Sweden; Finland; Denmark; Belgium; France; Spain; Germany; Switzerland; Austria; Italy; Poland; Czech Republic; Slovakia; Russia; Bulgaria; Turkey; Iran.

pacifica (Birula)

Vespula norvegica pacifica Birula, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S. 31 (2): 295, 317, female, male – [Russia] “Im Küstengebiet des Pazifischen Ozeans und auf den naheliegenden Inseln” (lectotype female from “Insel Sachalin”, St. Petersburg). – Eck, 1984, Ent. Abh. Staat. Mus. Tierk. Dresden 47 (11): 195 (designation of lectotype).

Dolichovespula loekenae Eck, 1980, Reichenbachia 18 (30): 213, female, male – [Norway] “Espeland, HOγ: Alversund” (Bergen); also from Sweden; Finland.

Distribution: Norway; Sweden; Finland; Russia: northwestern region, Ob’ River to east of Lake Baikal, Primor’ye, Sakhalin; Korea; Japan.

panda Archer

Dolichovesupula [!] *panda* Archer, 1981 (1980), Entomon 5 (4): 341, fig. 1, female [male = worker] – “CHINA, Szechuen, 14.4 km south-west Tarsienlu, 2600–4000 m” (Washington); also from other localities in Sichuan.

Distribution: China: Sichuan.

saxonica (Fabricius)

Vespa saxonica Fabricius, 1793, Ent. Syst. 2: 256 – “in Germania” (type depository unknown).

Vespa bavarica von Schrank, 1802, Fauna Boica 2 (2): 350, female – [Germany] “Waldungen” (type depository unknown).

Vespa tridens Schenck, 1853, Jahrb. Ver. Naturk. Nassau 9 (1): 18 (key), 38, female, male – [Germany] “Weilburg . . . in der Gegend von Wiesbaden” (Marburg?).

Vespula norvegica saxonica morpha *monticola* Birula, 1930, Ann. Mus. Zool. Acad. Sci. U. R. S. S. 31 (2): 313 – [Russia] “Gebirgen des Kaukasus” (St. Petersburg). Unavailable under Articles 45e and 45f(iii) of the International Code of Zoological Nomenclature.

Dolichovespula saxonica nipponica Yamane, 1975, Kontyû 43 (3): 349, female – [Japan] “HOKKAIDO. Otoineppu” (Sapporo); also from elsewhere in Hokkaido, and Honshu.

Dolichovespula saxonica kamtschatkensis Eck, 1983, Ent. Abhand. Staat. Mus. Tierk. Dresden 46 (8): 171, female, male – [Russia] “Petropawlowsk, Flußtal Poganka, Kamtschatka” (holotype female St. Petersburg); also from elsewhere in Kamchatka.

Dolichovespula saxonica nigrescens Eck, 1983, Ent. Abhand. Staat. Mus. Tierk. Dresden 46 (8): 172, female – [Russia] “Primorje, Umgeb. Anisimowka” (Dresden); also from elsewhere in Russia; Mongolia; Korea.

Distribution: Norway; Sweden; Finland; Denmark; Belgium; France; Spain; Germany; Switzerland; Austria; Poland; Slovakia; Bulgaria; across Russia to Kamchatka Peninsula, Kurile Is., Sakhalin; Turkey; Mongolia; China: Xinjiang, Gansu, Sichuan, Liaoning; Korea; Japan.

stigma Lee

Dolichovespula stigma Lee, 1986, Sinozool. 10 (4): 195, 198, figs. 1(3), 2(1), female – [China] “Mt. Emei, Sichuan Province, 1800–2100 m” (Beijing); also from 1800–1900 m.

Dolichovespula sinensis Archer, 1987, Ent. Mon. Mag. 123: 29, female – “CHINA, Szechwan, Suifu” (Washington); also from Xinjiang.

Distribution: China: Sichuan, Xinjiang.

sylvestris (Scopoli)

Vespa sylvestris Scopoli, 1763, Ent. Carniol.: 309 – [Slovenia] “Carnioliae” (destroyed?).

Vespa parietum Harris, 1776, Exposit. Eng. Ins.: 128, pl. XXXVII fig. 4, male – “English” (destroyed?). Junior primary homonym of *Vespa parietum* Linnaeus, 1758.

Vespa holsatica Fabricius, 1793, Ent. Syst. 2: 257 – [Germany] “Kiliae” (Kobenhavn).

Vespa frontalis Latreille, 1802, Ann. Mus. Hist. Nat. 1: 290, pl. XXI fig. 7 – [France] “Chartreux de Paris” (type depository unknown).

Vespa campanaria Fowler, 1833, Ann. Mag. Nat. Hist. 6: 536, 538, fig. 69 (type depository unknown).

Note: Edwards (1980: 362) attributed *campanaria* to “(Shaw, 1803).”

Vespa anglica “Leach” Smith, 1843, Zoologist 1: 168, as a synonym of *Vespa holsatica* Fabricius, 1793. Available under Art. 11(e) of the International Code of Zoological Nomenclature.

Vespa pilosella Costa, 1858, Ric. Ent. Monti Partenii: 20, 28, female, male – [Italy] “Monti Partenii” (type depository unknown). Junior primary homonym of *Vespa pilosella* Gravenhorst, 1807.

Vespa silvestris; Dalla Torre, 1894, Cat. Hym. 9: 156. Incorrect spelling of *Vespa silvestris* Scopoli.

Vespa silvestris [!] var. *sumptuosa* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73 (3): 493 (key), 603, female – “Perse centrale” (lectotype Wien). – Archer, 1981, Ent. Scand. 12: 191 (designation of lectotype, inadvertently referring it as “the holotype”).

Dolichovespula xinjiangensis Lee, 1986, Sinozool. 10 (4): 195, 199, figs. 1(1), 2(4), female, male – [China] “Xinyuan, Xinjiang Uygur Aut. Reg., 850–1200 m” (holotype female Beijing); also from Altay.

Note: Edwards (1980: 362) listed “*arbustorum* (Blanchard, 1845)” as a synonym of *silvestris*. However, Blanchard (1845: 62) merely referred to the common name “*Guêpe des arbustes*” given by Réaumur. That name is of course not available.

Distribution: Norway; Sweden; Finland; Denmark; Ireland; U. K.: Scotland, Wales, England; Germany; Belgium; France; Spain; Morocco; Austria; Slovenia; Italy; Poland; Slovakia; Bulgaria; across Russia to Siberia, Primor’ye; Turkey; Armenia; Iran; Afghanistan; Pakistan; India: Kashmir; Mongolia; China: Xinjiang, Gansu, Fujian.

xanthicincta Archer

Dolichovespula pacifica xanthicincta Archer, 1981 (1980), Entomon 5 (4): 341, 343, female [male = female] – “CHINA-TIBET BORDER, near Tang Gu, 4300 m” (Washington); also from Xizang; Myanmar.

Distribution: China: Xizang; Bhutan; Myanmar.

Genus *Provespa* Ashmead

Provespa Ashmead, 1903, Ent. News 14: 182, genus.

Type species: *Vespa dorylloides* de Saussure, 1854 [= *Vespa anomala* de Saussure, 1854], by original designation.

anomala (de Saussure)

Vespa anomala de Saussure, 1854, Ét. Fam. Vesp. 2: 112, pl. XIV figs. 2, 2a, female – [Indonesia] “l’île de Java” (Torino, London).

Vespa dorylloides de Saussure, 1854, Ét. Fam. Vesp. 2: 256, Errata. Unnecessary replacement name for *Vespa anomala* de Saussure.

Vespa dorylloides; du Buysson, 1905 (1904), Ann. Soc. Ent. France 73 (3): 497, 616. Incorrect spelling of *Vespa dorylloides* de Saussure.

Distribution: India: Uttar Pradesh, Sikkim; Myanmar; Thailand; Malaysia: Peninsular Malaysia, Sarawak; Singapore; Indonesia: Sumatra, Bangka, Batu Is., Java, Borneo (Kalimantan).

barthelemyi (du Buysson)

Vespa Barthelemyi du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 492 (key), 618, pl. V figs. 3, 4, female, male – “Cambodge, Pnom-penh” (lectotype female Paris); also from India; Vietnam; Myanmar. – van der Vecht, 1957, Zool. Verh., Leiden 34: 10 (designation of lectotype).

Distribution: India: Sikkim, Assam; Bhutan; China: Yunnan, Guangxi; Myanmar; Thailand; Laos; Cambodia; Vietnam; Malaysia: Peninsular Malaysia.

nocturna van der Vecht

Provespa nocturna van der Vecht, 1935, Ent. Meded. Ned. Indië 1: 41, fig. 1, female, male – [Indonesia] “Sumatra, Palembangse Bovenlanden” (holotype female Leiden); also from Borneo, ? Sulawesi.

Distribution: Vietnam; Malaysia: Peninsular Malaysia, Sarawak; Indonesia: Sumatra, Bangka, Borneo (Kalimantan).

Genus *Vespa* Linnaeus

Vespa Linnaeus, 1758, Syst. Nat., ed. 10, 1: 343, 572, genus (17 species).

Type species: “*Vespa crabro*, Fab.” [= *Vespa crabro* Linnaeus, 1758], by subsequent designation of Latreille, 1810, Consid. Gén. Crust. Arachn. Ins.: 438.

Macrovespa Dalla Torre, 1904, Gen. Ins. 19: 64, group of genus *Vespa* Linnaeus.

Type species: *Vespa crabro* Linnaeus, 1758, by subsequent designation of Bequaert, 1930, Bull. Brooklyn Ent. Soc. 25: 64.

Nyctovespa van der Vecht, 1959, Zool. Meded., Leiden 36 (13): 210, subgenus of *Vespa* Linnaeus.

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

affinis (Linnaeus)

Apis affinis Linnaeus, 1764, Mus. Ludov. Ulricae : 417 – “in *Calidis* regionibus” (holotype female Uppsala).

Vespa affinis Fabricius, 1787, Mant. Ins. 1: 287 – “in China” (Kobenhavn). Junior secondary homonym of *Vespa affinis* (Linnaeus, 1764).

Vespa unifasciata Olivier, 1792, 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] “l’île de Bourou, l’une des Moluques” (holotype female Genova).

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* Geoffroy, 1785, and of *Vespa bimaculata* Olivier, 1792.

Vespa Nigripennis de Saussure, 1854, Ét. Fam. Vesp. 2.: 156 – “Les Philippines” (London). Junior primary homonym of *Vespa nigripennis* Degeer, 1773.

Vespa cincta var. *picea* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 488 (key), 537, female – “Nouvelle-Guinée, Tupuseleia . . . ; Ile Yule . . . ; N^{lle}-Guinée, Kapa-Kapa” (lectotype Genova). – van der Vecht, 1959, Zool. Meded., Leiden 36: 214 (designation of lectotype).

- Vespa Indosinensis* Pérez, 1910, Act. Soc. Linn. Bordeaux 64: 8, female – “Cochinchine; Annam (M. Boutan); Malacca; Célèbes septentrionalis; India” (lectotype Paris). – van der Vecht, 1957, Zool. Verh., Leiden 34: 28 (designation of lectotype).
- Vespa formosana* Sonan, 1927, Trans. Nat. Hist. Soc. Formosa 17 (89): 125, female, male – [Taiwan] “Taihoku, Kagi, Takezaki, Nanto, Daimokko, Maruyama” (Taichung).
- Vespa affinis continentalis* Bequaert, 1936, Treubia 15 (4): 346 (key), 350, female – “INDIA: Mangalore” (Washington); also from another locality in India; Myanmar; Sri Lanka; Thailand.
- Vespa affinis* var. *hainanensis* Bequaert, 1936, Treubia 15 (4): 347 (key), 349, female – “CHINA: Hainan Island . . . (2 miles south of Nodoo)” (Cambridge).
- Vespa affinis nigriventris* van der Vecht, 1957, Zool. Verh., Leiden 34: 28 (key), 29, female – [Philippines] “Palawan . . . Puerto Princesa” (Gainesville); also from another locality on Palawan.
- Vespa affinis rufonigrans* van der Vecht, 1957, Zool. Verh., Leiden 34: 28 (key), 29, female, male – [Indonesia] “Palu, North West Celebes” (holotype female Leiden); also from elsewhere on Sulawesi, nearby islands, Borneo, northern Moluccas, Misool, Salawati, Waigeo, New Guinea.
- Vespa affinis archboldi* van der Vecht, 1957, Zool. Verh., Leiden 34: 28 (key), 32, female – [Indonesia] “Hollandia” (Leiden); also from elsewhere in northern New Guinea.
- Vespa affinis moluccana* van der Vecht, 1957, Zool. Verh., Leiden 34: 28 (key), 32, female, male – [Indonesia] “Saparua I. near Amboina” (holotype female Leiden); also from southern Moluccas, Kai, Aru, New Guinea.
- Vespa affinis alticincta* van der Vecht, 1957, Zool. Verh., Leiden 34 28 (key), 33, female, male – “New Britain” (holotype female London).
- Distribution: India: Bihar, West Bengal, Maharashtra, Karnataka, Tamil Nad, Kerala, Sikkim, Assam; Sri Lanka; Myanmar; China: Hainan, Xianggang, Guangdong, Fujian, Guangxi, Hunan, Hubei, Shanghai; Taiwan; Japan in the Ryukyu Is. south of Miyako I.; Thailand; Laos; Vietnam; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Singapore; Indonesia: Sumatra, Nias, Bangka, Java, Borneo (Kalimantan), Sulawesi, Talaud Is., Buton, Salayar, Sunda 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 analis* Fabricius, 1775, Syst. Ent.: 363 – “in Cap. B. S.” [error; probably Java] (London).
- Vespa Crabro sphinx* Christ, 1791, Naturgesch. Ins.: 217, pl. 18 fig. 5, female (destroyed).
- Vespa tyrannica* Smith, 1857, Cat. Hym. Brit. Mus. 5, Vesp.: 119, female – “Singapore” (lectotype London). – van der Vecht, 1959, Zool. Meded., Leiden 36: 215 (designation of lectotype).
- Vespa japonica* Smith, 1868, Ent. Mon. Mag. 4: 279, male – “Hakodadi, in Japan” (lectotype London). Junior primary homonym of *Vespa japonica* Radoszkowski, 1857, and of *Vespa japonica* de Saussure, 1858. – Kojima, 1997, Nat. Hist. Bull. Ibaraki Univ. 1: 20 (designation of lectotype).
- Vespa parallela* André, 1884, Ann. Soc. Ent. France (6) 4, Bull.: lxi, female – [Russia] “Wladivostock, sur l’Amour, Sibérie orientale” (Paris?).

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

Vespa tridentata Cameron, 1903, Entomologist 36: 278, female – “Japan” (lectotype London). – Kojima, 1997, Nat. Hist. Bull. Ibaraki Univ. 1: 20 (designation of lectotype).

Vespa nigrans du Buysson, 1903, Bull. Soc. Ent. France 1903: 175, male – [China] “Yunnan, Tsé-kou” (Paris).

Vespa parallela var. *Biroi* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 487 (key), 513, female – “Singapore” (lectotype Paris). – van der Vecht, 1957, Zool. Verh., Leiden 34: 14 (designation of lectotype).

Vespa analis var. *tenebrosa* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 516, female – [Indonesia] “Java, Goban . . . Gondang” (lectotype Paris). – van der Vecht, 1957, Zool. Verh., Leiden 34: 14 (designation of lectotype).

Vespa analis var. (or subsp.) *barbouri* Bequaert, 1939, Trans. Am. Ent. Soc. 65: 38 (key), 40, female – [India] “Teesta Valley, Sikkim” (Cambridge).

Vespa analis var. (or subsp.) *kuangsiana* Bequaert, 1939, Trans. Am. Ent. Soc. 65: 38 (key), 42, female – “Kwangsi, China” (Cambridge).

Vespa analis eisa Yamane, 1987, Kontyû 55 (4): 628 (key), 631, female – [Japan] “Yona, Okinawa-jima” (Kagoshima); also from elsewhere on Okinawa, and central Ryukyus.

Vespa analis nagatomii Yamane, 1987, Kontyû 55 (4): 628 (key), 632, female – [Japan] “Koza-dake, Iriomote-jima” (Kagoshima); also three other localities on Iriomote.

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

auraria Smith

Vespa auraria Smith, 1852, Trans. Ent. Soc. Lond. (N. S.) 2 (2): 46, pl. VIII fig. 8, female – “Northern India” (London, Oxford?).

Vespa velutina pruthii van der Vecht, 1959, Zool. Meded., Leiden. 36 (13): 228, female – [India] “Kashmir, Srinagar” (Calcutta); also from Pakistan.

Distribution: Afghanistan; Pakistan; India: Kashmir, Himachal Pradesh, Punjab, Uttar Pradesh, West Bengal, Meghalaya, Sikkim, Assam; Nepal; Myanmar; Thailand; Laos; China: Yunnan; Malaysia: Peninsular Malaysia. Introduced Yemen.

basalis Smith

Vespa basalis Smith, 1852, Trans. Ent. Soc. Lond. (N. S.) 2 (2): 46, female – “Nepaul” (London).

Vespa obliterated Smith, 1852, Trans. Ent. Soc. Lond. (N. S.) 2 (2): 47, female – “Northern India” (London).

Vespa basalis; Dover, 1929, Bull. Raffles Mus. 2: 48. Incorrect spelling of *Vespa basalis* Smith.

Distribution: Pakistan; India: Himachal Pradesh, West Bengal, Meghalaya, Sikkim, Assam; Nepal; China: Sichuan, Yunnan, Fujian; Taiwan; Myanmar; Thailand; Laos; Vietnam; Indonesia: Sumatra.

Note: The record from Korea in Kim et al. (1994) was based on misidentification (Kim, personal communication).

bellicosa de Saussure

Vespa Bellicosa de Saussure, 1854, Ét. Fam. Vesp. 2.: 146, pl. XIV fig. 10, female – “Java” [error; Sumatra or Borneo] (lectotype Torino). – van der Vecht, 1959, Zool. Meded., Leiden 36: 216 (designation of lectotype).

Distribution: Malaysia: Sarawak; Indonesia: Sumatra, Bengkalis, Borneo (Kalimantan).

bicolor Fabricius

Vespa bicolor Fabricius, 1787, Mant. Ins. 1: 288 – “in China” (Kobenhavn).

Vespa lutea Coquebert, 1804, Illustr. Iconogr. Insect. 3: 94, pl. XXI fig. 10 – “Massiliae lecta, in navi ex India” (type depository unknown).

Vespa auraria var. *citriventris* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 552, female – [India] “Sikkim, de Padamtsin à Lingtou” (lectotype Paris); also from West Bengal; and China. – van der Vecht, 1959, Zool. Meded., Leiden 36: 218 (designation of lectotype).

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

binghami du Buysson

Vespa Binghami du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 488 (key), 523, female – [Myanmar] “Tenasserim, Taungoo Hills” (lectotype Paris); also from China; and “Indes orientales.” – van der Vecht, 1959, Zool. Meded., Leiden 36: 210 (designation of lectotype).

Vespa suprunenkoi Birula, 1925 (1924), Arch. Naturgesch. (Abt. A) 90 (12): 89 (key), 92, female – [Russia] “Insel Sachalin” (St. Petersburg); also from Korea.

Distribution: India: West Bengal, Assam, Meghalaya; Bhutan; Myanmar; Thailand; Laos; Vietnam; China: Xizang, Sichuan, Yunnan, Jiangsu, Shanghai; Russia: Primor’ye, Sakhalin; Korea.

crabro Linnaeus

Vespa Crabro Linnaeus, 1758, Syst. Nat., ed. 10, 1: 572 – “in Europae” (holotype female, Linnaean Society, London).

Vespa vexator Harris, 1776, Exposit. Eng. Ins.: 127, pl. XXXVII figs. 2–3, female – “English” (destroyed).

Vespa Crabro major Retzius, 1783, C. Degeer Gen. Spec. Ins.: 63 (type depository unknown).

? *Vespa pratensis* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 437 – [France] “in Agro Parisiensi” (type depository unknown).

Vespa Crabro germana Christ, 1791, Naturgesch Ins.: 215, pl. 18 fig. 3 (destroyed).

Vespa Crabroniformis Smith, 1852, Trans. Ent. Soc. Lond. (N. S.) 2 (2): 40, female, male – “North China” (London).

Vespa crabro var. *borealis* Radoszkowski, 1863, Horae Soc. Ent. Ross. 2: 128, pl. XVI fig. 15, female, male – [Russia] “Pargolova i Osinova Roshchi” (type depository unknown). Junior primary homonym of *Vespa borealis* Kirby, 1837, *Vespa borealis* Zetterstedt, 1840, and of *Vespa borealis* Smith, 1843.

- Vespa crabro* var. *anglica* Gribodo, 1892 (1891), Bull. Soc. Ent. Ital. 23: 242, female – “Inghilterra” (Genova). Junior primary homonym of *Vespa anglica* Smith, 1843.
- Vespa oberthuri* du Buysson, 1902, Bull. Soc. Ent. France 1902: 140, female – “Chine: Se-tchouen, Siao-Lou” (Paris, Leiden); also from Ta-t sien-lou.
- Vespa flavo-fasciata* Cameron, 1903, Entomologist 36: 280, female – “Japan . . . Nügata (Shinanogawa)” (lectotype London). – Kojima, 1997, Nat. Hist. Bull. Ibaraki Univ. 1: 21 (designation of lectotype).
- Vespa crabro* var. *tartarea* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73 (3): 492 (key), 506, female – “Japon: Yokohama . . . Columbia” (Budapest, coll. Martinez Escalera).
- Vespa Crabro* var. *Altaica* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 5, female – “Altai” (Paris).
- Vespa Crabro* var. *Caspica* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 6, female – [Azerbaijan] “Talysch et Lenkoran, région Caspienne” (Paris).
- Vespa crabro vulgata* Birula, 1925 (1924), Arch. Naturgesch. (Abt. A) 90 (12): 100, female, male – “West-Europa” (St. Petersburg).
- Vespa crabro meridionalis* Birula, 1925 (1924), Arch. Naturgesch. (Abt. A) 90 (12): 100, female – “Transkaukasien, Lagodechi, . . . Gouv. Tiflis, . . . Lenkoran . . . Kutais, . . . Transkaspien, Krassnovodsk” (St. Petersburg).
- Vespa crabro chinensis* Birula, 1925 (1924), Arch. Naturgesch. (Abt. A) 90 (12): 101, female, male – “China, auf dem Wege zwischen Peking und She-che . . . Tien-zsin, . . . Tal Lu-li-cho, 65 Werst südlich von Peking, . . . Prov. Sze-tschwan von Tshanj-Tshou zu Tsha-mynj” (St. Petersburg). Junior primary homonym of *Vespa chinensis* Fabricius, 1793.
- Vespa crabro* var. *birulai* Bequaert, 1931, Konowia 10 (2): 105. Replacement name for *Vespa crabro chinensis* Birula.
- Vespa crabro* var. *gribodoi* Bequaert, 1931, Konowia 10 (2): 105. Replacement name for *Vespa crabro* var. *anglica* Gribodo.

Distribution: Norway; Sweden; Finland; Denmark; U. K.: Scotland, Wales, England; Belgium; France; Spain; Germany; Switzerland; Austria; Italy; Poland; Hungary; Albania; Ukraine; Turkey; Georgia; Azerbaijan; Iran; across Russia to Siberia, Sakhalin; Mongolia; China: Sichuan, Yunnan, Hubei, Beijing, Jilin; Taiwan; Korea; Japan. Introduced into Canada (Ont.); U. S. A. (ND, SD, WI, IN, OH, NY, PA, MA, CT, RI, NJ, DE, MD, DC, KY, WV, VA, TN, NC, SC, AL, GA).

Note: Bequaert (1931: 101) regarded du Buysson’s (1905) record for Algeria as either an accidental introduction, or error in labelling.

ducalis Smith

- Vespa ducalis* Smith, 1852, Trans. Ent. Soc. Lond. (N. S.) 2 (2): 39, female, male – [China] “Tein-tung, near Nigo-po-foo” (London).
- Vespa ducalis* var. *pulchra* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 519, female – “Corée, Séoul . . . Japon . . . : Yokohama” (lectotype from “Yokohama” Paris). – van der Vecht, 1959, Zool. Meded., Leiden 36: 224 (designation of lectotype).
- Vespa matsumurai* Sonan, 1935, Trans. Nat. Hist. Soc. 25 (145): 370, figs. 1–3, female – [Japan] “Tokyo” (Taichung).
- Vespa esakii* Sonan, 1935, Trans. Nat. Hist. Soc. Formosa 25 (145): 371, figs. 4–6, female – [Japan] “Izuhara in Tsushima Island” (Fukuoka).

Vespa tropica loochooensis Bequaert, 1936, Treubia 15 (4): 336 (key), 343, female – [Japan] “Triomote Island, in the LOO-CHOO (or Riu-Kiu) ARCHIPELAGO” (Cambridge).

Vespa tropica pseudosoror van der Vecht, 1959, Zool. Meded. 36 (13): 224, female – [Vietnam] “Indo-China: Annam . . . Lién-Chiên près Tourane, 1000 m” (Paris); also from elsewhere in Vietnam; and Taiwan.

Distribution: India: Sikkim, Meghalaya; Nepal; Mynmar; Thailand; Vietnam; China: Gansu, Sichuan, Hainan, Guangdong, Fujian, Hunan, Shanghai, Jiangsu, Liaoning; Taiwan; Russia: Primor’ye; Korea; Japan, including Ryukyu Is.

dybowskii André

Vespa Dybowskii “Rad. in litt.” André, 1884, Spec. Hym. Europe Algér. 2: 582, female – [Russia] “Sibérie” (Paris?).

Vespa Dubowskii; Dalla Torre, 1904, Gen. Ins. 19: 65. Incorrect spelling of *Vespa dybowskii* André.

Vespa Walkeri; du Buysson, 1905 (1904), Ann. Soc. Ent. France 73 (3): 490 (key), 539, female, male – “Chine: Hai-ning” (London, Paris).

Vespa dybowskii mutata; Ma, 1937, Ent. Phytopath. 5 (2): 30, male (in subgenus *Vespa*) – [China] “Hangchow” (Hangzhou, destroyed?).

Distribution: Myanmar; Thailand; China: Xizang, Zhejiang; Russia: Primor’ye; Korea; Japan.

fervida Smith

Vespa fervida Smith, 1858, J. Proc. Linn. Soc Lond. 3 (9): 23, female – [Indonesia] “Celebes” (London).

Distribution: Indonesia: Sulawesi, Salayar, Buton.

fumida van der Vecht, NEW STATUS

Vespa variabilis du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 490 (key), 522, 627, female – “Chine: Mou-pin” (lectotype Paris); also from elsewhere in China; and Indonesia [error]. Junior primary homonym of *Vespa variabilis* Fabricius, 1781. – van der Vecht, 1959, Zool. Meded., Leiden 36: 228 (designation of lectotype).

Vespa variabilis fumida van der Vecht, 1959, Zool. Meded. 36 (13): 228, female – “India . . . ‘British Bootan’, Padong” (Paris); also from Darjeeling.

Distribution: India: West Bengal, Sikkim, Arunachal Pradesh, Assam; Bhutan; Nepal; Myanmar; China: Sichuan, Yunnan, Fujian, Hubei.

luctuosa de Saussure

Vespa luctuosa de Saussure, 1854, Ét. Fam. Vesp. 2.: 143, male – “Les Philippines” (London).

Vespa bellicosa var. *Semperi* du Buysson, 1905 (1904), Ann. Soc. Ent. France 63: 542, female – “Comigu” [Philippines: ?Camiguin] (lectotype Wien); also from Mindanao, Lubang, Luzon. – van der Vecht, 1957, Zool. Verh., Leiden 34: 48 (designation of lectotype).

Vespa luctuosa luzonensis Bequaert, 1934, Bull. Mus. R. Hist. Nat. Belg. 10 (28): 3 (key), 5, female – “Luzon, Philippines” (Berlin).

Vespa luctuosa negrosensis Kojima and Tano, 1985, Philipp. Ent. 6 (4): 436, female – [Philippines] “Mambucal, Negros Is.” (Tsukuba).

Distribution: Philippines: Luzon, Lubang, Mindoro, Panay, Negros, Cebu, Biliran, Samar, Leyte, Panaon, Mindanao.

***mandarinia* Smith**

Vespa Mandarinia Smith, 1852, Trans. Ent. Soc. Lond. (N. S.) 2 (2): 38, pl. VIII fig. 1, female – [China] “Tein-tung, near Ning-po-foo, amongst the mountains” (London).

Vespa magnifica Smith, 1852, Trans. Ent. Soc. Lond. (N. S.) 2 (2): 45, female – “Nepaul” (London, Oxford).

Vespa japonica Radoszkowski, 1857, in Motschulsky, Ét. Ent. 6: 410 – “Japon” (St. Petersburg).

Vespa bellona Smith, 1871, Proc. Zool. Soc. Lond.: 248, pl. XVIII fig. 6, female – [China] “Yunan” (London).

Vespa magnifica var. *latilineata* Cameron, 1903, Entomologist 36: 278, female – “Japan . . . Hitoyoshi” (London).

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

Vespa magnifica var. *nobilis* Sonan, 1929, Trans. Nat. Hist. Soc. Formosa. 19 (101): 137 (key), 140, female – [Taiwan] “Musha” (Taichung); also from other localities on Taiwan.

Vespa magnifica sonani Matsumura, 1930, Illust. Thousand Ins. Japan 2: 1, pl. 1 figs. 2, 5 female – “Taiwan, Sina” (lectotype Sapporo). – Kojima, 1997, Nat. Hist. Bull. Ibaraki Univ. 1: 22 (designation of lectotype).

Distribution: India: Himachal Pradesh, Uttar Pradesh, West Bengal, Sikkim, Assam, Meghalaya; Sri Lanka; Nepal; Bhutan; Myanmar; Thailand; Laos; Malaysia: Peninsular Malaysia; China: Sichuan, Yunnan, Xianggang, Jiangxi, Fujian, Hubei, Shanghai, Jiangsu; Taiwan; Russia: Primor’ye; Korea; Japan, including Yaku-shima I. and Tanega-shima I. in Ryukyu Is.

***mocsaryana* du Buysson**

Vespa Mocsaryana du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 490 (key), 537, pl. VII fig. 3, female, male – “Presqu’île de Malacca: Pérak . . . ; Sikkim . . . ; Assam: Khasia Hills . . . ; Tenasserim: Thagatâ” (Budapest, Wien, London, Genova).

Distribution: India: Meghalaya, Sikkim, Assam; China: Sichuan, Fujian, Anhui; Myanmar; Thailand; Laos; Vietnam; Malaysia: Peninsular Malaysia; Indonesia: Sumatra.

***multimaculata* Pérez**

Vespa annulata Smith, 1858, J. Proc. Linn. Soc. Lond., Zool. 2 (6): 116, female – [Malaysia] “Borneo (Sarawak). Malacca.” (lectotype Oxford). Junior primary homonym of *Vespa annulata* Rossi, 1790.

Vespa multimaculata Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 14, female – “Brunei (Java)” [Borneo] (lectotype Paris). – van der Vecht, 1957, Zool. Verh., Leiden 34: 44 (designation of lectotype).

Vespa luctuosa var. *malayana* Bequaert, 1934, Bull. Mus. R. Hist. Nat. Belg. 10 (28): 3 (key), 4. Replacement name for *Vespa annulata* Smith.

Vespa multimaculata pendleburyi van der Vecht, 1957, Zool. Verh., Leiden 34: 43, 44, female, male – “Catchment Area near Jitra, Kedah, N. Malaya” (holotype female Leiden); also from elsewhere in Peninsular Malaysia; Thailand; Singapore; Indonesia: Sumatra.

Distribution: Thailand; Malaysia: Peninsular Malaysia, Sarawak; Singapore; Indonesia: Sumatra, Borneo (Kalimantan); Brunei.

orientalis Linnaeus

Vespa orientalis Linnaeus, 1771, Mant. Plant., ed. 2: 540 – “Oriente” (holotype female, Linnaean Society, London).

Vespa turcica Drury, 1773, Illustr. Nat. Hist. 2: 74, pl. XXXIX fig. 1, index – [Turkey] “Smyrna” (destroyed?).

Vespa quadripunctata Forskål, 1775, Descr. Anim.: 84 – [Egypt] “Kahirae” (Kobenhavn?).

Vespa Crabro fusca Christ, 1791, Naturgesch. Ins.: 216 – [Turkey] “Smirna” (destroyed).

Vespa Aegyptiaca Vallot, 1802, Concord. Syst.: 170 – “Égypte” (type depository unknown).

Vespa Nilotica Vallot, 1802, Concord. Syst.: 170 – “Égypte” (type depository unknown).

Vespa Jurinei de Saussure, 1854, Ét. Fam. Vesp. 2: 133 – “L’Albanie” (lectotype female London). – Guiglia, 1971, Faune Europe Bassin Mediterran. 6: 94 (designation of lectotype).

Vespa orientalis var. *Aegyptiaca* André, 1884, Spec. Hym. Europe Algér. 2: 584 – [Egypt] “Le Caire, Alexandrie” (Paris). Junior primary homonym of *Vespa aegyptiaca* Vallot, 1802.

Vespa indica; Wroughton, 1889, J. Bombay Nat. Hist. Soc. 4: 35. Lapsus for *Vespa orientalis* Linnaeus.

Vespa orientalis var. *Zavattarii* Guiglia and Capra, 1933, Mem. Soc. Ent. Ital. 12: 168, female – “Fezzan . . . Ubari [Libya] . . . Oued Tizzi (Algeria)” (Genova).

Vespa orientalis var. *somalica* Giordani Soika, 1934, Boll. Soc. Ent. Ital. 66 (8): 184, female – “Somalia italiana . . . di Carim” (lectotype Venezia); also from Bender Cassim; 1973, Boll. Mus. Civ. Stor. Nat. Venezia 24: 11 (designation of lectotype).

Vespa orientalis arabica Giordani Soika, 1957, Brit. Mus. (Nat. Hist.) Exp. S. W. Arabia 1 (31): 482, female, male – “WESTERN ADEN PROTECTORATE: Al Milah, 1600 ft.” (holotype female London); also from elsewhere in Yemen; and Oman.

Distribution: Italy, including Sicily; Malta; Albania; Romania; Greece, including Crete; Bulgaria; Turkey; Cyprus; Syria; Lebanon; Iraq; Israel; Jordan; Saudi Arabia; Bahrein; Yemen; Oman; U. A. E.; Algeria; Libya; Egypt; Ethiopia; Somalia; Russia; Turkmenistan; Uzbekistan; Tajikistan; Iran; Afghanistan; Pakistan; India: Kashmir, Punjab, Haryana, Uttar Pradesh, Bihar, Delhi, West Bengal, Maharashtra, Andhra Pradesh; Nepal; China: Xinjiang. Introduced Madagascar.

philippinensis de Saussure

Vespa Philippinensis de Saussure, 1854, Ét. Fam. Vesp. 2.: 148, male – “Les Philippines” (London).

Distribution: Philippines: Luzon, Negros, Samar, Leyte, Mindanao.

simillima Smith

Vespa simillima Smith, 1868, Ent. Mon. Mag. 4: 280, female – “Japan . . . Hakodadi” (London).

Vespa mongolica André, 1884, Ann. Soc. Ent. France (6) 4, Bull.: lix, male, female – [Russia] “Wladivostock, sur l’Amour, dans la Sibérie orientale” (Paris?).

Vespa xanthoptera Cameron, 1903, Entomologist 36: 278, male – “Japan . . . Michzusa” (London).

Vespa micado Cameron, 1903, Entomologist 36: 279, female – “Japan . . . Nagasaki” (lectotype London). – Kojima, 1997, Nat. Hist. Bull. Ibaraki Univ. 1: 20 (designation of lectotype).

Vespa Mongolica var. *Sexpunctata* Pérez, 1905, Bull. Mus. Hist. Nat. Paris 1905: 24 (*sexpunctata*), 79, female – [Japan] “Yokohama” (holotype Paris).

Vespa Mongolica var. *flavata* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 17, female – “Chine” (Paris).

Distribution: China: Liaoning; Russia: Primor’ye, Sakhalin, Kurile Is.; Korea; Japan, including Ryukyu Is. (Yaku-shima I.). Introduced into Canada (B. C.).

soror du Buysson

Vespa ducalis var. *soror* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 490 (key), 519, female – “Chine . . . Kiang-si” (lectotype Paris); also from elsewhere in China; India; Vietnam. – van der vecht, 1957, Zool. Verh., Leiden 34: 16 (designation of lectotype).

Distribution: China: Yunnan, Hainan, Fujian; Thailand; Laos; Vietnam.

tropica (Linnaeus)

Sphex tropica Linnaeus, 1758, Syst. Nat., ed. 10, 1: 571 – “in Indiis” (holotype female Uppsala).

Vespa cincta Fabricius, 1775, Syst. Ent.: 362 – [India] “ad littora Malabarica” (Kobenhavn). Junior primary homonym of *Vespa cincta* Drury, 1773, and of *Vespa cincta* Degeer, 1773.

Vespa Crabro tenebrionis Christ, 1791, Naturgesch. Ins.: 216, pl. 18 fig. 4 (destroyed).

Vespa deusta Lepeletier, 1836, Hist. Nat. Ins. Hym. 1: 506, female – “Patrie inconnue” (lectotype Torino). – van der vecht, 1959, Zool. Meded., Leiden 36: 226 (designation of lectotype).

Vespa unicolor Smith, 1863, J. Proc Linn. Soc. Lond., Zool. 7: 44, female – [Indonesia] “Bouru” (Oxford). 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 (1904), Ann. Soc. Ent. France 73: 491 (key), 530, female – [India] “Ile Andaman: port de Blair” (Genova).

Vespa affinis var. *tresignata* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 8, female – [Indonesia] “Timor” (Paris).

Vespa rubricans Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 10, female – “Lindi (Afrique orientale allemande)” (lectotype Paris). – van der Vecht, 1957, Zool. Verh., Leiden 34: 24 (designation of lectotype).

Vespa tropica var. *anthracina* Bequaert, 1936, Treubia 15 (4): 335 (key), 341, female, male – “PHILIPPINE ISLANDS: Sibuyan” (holotype female Washington); also from other localities in the Philippines.

Vespa tropica var. *haematodes* Bequaert, 1936, Treubia 15 (4): 336 (key), 338, female, male – “INDIA: Kooloo” (holotype female Cambridge); also from six other localities in India; Sri Lanka; Myanmar; China.

Vespa tropica leefmansi van der Vecht, 1957, Zool. Verh., Leiden 34: 19, female, male – [Indonesia] “Solok, Padang, Sumatra” (holotype female Leiden); also from Vietnam; Thailand; Malaysia; and other islands in Indonesia.

Vespa tropica trimeres van der Vecht, 1957, Zool. Verh., Leiden 34: 19 (key), 22, female – [Indonesia] “Palu, West Celebes” (Leiden).

Vespa tropica cebuana Kojima and Reyes, 1984, Kontyû 52 (2): 260, female – [Philippines] “Cebu City” (Tsukuba); also from Talisay.

Distribution: Afghanistan; Pakistan; India: Himachal Pradesh, Bihar, West Bengal, Maharashtra, Karnataka, Tamil Nadu, Kerala, Sikkim, Assam, Meghalaya, Andaman and Nicobar Is.; Sri Lanka; Nepal; Bhutan; China: Yunnan, Xianggang, Fujian; Myanmar; Thailand; Laos; Cambodia; Vietnam; Malaysia: Peninsular Malaysia, Sarawak; Indonesia: Anambas Is., Sumatra, Nias, Batu, Enggano, Bangka, Belitung, Sunda Is. (Sangijiang, Sebesi, Sebuku, Legundi, Krakatau, Panaitan), Java, Bawean, Madura, Kangean Is., Bali, Lombok, Komodo, Sumbawa, Sumba, Flores, Wetar, Timor, Borneo (Kalimantan), Sulawesi, Salayar, Sula Is., 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, female – [Indonesia] “Inde: Java” (coll. Serville).

Vespa crabro var. *immaculata* Morawitz, 1889, Horae Soc. Ent. Ross. 23: 161, female – [China] “Kansu. Nanpin.” (St. Petersburg). Junior primary homonym of *Vespa immaculata* Gmelin, 1790.

Vespa fruhstorferi Stadelmann, 1894, Sitz.-Ber. Ges. Naturf. Freunde Berl. 1894 (3): 89, female – [Indonesia] “in den alpinen Theilen von West-Java auf dem Gunung-Gede . . . in einer Höhe von 8000 Fuss” (Berlin?).

Vespa velutina var. *ardens* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 550, female, male – [Indonesia] “Lombok, Sapit (2000’ . . .); I. Sumbawa, près Java” (Wien, Budapest, München, Paris).

Vespa auraria var. *nigrithorax* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 553, female, male – [India] “Dardjiling” (lectotype female Paris); also from Sikkim; and Bhutan; China; Indonesia: Sumatra, Sulawesi. – van der Vecht, 1957, Zool. Verh., Leiden 34: 37 (designation of lectotype).

Vespa velutina var. *Celebensis* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 12, female – [Indonesia] “Bua-Kraeng (Sud-Célèbes)” (holotype Paris).

Vespa velutina var. *Megei* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 13, female – “Koueï-Tchéou (Chine centrale)” (Paris).

Vespa Mongolica var. *divergens* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 16, female – [Malaysia] “Perak” (lectotype Paris). – van der Vecht, 1957, Zool. Verh., Leiden 34: 38 (designation of lectotype).

Vespa flavitarsus Sonan, 1929, Trans. Nat. Hist. Soc. Formosa 19 (101): 137 (key), 142, female – [Taiwan] “Taiko-san (Kagi)” (coll. M. Kato); also from other localities on 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 (key), 40, female, male – [Indonesia] “Kananggar, E. Sumba, 700 m” (holotype female Leiden); also from elsewhere on Sumba.

Vespa velutina variana van der Vecht, 1957, Zool. Verh., Leiden 34: 35 (key), 37, female – “North Siam . . . Doi Hua Mot, 3000” (Leiden); also from elsewhere in Thailand; Laos; Vietnam.

Vespa velutina karnyi van der Vecht, 1957, Zool. Verh., Leiden 34: 35 (key), 38, female, male – [Indonesia] “Bandar Buru, Deli” (holotype female Leiden); also from elsewhere in Sumatra.

Vespa velutina timorensis van der Vecht, 1957, Zool. Verh., Leiden 34 35 (key), 40, female – [Indonesia] “Mollo, 1350 m, Timor” (Basel); also from another locality on Timor.

Vespa velutina floresiana van der Vecht, 1957, Zool. Verh., Leiden 34: 35 (key), 40, female – [Indonesia] “Labuan Badjo, Flores” (Leiden); also from elsewhere on Flores, and Komodo.

Distribution: India: West Bengal, Sikkim, Assam; Bhutan; China: Sichuan, Jiangxi, Fujian, Hubei, Zhejiang, Xianggang; Taiwan; Myanmar; Thailand; Laos; Vietnam; Malaysia: Peninsular Malaysia; Indonesia: Sumatra, Java, Bali, Lombok, Sumbawa, Komodo, Sumba, Flores, Timor, Sulawesi.

vivax Smith

Vespa vivax Smith, 1870, in Horne and Smith, Trans. Zool. Soc. Lond. 7 (3): 190, pl. XXI fig. 9, female – “Binsur, Kumaon, North-west Provinces of India” (London, Oxford?).

Vespa velutina var. *mediozonalis* Pérez, 1910, Actes Soc. Linn. Bordeaux 64: 14, female – [India] “Sikkim” (Paris).

Vespa wilemani Meade-Waldo, 1911, Ann. Mag. Nat. Hist. (8) 7: 104, female – “Formosa” (London).

Distribution: India: Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim; Nepal; Myanmar; Thailand; China: Xizang, Sichuan, Yunnan; Taiwan.

Genus *Vespula* Thomson

Vespula Thomson, 1869, Opusc. Ent. 1: 79, subgenus of *Vespa* (eight species).

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.

acadica (Sladen)

Vespa rufa var. *americana* du Buysson, 1905 (1904), Ann. Soc. Ent. France 63: 499 (key), 592, male – “Canada, Lévis près Québec” (type depository unknown). Junior primary homonym of *Vespa americana* Fabricius, 1775, and of *Vespa maculata americana* Christ, 1791.

Vespa acadica Sladen, 1918, Ottawa Nat. 32: 72, male, female – [Canada] “Ottawa” (lectotype female Ottawa) also from Nova Scotia, N.B., B.C. – Miller, 1961, Can. ent., Suppl. 22: 15, 17 (designation of lectotype).

Vespula rufa var. *sladeni* Bequaert, 1932, Ent. Am. (N. S.) 12 (2): 98, 102, female, male – [U. S. A.] “WASHINGTON STATE” (holotype female Cambridge); also from OR, CA, WY, UT, CO; Canada: BC.

Distribution: Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: AK, WA, OR, CA, NV, ID, MT, WY, UT, CO, AZ, NM, SD, ND, MN, NE, WI, MI, NY, PA, VT, NH, ME, MA, CT, RI, NJ, MD, WV, VA, NC.

arisana Sonan

Vespa arisana Sonan, 1929, Trans. Nat. Hist. Soc. Formosa. 19 (101): 137 (key), 147, female – [Taiwan] “Funkiko (Arisan 4,600 ft.)” (Taichung); also from elsewhere on Taiwan.

Distribution: Taiwan.

atropilosa (Sladen)

Vespa atropilosa Sladen, 1918, Ottawa Nat. 22: 72, female – [Canada] “Lethbridge, Alta.” (lectotype Ottawa); also from B.C. – Miller, 1961, Can. Ent., Suppl. 22: 17, 19 (designation of lectotype).

Distribution: Canada: B. C., Alta.; U. S. A.: WA, OR, CA, NV, ID, MT, WY, UT, CO, AZ, NM, ND, NE; Mexico: Baja California Norte.

austriaca (Panzer)

Vespa austriaca Panzer, 1799, Faunae Ins. German. 63: 2, fig. 2, male – “Viennae Austr.” (destroyed).

Vespa borealis Smith, 1843, Zoologist 1: 170, fig., female – “Yorkshire . . . the north of Scotland” (London). Junior primary homonym of *Vespa borealis* Kirby, 1837, and of *Vespa borealis* Zetterstedt, 1840.

Vespa arborea Smith, 1849, Zoologist 7, App.: lx. Replacement name for *Vespa borealis* Smith.

Vespa biloba Schilling, 1850, Jahresber. Schles. Ges. Vaterländ. Kultur 28: 77 – [Poland] “Schlesien” (type depository unknown).

Vespa infernalis de Saussure, 1854, Ét. Fam. Vesp. 2: 139, female – [U. S. A.] “L’Amérique du Nord. Philadelphie” (Torino).

Vespa tripunctata Packard, 1870, Trans. Chicago Acad. Sci. 2: 26, pl. II fig. 11, female – [U. S. A.] “Alaska” (type depository unknown). Junior primary homonym of *Vespa tripunctata* Fabricius, 1787, and of *Vespa tripunctata* Schenck, 1861.

Vespa arborea “Ross” Dalla Torre, 1894, Cat. Hym. 9: 138, as a synonym of *Vespa austriaca* Panzer. Junior primary homonym of *Vespa arborea* Smith, 1849.

Distribution: Norway; Sweden; Finland; Denmark; Ireland; U. K.: Scotland, Wales, England; Belgium; Luxembourg; France; Spain; Germany; Switzerland; Austria; Italy; Poland; Czech Republic; Bulgaria; Turkey; Georgia; across Russia to Kamchatka, Amur;

Pakistan; India: Kashmir; Mongolia; China: Xinjiang, Hebei, Liaoning; Korea; Japan; Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: AK, WA, OR, CA, ID, MT, UT, CO, NM, AZ, NM, ND, WI, MI, NY, VT, NH, ME, MA, CT, RI, NJ.

consobrina (de Saussure)

Vespa Consobrina de Saussure, 1854, Ét. Fam. Vesp. 2: 141, female – [Canada] “L’île de Terre-Neuve” (Paris).

Vespa scelestus McFarland, 1888, Trans. Am. Ent. Soc. 15: 297 (key), 298, female, male – [U. S. A.] “Montana” (lectotype female Philadelphia); also from PA, VA, NH, CO, ME, WA, MA. – Cresson, 1928, Mem. Am. Ent. Soc. 5: 57 (designation of lectotype).

Vespa sulcata; Howard, 1901, Insect Book: pl. VI fig. 18. Lapsus for *Vespa scelestus* McFarland.

Distribution: Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: WA, OR, CA, ID, MT, WY, UT, CO, ND, MN, WI, IL, MI, IN, OH, NY, PA, VT, NH, ME, MA, CT, RI, NJ, DE, MD, KY, WV, VA, TN, NC, GA.

flaviceps (Smith)

Vespa japonica de Saussure, 1858, Rev. Mag. Zool. (2) 10: 261, female – “Japon” (Genève). 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, female – “Binsur, Kumaon, North-west Provinces of India” (London).

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

Vespa “lewisii, Saus. MS.” Cameron, 1903, Entomologist 36: 280, as a synonym of *Vespa japonica* de Saussure, 1858. Available under Art. 11(e) of the International Code of Zoological Nomenclature.

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 (key), 148, female – [Taiwan] “Karenkô (3000–6500 ft.)” (Taichung).

Vespa 4-maculata Sonan, 1929, Trans. Nat. Hist. Soc. Formosa. 19 (101): 137 (key), 148, female – [Taiwan] “Arisan” (coll. M. Maki).

Vespa vulgaris var. *flavior* Stolfi, 1934, Bull. Soc. Venez. Stor. Nat. 1: 49, female – “India: Bagarkote 8000 piedi. Kumaon W. Himalaia . . . Dal, sopra Dharmasala, 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, female (in subgenus *Vespula*) – [Korea] “Za-mo san, 60 km NE from Pyongyang” (Budapest); also from other localities in Korea.

Vespa vulgaris var. *flavior*; Das and Gupta, 1984 (1983), Orient. Ins. 17: 449. Incorrect spelling of *Vespa vulgaris* var. *flavior* Stolfi.

Vespula gracilia Lee, 1986, Sinozool. 10 (4): 201, 203, 206, fig. 2, female – [China] “Zhoushan, Zhejiang Province” (Beijing); also from Fujian.

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; Taiwan; Russia: Primor'ye; Korea; Japan, including Amami Is. in Ryukyu Is.

flavopilosa Jacobson

Vespula flavopilosa Jacobson, 1978, in Jacobson et al., Ann. Ent. Soc. Am. 71: 299, 301 (key), 303, figs. 1a, 2c, ra, 5c, d, j, 8, 9, 17, 22–29, female, male – [U. S. A.] “Ithaca, Tompkins Co., NY” (holotype female Washington); also from elsewhere in NY, and NC, ND, MN, MO, IA, WI, IL, IN, MI, OH, KY, TN, GA, VA, WV, DC, MD, DE, PA, NJ, CT, MA, VT, NH, ME; Canada: Manitoba, Ontario, Nova Scotia.

Distribution: Canada: Man., Ont., Que., Nova Scotia; U. S. A.: ND, SD, MN, NE, IA, MO, WI, IL, MI, IN, OH, NY, PA, VT, NH, ME, MA, CT, NJ, DE, MD, DC, KY, WV, VA, TN, NC, SC, GA.

germanica (Fabricius)

?*Vespa maculata* Scopoli, 1763, Ent. Carniol.: 312 – [Slovenia] “Carnioliae” (destroyed?). Junior primary homonym of *Vespa maculata* Linnaeus, 1763.

?*Vespa macularis* Olivier, 1792, Encycl. Méth. Ins. 6: 695. Unjustified emendation of *Vespa maculata* Scopoli.

Vespa germanica Fabricius, 1793, Ent. Syst. 2: 256 – [Germany] “Kiliae” (type depository unknown).

Distribution: Norway; Sweden; Denmark; Ireland; U. K.: Scotland, Wales, England; Netherlands; Belgium; Luxembourg; France; Spain including Canary Islands; Portugal; Azores; Morocco; Algeria; Tunisia; Germany; Switzerland; Austria; Malta; Poland; Czech Republic; Hungary; Slovenia; Croatia; Albania; Greece; Belarus; Ukraine; across Russia to Primor'ye; Romania; Bulgaria; Turkey; Georgia; Armenia; Iran; Syria; Israel; Kazakhstan; Uzbekistan; Turkmenistan; Tajikistan; Afghanistan; Pakistan; India: Kashmir; Mongolia; China: Gansu, Qinghai, Hebei, Beijing, Liaoning, Neimenggu, Heilongjiang; Taiwan; Korea. Introduced into Iceland; New Zealand; Australia (New South Wales., Australian Capital Territory, Western Australia, Tasmania); Ascension Island; South Africa; Chile; Argentina (Neuquén, Rio Negro, Chubut); Canada (Ont., Que.); U. S. A. (WA, CA, WI, MI, IN, OH, NY, PA, VT, MA, CT, NJ, DE, MD).

inexpectata Eck

Vespula inexpectata Eck, 1994, Ent. Abhand. Staat. Mus. Tierk. Dresden 56 (6): 125, female, figs. 1–6, 7 – “W. slope, Popocatepetl, Mx. MEX . . . 10000” (Ithaca); also from two other localities in México, and Michoacan.

Distribution: Mexico: México, Michoacan.

kingdonwardi Archer

Vespula kingdonwardi Archer, 1981, Kontyû 49 (1): 54, 57 (key), 60, fig. 4C–D, female, male – [China] “TIBET, 28.25 N 97.55 E” (holotype female London); also from other localities in Xizang; Myanmar.

Vespula hirsuta Lee, 1986, Sinozool. 10 (4): 201, 204, 206, fig. 4, female – [China] “Markham County, Xizang (Tibet) Aut. Reg., 3300 m” (Beijing).

Distribution: China: Xizang; Nepal; Myanmar.

koreensis (Radoszkowski)

Vespa Koreensis Radoszkowski, 1887, Horae Soc. Ent. Ross. 21: 432, male, female – “Korée” (lectotype female London).. – Archer, 1982, Kontyû 50: 263, 267 (designation of lectotype).

Vespa germanica var. *stizoides* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 494 (key), 615, female – “Nord de l’Inde” (holotype London).

?*Vespa orbata* var. *aurulenta* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73 (3): 579, female – “Chine, Mou-pin . . . ; Amur” (Paris, Wien).

Pseudovespa birulai Gussakovskii, 1932, Ark. Zool. 24A (10): 52, female – [Russia] “Ussuri-Geb.: Tigrovaja . . . ; Sutshan . . . Sedanka . . . Kreis Chabarowsk . . . Wladivostok” (Stockholm).

Vespula koreensis salebrosa Archer, 1982, Kontyû 50 (2): 261, 267, female – “CHINA: Szechuen, Suifu” (London); also from other localities in China.

Vespula hainanensis Lee, 1986, Sinozool. 10 (4): 201, 202, 206, fig. 1, female – [China] “Hainan Island, Guangdong Province” (Beijing).

Distribution: India: Sikkim, Meghalaya; Thailand; Laos; China: Sichuan, Yunnan, Hainan, Jiangxi, Fujian, Hunan, Anhui, Zhejiang, Hebei, Beijing, Liaoning, Heilongjiang; Korea; Russia: Amur, Primor’ye.

maculifrons (du Buysson)

Vespa maculifrons Harris, 1853, in Hitchcock, Rep. Geol. Mineral. Bot. Zool. Mass., ed. 2: 589. Nomen nudum.

Vespa maculifrons “H.” du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 608 – [U. S. A.] “Delaware, Wilmington” (London), as a synonym of *Vespa communis* de Saussure, 1857. Available under Art. 11(e) of the International Code of Zoological Nomenclature.

Vespa communis var. *flavida* Sladen, 1918, Ottawa Nat. 32: 71, female – “Common in eastern Canada . . . More southern range.” (Ottawa).

Distribution: Canada: Man., Ont., Que., N. B., Nova Scotia; U. S. A.: MT, WY, CO, NM, ND, SD, MN, NE, IA, KS, MO, OK, AR, TX, LA, WI, IL, MI, IN, OH, NY, PA, VT, NH, ME, MA, CT, NJ, DE, MD, KY, WV, VA, TN, NC, SC, MS, AL, GA, FL; Mexico: Tamaulipas, Hidalgo, Nuevo León.

nursei Archer

Vespula nursei Archer, 1981, Kontyû 49 (1): 54, 57, fig. 4A–B, female, male – “INDIA, Kashmir, 8–9,000 ft” (holotype female London); also from other localities in Kashmir, Punjab, Himachal Pradesh; China; Philippines.

Distribution: India: Kashmir, Himachal Pradesh, Punjab; China: Fujian, Hebei; Philippines: Luzon.

orbata (du Buysson)

Vespa orbata du Buysson, 1902, Bull. Soc. Ent. France 1902: 140, female – [India] “Dardjiling” (lectotype Paris); also from Sikkim; China. – Archer, 1982, Kontyû 50: 262, 268 (designation of lectotype).

Vespa minuta Dover, 1925 (1924), J. Asiat. Soc. Bengal (N. S.) 20: 304, fig. 9, female – [Myanmar] “Tenasserim” (holotype London). Junior primary homonym of *Vespa minuta* Linnaeus, 1767, and of *Vespa minuta* Lichtenstein, 1796.

Distribution: India: Uttar Pradesh, West Bengal, Assam; Nepal; Myanmar.

pensylvanica (de Saussure)

Vespa pensylvanica de Saussure, 1857, Stettin. Ent. Ztg. 18: 116, 117, female – “America septentr., in Canada, et in montibus mexicanis” (lectotype from New Mexico, Genève). – Jacobson et al., 1978, Ann. Ent. Soc. Am. 71: 300 (designation of lectotype).

Vespa occidentalis Cresson, 1874, Trans. Am. Ent. Soc. 5: 100, female, “male” [worker] – [U. S. A.] “Nevada” (lectotype female Philadelphia); also from NM. Junior primary homonym of *Vespa occidentalis* Olivier, 1792. – Cresson, 1916, Mem. Am. Ent. Soc. 1: 106 (designation of lectotype).

Vespa pennsylvanica; Dalla Torre, 1894, Cat. Hym. 9: 152. Incorrect spelling of *Vespa pensylvanica* de Saussure.

Vespa pensylaniva; Bequaert, 1932, Ent. Am. (N. S.) 12 (2): 95. Incorrect spelling of *Vespa pensylvanica* de Saussure.

Distribution: Canada: B. C., Alta., Sask., Man.; U. S. A.: WA, OR, CA, NV, ID, MT, WY, CO, UT, AZ, NM, ND, SD, MN, NE, TX, WI; Mexico: Baja California Norte, México, Michoacan. Introduced into U. S. A. (HI).

rufa (Linnaeus)

Vespa rufa Linnaeus, 1758, Syst. Nat., Ed. 10, 1: 572 – “in Europa” (lectotype female, Linnaean Society, London). – Day, 1979, Biol. J. Linn. Soc. 12: 71 (designation of lectotype).

Vespa Schrenckii Radoszkowski, 1861, Horae Soc. Ent. Ross. 1: 84, figs. 4–5 – [Russia] “Amur” (type depository unknown).

Vespa Sibirica André, 1884, Spec. Hym. Europe Algér. 2: 599, female, male – [Russia] “Sibérie” (Paris?).

Vespa schrenki; Dalla Torre, 1904, Gen. Ins. 19: 66. Incorrect spelling of *Vespa schrenckii* Radoszkowski.

Vespa rufa var. *intermedia* du Buysson, 1905 (1904), Ann. Soc. Ent. France 73: 499 (key), 591, female, male – “Mandchourie, région du lac Hanka . . . ; Amérique du Nord: Hudson’s Bay” (Paris, London).

Vespula rufa grahami Archer, 1981, Kontyû 50 (1): 54, 62, female, male – “CHINA, Szechuen, 30 miles north of Tatsienku” (Washington); also from elsewhere in Sichuan.

Vespula obscura Lee, 1986, Sinozool. 10 (4): 201, 205, 206, fig. 5, female – [China] “Zogang County, Xizang (Tibet) Aut. Reg., 3800 m” (Beijing); also from another locality in Xizang.

?*Vespula yichunensis* Lee, 1986, Sinozool. 10 (4): 202, 203, 206, fig. 3, female – [China] “Yichun City, Heilongjiang Province” (Beijing).

Note: Edwards (1980: 363) listed “*rubra* (Laboulbène, 1848)” as a misspelling of *rufa*.

We have not been able to trace this.

Distribution: Norway; Sweden; Finland; Denmark; Ireland; U. K.: Scotland, Wales, England; Netherlands; Belgium; Luxembourg; France; Spain; Italy; Germany; Switzerland; Austria; Poland; Czech Republic; Croatia; Bulgaria; Albania; Ukraine; across Russia to Kamchatka, Primor’ye, Sakhalin, Kurile Is.; Turkey; Georgia; Uzbekistan; Mongolia; China: Xinjiang, Xizang, Sichuan, Yunnan, Liaoning, Heilongjiang; Nepal; Taiwan; Korea; Japan; Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: AK, VT.

shidai Ishikawa, Yamane and Wagner

Vespula shidai Ishikawa, Yamane and Wagner, 1980, in Yamane et al., Ins. Matsum. (n. ser.) 19: 1, 44, fig. 135A; female, male – “Sapporo, Hokkaidô, Japan” (holotype male Sapporo); also from other localities in Japan; and Russia.

Vespula shidai amamiana Yamane, 1987, Kontyû 55 (4): 634 (key), 635, female, male – [Japan] “Naze, Amami-ôshima” (holotype female Sapporo); also from elsewhere on Amami, and Kakeroma.

Distribution: China: Liaoning, Heilongjiang; Korea; Russia: Primor’ye, Kurile Is.; Japan, including Amami Is. in Ryukyu Is.

squamosa (Drury)

Vespa squamosus Drury, 1773, Illustr. Nat. Hist. 2: Index to vol. I [pl. XLIII fig. 7 in Vol. 1, female – “New York”] (destroyed?).

Vespa lineata Fabricius, 1775, Syst. Ent.: 365 – “in America” (type depository unknown).

Sphex conchacea Christ, 1791, Naturgesch. Ins.: 259, pl. 25 fig. 5 – [U. S. A.] “Neuiork” (destroyed).

Vespa cuneata Fabricius, 1804, Syst. Piez.: 258 – [U. S. A.] “in Carolina” (Kobenhavn).

Vespa cruciata Lepeletier, 1836, Hist. Nat. Ins. Hym. 1: 514. Unjustified emendation of *Vespa cuneata* Fabricius.

✓ *Vespa bistriata* McFarland, 1888, Trans. Am. Ent. Soc. 15: 297 (key), 298, female – “North America” (Philadelphia). Junior primary homonym of *Vespa bistriata* Fabricius, 1804.

Vespa macfarlandi Lewis, 1897, Trans. Am. Ent. Soc. 24: 172 (key), 180. Replacement name for *Vespa bistriata* McFarland.

Vespula squamosa var. (or subsp.) *michoacana* Bequaert, 1941, Ent. News 52: 249, female – “Tancitaro, 6600 ft., State of Michoacan, Mexico” (Cambridge).

Distribution: Canada: Ont.; U. S. A.: NE, IA, KS, MO, OK, AR, TX, LA, WI, IL, MI, IN, OH, NY, PA, NJ, DE, MD, KY, WV, VA, TN, NC, SC, MS, AL, GA, FL; Mexico: Guerrero, Oaxaca, Tamaulipas, Vera Cruz, Michoacan, Chiapas, Zacatecas; Guatemala; Sau Luis Potosi.

structor (Smith)

Vespa structor Smith, 1870, in Horne and Smith, Trans. Zool. Soc. Lond. 7 (3): 191, pl. XXI fig. 12, female – “Binsur, Kumaon, North-west Provinces of India” (London).

Vespa structrix Schulz, 1906, Spolia Hym.: 231. Unjustified emendation of *Vespa structor* Smith.

Distribution: India: Kashmir, Himachal Pradesh, Uttar Pradesh, West Bengal, Sikkim, Assam; Nepal; China: Xizang, Sichuan; Myanmar.

sulphurea (de Saussure)

✓ *Vespa sulphurea* de Saussure, 1854, Ét. Fam. Vesp. 2: 137, female – [U. S. A.] “La Californie” (London).

Distribution: U. S. A.: OR, CA, NV, AZ; Mexico: Baja California Norte.

vidua (de Saussure)

✓ *Vespa vidua* de Saussure, 1854, Ét. Fam. Vesp. 2: 136, female – [U. S. A.] “La Caroline” (Paris).

Distribution: Canada: Ont., Que, N. B., Nova Scotia; U. S. A.: ND, SD, MN, IA, WI, IL, MI, IN, OH, NY, PA, VT, NH, ME, MA, CT, RI, NJ, DE, KY, WV, MD, VA, TN, NC, SC, GA.

vulgaris (Linnaeus)

✓ *Vespa vulgaris* Linnaeus, 1758, Syst. Nat., ed. 10, 1: 572 – “in Europa” (lectotype female, Linnaean Society, London). – Day, 1979, Biol. J. Linn. Soc. 12: 77 (designation of lectotype).

Vespa sexcincta Panzer, 1799, Fauna Ins. German. 63: 1, fig. 1, male – “Viennae Austr.” (destroyed).

Vespa communis de Saussure, 1857, Stettin. Ent. Ztg. 18: 116, 117, female – “America septentr.” (Genève?). Junior primary homonym of *Vespa communis* von Schrank, 1785.

Vespa alascensis Packard, 1870, Trans. Chicago Acad. Sci. 2: 27, pl. II fig. 10, female – [U. S. A.] “Alaska” (type depository unknown).

Vespa westwoodii Shipp, 1893, Psyche 6: 450 – “N. Amer. Bor.” (holotype female Oxford).

Vespa westwoodi; Dalla Torre, 1904, Gen. Ins. 19: 66. Incorrect spelling of *Vespa westwoodii* Shipp.

Vespa vulgaris var. *pseudogermanica* Stolfa, 1932, Mem. Soc. Ent. Ital. 11 (1): 26 (key), female – [Italy] “Lago superiore di Weissenfels (Tarvisio) . . . Senosecchia” (type depository unknown).

Vespa mixta “Schenck” Edwards, 1980, Soc. Wasps: 363. Nomen nudum.

Note: Edwards (1980: 363) listed “*flava major* (Merret, 1767)” and “*major* (Schwenkfett, 1603)” as synonyms of *vulgaris*. Merret’s work actually dates to 1667, and does not contain any such name, rather the words “flavam” and “majorem” occur in his description on p. 196. But of course any names dated from before 1758 are unavailable anyway (Art. 3).

Distribution: Finland; Norway; Sweden; Denmark; Ireland; U. K.: Scotland, Wales, England; Netherlands; Belgium; Luxembourg; France; Spain; Portugal; Germany; Switzerland; Austria; Italy; Poland; Czech Republic; Hungary; Slovenia; Albania; Greece; Belarus; Romania; Moldova; Bulgaria; Russia from the Kola Peninsula to Primor’ye, Sakhalin; Turkey; Georgia; Kazakhstan; Iran; India: Kashmir; Mongolia; China: Sichuan, Yunnan, Hebei, Beijing, Liaoning, Heilongjiang; Korea; Japan; Canada: Yukon Terr., N. W. T., B. C., Alta., Sask., Man., Ont., Que., Newfoundland, N. B., P. E. I., Nova Scotia; U. S. A.: AK, WA, OR, CA, NV, ID, MT, WY, UT, CO, AZ, NM, ND, SD, MN, NE, IA, KS, WI, IL, MI, IN, OH, NY, PA, VT, NH, ME, MA, CT, RI, NJ, DE, MD, KY, WV, VA, TN, NC, GA; Mexico: Durango, Oaxaca. Introduced into Iceland; New Zealand; Australia (Victoria); U. S. A. (HI).

Fossil Taxa

Genus *Paleovespa* Cockerell

Paleovespa Cockerell, 1906, Bull. Mus. Comp. Zool. 50 (2): 54, genus (3 species).

Type species *Paleovespa florissantia* Cockerell, 1906, by original designation.

baltica Cockerell, 1910 (1909), Schrift. Phys.-Ökon. Ges. Königsberg 50 (1): 5.

Oligocene of Germany.

florissantia Cockerell, 1906, Bull. Mus. Comp. Zool. 50 (2): 54.

Miocene of U. S. A.: CO.

- gillettei* Cockerell, 1906, Bull. Mus. Comp. Zool. 50 (2): 55.
Miocene of U. S. A.: CO.
- relecta* Cockerell, 1923, Ent. News 34: 270.
Miocene of U. S. A.: CO.
- scudderi* Cockerell, 1906, Bull. Mus. Comp. Zool. 50 (2): 55.
Miocene of U. S. A.: CO.
- wilsoni* Cockerell, 1915, Proc. Acad. Nat. Sci. Philad. 1914: 640.
Miocene of U. S. A.: CO.

Genus *Vespa* Linnaeus

- bilineata* Statz, 1936, Decheniana 93: 281, pl. X fig. 31.
Oligocene of Germany.
- cordifera* Statz, 1936, Decheniana 93: 280, pl. X fig. 30.
Oligocene of Germany.
- crabroniformis* Heer, 1867, Neue Denkschr. Allg. Schweiz. Ges. Gesamt. Naturwiss. 22: 6,
pl. III fig. 15a. Junior primary homonym of *Vespa crabroniformis* Smith, 1852.
Miocene of Croatia.
- nigra* Statz, 1936, Decheniana 93: 282, pl. XI fig. 32. Junior primary homonym of *Vespa nigra* Geoffroy, 1785.
Oligocene of Germany.

Unrecognized Taxa

Dalla Torre (1904), in his list of unrecognized species of *Vespa*, attributed several species to Weber (1801), but that author was listing species of Lichtenstein (1796). A proposal to suppress Lichtenstein's names, with a few exceptions, is now pending before the International Commission on Zoological Nomenclature (Kerzhner, 1994). That proposal would eliminate all of the Lichtenstein names listed here.

Dalla Torre (1904) also attributed various names to Fourcroy (1785), but those names are properly attributed to Geoffroy, in Fourcroy. He also attributed two names to Olivier (1792), but that work proposed no new names in *Vespa*. The names should be attributed to Reich (1795), who published a list of names for the Piezata recorded by Olivier (1792).

- Vespa aethale* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 202
(type depository unknown).
- Vespa bicincta* Villers, 1789, C. Linn. Ent. 3: 280 – “Europa. In Galliae Aust.” (destroyed).
Non Fabricius, 1781.
- Vespa 2-pustulata* Villers, 1789, C. Linn. Ent. 3: 280 – “Europa” (destroyed).
- Vespa capitata* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 440 – [France] “in Agro Parisiensi”
(type depository unknown).
- Vespa cayana* Reich, 1795, Mag. Thierr. 1 (3): 131 – [Guyane] “Cayenne” (type depository
unknown).

- Vespa chrysoptera* Villers, 1789, C. Linn. Ent. 3: 284 – “Europa. In Gallia Australiori” (destroyed).
- Vespa chrysopteraarmata* Villers, 1789, C. Linn. Ent. 3: 284 – “Europa. In Gallia Callidiori” (destroyed).
- Vespa communis* von Schrank, 1785, Neues Mag. Liebhab. Ent. 2 (4): 328 – [Germany] “Berchtesgaden” (type depository unknown).
- Vespa condigna* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 201, male, female – [India] “Coromandel” (type depository unknown).
- Vespa conifera* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 202 – “India orientali” (type depository unknown).
- Vespa consimilis* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 201 – “Sina” (type depository unknown).
- Vespa crassipes* Christ, 1791, Naturgesch. Ins.: 246, pl. 23 fig. 10 (destroyed).
- Vespa cribriformis* Christ, 1791, Naturgesch. Ins.: 237, pl. 22 fig. 4 (destroyed).
- Vespa curvipes* Christ, 1791, Naturgesch. Ins.: 246, pl. 23 fig. 9 (destroyed).
- Vespa daedalea* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 203 – “America” (type depository unknown).
- Vespa dentata* Olivier, 1792, Encycl. Méthod. Ins. 6: 674 – “l’Amérique méridionale” (type depository unknown).
- Vespa diadema* Christ, 1791, Naturgesch. Ins.: 223, pl. 19 fig. 7 (destroyed).
- Vespa discincta* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 203 – “Sina” (type depository unknown).
- Vespa erythrocephala* Gmelin, 1790, Linné Syst. Nat., ed. 13, 1 (5): 2760 (Mus. Lesk.; destroyed).
- Vespa exotica* Gmelin, 1790, Linné Syst. Nat., ed. 13, 1 (5): 2760 – “extra Europam” (Mus. Lesk.; destroyed).
- Vespa ferruginata* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 201 – [India] “Coromandel” (type depository unknown).
- Vespa ferruginea* Olivier, 1792, Encycl. Méthod. Ins. 6: 683 – “l’Amérique méridionale” (type depository unknown). Non Gmelin, 1790.
- Vespa florisequa maior* Christ, 1791, Naturgesch. Ins.: 244, pl. 23 fig. 4 (destroyed).
- Vespa florisequa minor* Christ, 1791, Naturgesch. Ins.: 244, pl. 23 fig. 5 (destroyed).
- Vespa fulva* Gmelin, 1790, Linné Syst. Nat., ed. 13, 1 (5): 2757 – “imperio Russico propre Zaritzyn” (type depository unknown).
- Vespa fulvipes* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 439 – [France] “in Agro Parisiensi” (type depository unknown).
- Vespa fusus maior* Christ, 1791, Naturgesch. Ins.: 242, pl. 23 fig. 1 (destroyed).
- Vespa fusus minor* Christ, 1791, Naturgesch. Ins.: 243, pl. 23 fig. 2 (destroyed).

- Vespa geniculata* Gravenhorst, 1807, Vergl. Übers.: 276 – Europe (type depository unknown).
- Vespa guttata* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 379 – [France] “in Agro Parisiensi” (type depository unknown).
- Vespa quadrum* Olivier, 1792, Encycl. Méthod. Ins. 6: 694.
- Vespa hirsutissima* Villers, 1789, C. Linn. Ent. 3: 284 – “Europa. In Gallia Aust.” (destroyed).
- Vespa horticola* Müller, 1766, Mélang. Phil. Math. Soc. R. Turin 1762–1765, Misc. Taurin. 3: 196 – [Italy] “Taurinensium” (type depository unknown).
- Vespa horticola*; Dalla Torre, 1894, Cat. Hym. 9: 147. Incorrect spelling of *Vespa horticola* Müller.
- Vespa intersecta* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 439 – [France] “in Agro Parisiensi” (type depository unknown).
- Vespa italica* Christ, 1791, Naturgesch. Ins.: 221 – [Italy] “Florenz” (destroyed).
- Vespa ligata* Müller, 1764, Faun. Ins. Fridrichsdal.: 74 – “Agri Fridrichsdalensis . . . In parietibus ligneis” (type depository unknown).
- Vespa longicornis* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 433 – [France] “in Agro Parisiensi” (type depository unknown).
- Vespa macrocephala* Christ, 1791, Naturgesch. Ins.: 245, pl. 23 fig. 7 (destroyed).
- Vespa menstrua* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 203 – “Sina” (type depository unknown).
- Vespa minima* Poda, 1761, Ins. Mus. Graec.: 109.
- Vespa minuta* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 203 – “America” (type depository unknown). Non Linnaeus, 1767.
- Vespa mucronata* von Schrank, 1802, Fauna Boica 2 (2): 355 – [Germany] “um Gern.” (type depository unknown).
- Vespa nigra* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 438 – [France] “in Agro Parisiensi” (type depository unknown).
- Vespa ochropygos* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 202 – “India orientali” (type depository unknown).
- Vespa ochrosticta* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 201 – [India] “Coromandel” (type depository unknown). Non *Vespa ochrosticta* Lichtenstein, 1796: 203, a possible synonym of *Agelaia fulvofasciata* (Degeer).
- Vespa ocreata* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 202 – “India orientali” (type depository unknown)
- Vespa ochreata* “Weber”; Dalla Torre, 1904, Gen. Ins. 19: 67. Incorrect spelling of *Vespa ocreata* Lichtenstein.
- Vespa ordinata* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 435 – [France] “in Agro Parisiensi” (type depository unknown).
- Vespa seriata* Olivier, 1792, Encycl. Méthod. Ins. 6: 693.
- Vespa Pacicephala* Scopoli, 1772, Ann. Hist.-Nat. 5: 122 – [Hungary] “Cremnitzium” (destroyed?).

- Vespa petiolata* von Schrank, 1802, Fauna Boica 2 (2): 358 – [Germany] “auf die Doldenblüthen” (type depository unknown).
- Vespa picipes* Reich, 1795, Mag. Thierr. 1 (3): 132 – [Guyane] “Cayenne” (type depository unknown).
- Vespa pilosella* Gravenhorst, 1807, Vergl. Übers.: 275 – Europe (type depository unknown).
- Vespa pteropoda* Scopoli, 1772, Ann. Hist. Nat. 5: 123 – [Hungary] “Cremnitzium” (destroyed?).
- Vespa quadripunctata* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 436 – [France] “in Agro Parisiensi” (type depository unknown). Non Forskal, 1775.
- Vespa quadriguttata* Olivier, 1792, Encycl. Méthod. Ins. 6: 693.
- Vespa quinquefasciata* Müller, 1766, Mélang. Phil. Math. Soc. R. Turin 1762–1765, Misc. Taurin. 3: 196 – [Italy] “Taurinensium” (type depository unknown).
- Vespa 5-fasciata* von Schrank, 1802, Fauna Boica 2 (2): 357 – [Germany] “Sie besucht die Doldenblüthen” (type depository unknown). Non Müller, 1766.
- Vespa scutellata* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 203 – “India orientali” (type depository unknown).
- Vespa sericea* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 203 – “Sina” (type depository unknown). Non Olivier, 1792.
- Vespa sessilis* Olivier, 1792, Encycl. Méthod. Ins. 6: 683 – “l’Amérique méridionale” (type depository unknown)
- Vespa 6.maculata* Müller, 1766, Mélang. Phil. Math. Soc. R. Turin 1762–1765, Misc. Taurin. 3: 196 – [Italy] “Taurinensium” (type depository unknown).
- Vespa 6-pustulata* Villers, 1789, C. Linn. Ent. 3: 281 – “Europa. In Gallia Aust.” (destroyed).
- Vespa sinuata* Geoffroy, 1785, in Fourcroy, Ent. Paris 2: 438 – [France] “in Agro Parisiensi” (type depository unknown).
- Vespa sphaerogaster* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 201 – [India] “Coromandel” (type depository unknown).
- Vespa taenia* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 201 – [India] “Coromandel” (type depository unknown).
- Vespa Tahitensis* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 201 (type depository unknown).
- Vespa tenebricosa* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 203 – “Sina” (type depository unknown).
- Vespa tesseraonia* von Schrank, 1802, Fauna Boica 2 (2): 357 – [Germany] “auf die Doldenblüthen” (type depository unknown).
- Vespa trizonata* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 202 – “India orientali” (type depository unknown).
- Vespa unicolor* Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 203 – “Sina” (type depository unknown).

Vespa usta Lichtenstein, 1796, Cat. Mus. Zool. Dit. Hamburgi . . . Sect. Tertia Ins.: 201 – [India] “Coromandel” (type depository unknown).

Vespa velox Christ, 1791, Naturgesch. Ins.: 245, pl. 23 fig. 6 (destroyed).

Acknowledgments

We thank Arnold Menke, Bob Jacobson and Michael Archer for many useful suggestions, Sôichi Yamane for comments, and Chris O’Toole for an assistance in examining the types in Oxford. The present study was partly supported by a grant from the Nederlandse Organisatie voor Wetenschappelijk Onderzoek and Japan Society for the Promotion of Science to JK, which allowed him to stay in the Nationaal Natuurhistorisch Museum in Leiden for a year when he could access much of the old literatures cited in this study. Our thanks are also due to Xuexin Chen for information on the type of *Vespa dybowskii mutata*.

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Received 11 April 1997;
revised 1 September 1997;
accepted 5 September 1997.

Index of Vespinae

Species- and genus-group names are indexed. For the species-group names genus names are given in parentheses; when they are regarded as valid in the present study, the generic names are given in boldface; when they are synonyms and/or unrecognized taxa, the generic names of the original descriptions are not boldfaced. For the fossile taxa, "FT" is given, and for unrecognized taxa, "UT".

- acadica* (*Vespula*), 75
adulterina (*Dolichovespula*), 57
aegyptiaca (*Vespa*), 71
aethale (*Vespa*) UT, 82
affinis (*Vespa*), 64
affinis (*Vespa*), 64
alascensis (*Vespa*), 81
albida (*Vespa*), 61
alduini (*Vespa*), 57, 64
Allovespula, 74
alpicola (*Dolichovespula*), 58
altaica (*Vespa*), 68
alticincta (*Vespa*), 65
amamiana (*Vespula*), 80
americana (*Vespa*), 59, 74
analis (*Vespa*), 65
anglica (*Vespa*), 63, 68
annulata (*Vespa*), 56, 70
anomala (*Provespa*), 63
anthracina (*Vespa*), 72
arabica (*Vespa*), 71
arborea (*Vespa*), 75
arbustorum, 63
archboldi (*Vespa*), 65
arctica (*Vespa*), 61
arctica (*Vespula*), 58
ardens (*Vespa*), 73
arenaria (*Dolichovespula*), 58
arisana (*Vespula*), 75
asiatica (*Dolichovespula*), 58
atopilosa (*Vespula*), 75
auraria (*Vespa*), 66
aurulenta (*Vespa*), 78
austriaca (*Vespula*), 75

baileyi (*Dolichovespula*), 59
baltica (*Paleovespa*) FT, 81
barbouri (*Vespa*), 66
barthelemyi (*Provespa*), 64
basalis (*Vespa*), 66
basilis (*Vespa*), 66
bavarica (*Vespa*), 62
bellicosa (*Vespa*), 67
bellona (*Vespa*), 70
bicincta (*Vespa*) UT, 82
bicolor (*Vespa*), 67
bilineata (*Vespa*) FT, 82

biloba (*Vespa*), 75
bimaculata (*Vespa*), 64
binghami (*Vespa*), 67
bipustulata (*Vespa*) UT, 82
biroi (*Vespa*), 56, 66
birulai (*Pseudovespa*), 78
birulai (*Vespa*), 68
bistriata (*Vespa*), 80
borealis (*Dolichovespula*), 60
borealis (*Vespa*), 57, 58, 61, 67, 75
Boreovespula, 57
britannica (*Vespa*), 60

campanaria (*Vespa*), 63
capitata (*Vespa*) UT, 82
caspica (*Vespa*), 68
cayana (*Vespa*) UT, 82
cebuana (*Vespa*), 73
celebensis (*Vespa*), 57, 73
chinensis (*Vespa*), 68
chrysoptera (*Vespa*) UT, 83
chrysopteraarmata (*Vespa*) UT, 83
cincta (*Vespa*), 72
cinta (*Vespa*), 72
citriventris (*Vespa*), 67
colchica (*Vespa*), 58
communis (*Vespa*), 81
communis (*Vespa*) UT, 83
conchacea (*Sphex*), 80
condigna (*Vespa*) UT, 83
conifera (*Vespa*) UT, 83
conjugens (*Dolichovespula*), 60
consimilis (*Vespa*) UT, 83
consobrina (*Vespula*), 76
continentalis (*Vespa*), 65
cordifera (*Vespa*) FT, 82
crabro (*Vespa*), 67
crabroniformis (*Vespa*), 67
crabroniformis (*Vespa*) FT, 82
crassa (*Vespa*), 60
crassipes (*Vespa*) UT, 83
cribriformis (*Vespa*) UT, 83
cruciata (*Vespa*), 80
cuneata (*Vespa*), 80
curvipes (*Vespa*) UT, 83

daedalea (*Vespa*) UT, 83
dentata (*Vespa*) UT, 83

- deusta* (*Vespa*), 72
diabolica (*Vespa*), 58
diadema (*Vespa*) UT, 83
discincta (*Vespa*) UT, 83
divergens (*Vespa*), 57, 73
Dolichovespula, 57
doryloides (*Vespa*), 63
doryloides (*Vespa*), 63
dubowskii (*Vespa*), 69
ducalis (*Vespa*), 68
dybowskii (*Vespa*), 69
- eisa* (*Vespa*), 66
erythrocephala (*Vespa*) UT, 83
esakii (*Vespa*), 68
eulemoides (*Vespa*), 72
exotica (*Vespa*) UT, 83
- fernaldi* (*Vespa*), 58
ferruginata (*Vespa*) UT, 83
ferruginea (*Vespa*) UT, 83
fervida (*Vespa*), 69
flava, 81
flavata (*Vespa*), 72
flaviceps (*Vespula*), 76
flavicincta (*Vespa*), 60
flavida (*Vespa*), 78
flavitor (*Vespa*), 76
flavior (*Vespa*), 76
flavitaris (*Vespa*), 73
flavitarisus (*Vespa*), 73
flavofasciata (*Vespa*), 68
flavopilosa (*Vespula*), 77
flora (*Dolichovespula*), 59
floresiana (*Vespa*), 74
florisequa (*Vespa*) UT, 83
florissantia (*Paleovespa*) FT, 81
formosana (*Vespa*), 65
frontalis (*Vespa*), 63
fruhstorferi (*Vespa*), 73
fulva (*Vespa*) UT, 83
fulvipes (*Vespa*) UT, 83
fumida (*Vespa*), 69
fusca (*Vespa*), 71
fuscus (*Vespa*), 83
- geeri* (*Vespa*), 60
geerii (*Vespa*), 60
geniculata (*Vespa*) UT, 84
germana (*Vespa*), 67
germanica (*Vespula*), 77
gillettei (*Paleovespa*) FT, 82
gracilia (*Vespula*), 76
grahami (*Vespula*), 79
gribodoi (*Vespa*), 68
guttata (*Vespa*) UT, 84
- haematodes* (*Vespa*), 72
hainanensis (*Vespa*), 65
hainanensis (*Vespula*), 78
hirsuta (*Vespula*), 77
hirsutissima (*Vespa*) UT, 84
holsatica (*Vespa*), 62
horticola (*Vespa*) UT, 84
horticula (*Vespa*) UT, 84
- immaculata* (*Vespa*), 73
indica (*Vespa*), 71
indosinensis (*Vespa*), 65
inexpectata (*Vespula*), 77
infernalis (*Vespa*), 75
ingrica (*Vespula*), 61
insularis (*Vespa*), 66
intermedia (*Vespa*), 79
intermedia (*Vespula*), 58
intersecta (*Vespa*) UT, 84
italica (*Vespa*) UT, 84
- japonica* (*Vespa*), 65, 70, 76
jurinei (*Vespa*), 71
- kamtschatkensis* (*Dolichovespula*), 62
karenkona (*Vespa*), 76
karnyi (*Vespa*), 74
kingdonwardi (*Vespula*), 77
koreensis (*Vespula*), 78
kuami (*Dolichovespula*), 59
kuangsiana (*Vespa*), 66
- lama* (*Dolichovespula*), 59
latilineata (*Vespa*), 70
leefmansii (*Vespa*), 72
lewisii (*Vespa*), 76
ligata (*Vespa*) UT, 84
lineata (*Vespa*), 80
lineolata (*Vespa*), 60
loekenae (*Dolichovespula*), 62
longicornis (*Vespa*) UT, 84
loochooensis (*Vespa*), 69
luctuosa (*Vespa*), 69
lugubris (*Vespula*), 60
lutea (*Vespa*), 67
luzonensis (*Vespa*), 69
- macfarlandi* (*Vespa*), 80
macrocephala (*Vespa*) UT, 84
Macrovespa, 64
macularis (*Vespa*), 77
maculata (*Dolichovespula*), 59
maculata (*Vespa*), 77
maculifrons (*Vespula*), 78
magnifica (*Vespa*), 70
maior (*Vespa*) UT, 83
major, 81

- major* (*Vespa*), 67
malayana (*Vespa*), 70
mandarina (*Vespa*), 70
mandarinia (*Vespa*), 70
marginata (*Vespa*), 61
matsumurai (*Vespa*), 68
media (*Dolichovespula*), 59
mediozonalis (*Vespa*), 74
megei (*Vespa*), 73
menstrua (*Vespa*) UT, 84
meridionalis (*Vespa*), 68
Metavespula, 57
micado (*Vespa*), 72
michoacana (*Vespula*), 80
minima (*Vespa*) UT, 84
minor (*Vespa*) UT, 83
minuta (*Vespa*), 78
minuta (*Vespa*) UT, 84
mixta (*Vespa*), 81
mocsaryana (*Vespa*), 70
moluccana (*Vespa*), 65
mongolica (*Vespa*), 71
monticola (*Vespula*), 62
montivaga (*Dolichovespula*), 58
mucronata (*Vespa*) UT, 84
multimaculata (*Vespa*), 57, 70
mutata (*Vespa*), 69

nagatomii (*Vespa*), 66
negrosensis (*Vespa*), 69
nigra (*Vespa*) FT, 82
nigra (*Vespa*) UT, 84
nigrans (*Vespa*), 66
nigrescens (*Dolichovespula*), 62
nigripennis (*Vespa*), 64
nigrithorax (*Vespa*), 73
nigriventris (*Vespa*), 65
nilotica (*Vespa*), 71
nipponica (*Dolichovespula*), 62
nobilis (*Vespa*), 70
nocturna (*Provespa*), 64
norvegica (*Vespa*), 61
norvegicoides (*Dolichovespula*), 60
norvegica (*Dolichovespula*), 60
nursei (*Vespula*), 78
nyalamensis (*Dolichovespula*), 59
Nyctovespa, 64

oberthuri (*Vespa*), 57, 68
obliterata (*Vespa*), 66
obscura (*Vespula*), 79
occidentalis (*Vespa*), 79
ochreatea (*Vespa*) UT, 84
ochropygos (*Vespa*) UT, 84
ochrosticta (*Vespa*) UT, 84
ocreatea (*Vespa*) UT, 84
omissa (*Dolichovespula*), 61

orbata (*Vespula*), 78
ordinata (*Vespa*) UT, 84
orientalis (*Vespa*), 71

pacicephala (*Vespa*) UT, 84
pacifica (*Dolichovespula*), 61
Paleovespa, 81
panda (*Dolichovespula*), 62
parallela (*Vespa*), 65
Paravespula, 74
parietum (*Vespa*), 62
pendleburyi (*Vespa*), 70
pennsylvanica (*Vespa*), 79
pensylvaniva (*Vespa*), 79
pennsylvanica (*Vespula*), 79
peruana (*Vespa*), 61
petiolata (*Vespa*) UT, 85
philippinensis (*Vespa*), 71
picea (*Vespa*), 64
picipes (*Vespa*) UT, 85
pilosella (*Vespa*), 63
pilosella (*Vespa*) UT, 85
pionganensis (*Vespula*), 76
pratensis (*Vespa*), 67
Provespa, 63
pruthii (*Vespa*), 66
pseudogermanica (*Vespa*), 81
pseudosoror (*Vespa*), 69
Pseudovespa, 74
Pseudovespula, 57
pteropoda (*Vespa*) UT, 85
pulchra (*Vespa*), 68

quadriguttata (*Vespa*) UT, 85
quadrimaculata (*Vespa*), 76
quadripunctata (*Vespa*), 71
quadripunctata (*Vespa*) UT, 85
quadrum (*Vespa*) UT, 84
quinquefasciata (*Vespa*) UT, 85

relecta (*Paleovespa*) FT, 82
rubra, 79
rubricans (*Vespa*), 56, 72
rufa (*Vespula*), 79
rufonigrans (*Vespa*), 65
rufoscutellata (*Vespa*), 60
Rugovespula, 74

salebrosa (*Vespula*), 78
saussurei (*Vespa*), 76
saxonica (*Dolichovespula*), 62
scelesta (*Vespa*), 76
schrenckii (*Vespa*), 79
schrenki (*Vespa*), 79
scudderi (*Paleovespa*) FT, 82
scutellata (*Vespa*) UT, 85
semperi (*Vespa*), 69

- seriata* (*Vespa*) UT, 84
sericea (*Vespa*) UT, 85
sessilis (*Vespa*) UT, 85
sexmaculata (*Vespa*) UT, 85
sexcincta (*Vespa*), 81
sexpunctata (*Vespa*), 72
sexpustulata (*Vespa*) UT, 85
shidai (*Vespula*), 80
sibirica (*Vespa*), 79
silvestris (*Vespa*), 63
similis (*Vespa*), 60
simillima (*Vespa*), 71
sinensis (*Dolichovespula*), 62
sinuata (*Vespa*) UT, 85
sladeni (*Vespula*), 75
somalica (*Vespa*), 71
sonani (*Vespa*), 70
soror (*Vespa*), 72
sphaerogaster (*Vespa*) UT, 85
sphinx (*Vespa*), 65
squamosa (*Vespula*), 80
stigma (*Dolichovespula*), 62
stizoides (*Vespa*), 78
structor (*Vespula*), 80
structrix (*Vespa*), 80
sugare (*Dolichovespula*), 60
sulcata (*Vespa*), 76
sulphurea (*Vespula*), 80
sumbana (*Vespa*), 73
sumptuosa (*Vespa*), 63
suprunenkoi (*Vespa*), 67
sylvestris (*Dolichovespula*), 62

taenia (*Vespa*) UT, 85
tahitensis (*Vespa*) UT, 85
tartarea (*Vespa*), 68
tenebricosa (*Vespa*) UT, 85
tenebrionis (*Vespa*), 72
tenebrosa (*Vespa*), 66
tesserazonia (*Vespa*) UT, 85
timorensis (*Vespa*), 74

tridens (*Vespa*), 62
tridentata (*Vespa*), 66
trimeres (*Vespa*), 73
tripunctata (*Vespa*), 61, 75
trisignata (*Vespa*), 72
trizonata (*Vespa*) UT, 85
tropica (*Vespa*), 72
turcica (*Vespa*), 71
tyrannica (*Vespa*), 65

unicolor (*Vespa*), 72
unicolor (*Vespa*) UT, 85
unifasciata (*Vespa*), 64
usta (*Vespa*) UT, 86

variabilis (*Vespa*), 69
variana (*Vespa*), 74
velox (*Vespa*) UT, 86
velutina (*Vespa*), 73
Vespa, 64, 82
Vespula, 74
vexator (*Vespa*), 67
vidua (*Vespula*), 80
vivax (*Vespa*), 74
vulgaris (*Vespula*), 81
vulgata (*Vespa*), 68

walkeri (*Vespa*), 69
westwoodi (*Vespa*), 81
westwoodii (*Vespa*), 81
wilemani (*Vespa*), 74
wilsoni (*Paleovespa*) FT, 82

xanthicincta (*Dolichovespula*), 63
xanthoptera (*Vespa*), 71
xinjiangensis (*Dolichovespula*), 63

yichunensis (*Vespula*), 79

zavattarii (*Vespa*), 71
zetterstedti (*Dolichovespula*), 61