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The social wasp fauna of Pakistan (Hymenoptera, Vespidae)

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A b s t r a c t : The author presents new data on some social wasps of the subfamilies Vespinae and Polistinae from Pakistan. The findings of *Vespula flaviceps* (SMITH 1858), *Polistes (Polistes) biglumis* LINNAEUS 1758, *Polistes (Polistes) gallicus* (LINNÉ 1767), and *Polistes (Polistella) quadricingulatus* GUSENLEITNER 2006 represent new records for Pakistan. *Vespula flaviceps* reaches the west limit of its distribution in Pakistan.

K e y w o r d s : *Vespinae*, *Polistinae*, Pakistan, distribution, new records.

Introduction

The present knowledge on the worldwide social wasps fauna is good, but exact data for some countries are lacking. One such country is Pakistan – although nearby parts of India (Kashmir, Laddakh) are relatively well investigated, only a few species are known from Pakistan (see DAS & GUPTA 1989, CARPENTER 1996, CARPENTER & KOJIMA 1997, and KOJIMA & CARPENTER 1997 for summaries).

Material and methods

All newly presented data were obtained from the material collected by L. Čížek et L. Černý during summer of 1998. Material was determined by the author using the keys of DAS & GUPTA (1989), ARCHER (1989), STARR & LUCHETTI (1993), and YAMANE et al. (1980). The specimens are deposited in the private collection of Pavel Průdek, Brno, Czech Republic, and the collection of the author.

Material originates from the six following localities. The list of localities contains: province, locality, date of sample, and geographical coordinates.

1. Northwest Frontier, Peshawar, 24.-26.7.1998, 34°00' N, 71°35' E
2. Northwest Frontier, Natia Gali, 15 km N of Murree, 12.-17.7.1998, 34°04' N, 73°24' E
3. Northwest Frontier, Bumburet valley, Brun vill., 29.7.-6.8.1998, 35°37' N, 71°38' E
4. Northwest Frontier, Chitral town env., 27.-29.7.1998, 35°49' N, 71°39' E
5. Balochistan, Hazarqanli, Chiltan NP, 20 km SW of Quetta, 18.-20.7.1998, 30°20' N, 66°51' E
6. Balochistan, Ziarat, 20.-23.7.1998, 30°26' N, 66°42' E

Results and discussion

The material comprises 12 species of social wasps (7 species of Polistinae, 5 of Vespinae). For each species, the locality and the number of specimens are listed.

Polistes dominula (CHRIST 1791): Brun, 4♂♂, 3♀♀. Widely distributed species known from practically the whole Palaearctic up to India in the east; it has also been introduced into the Americas and Australia.

Polistes biglumis LINNAEUS 1758: Brun, 2♀♀. A palaearctic species known from Europe to SE Russia. The Pakistan specimens belong to the southern form *P. b. f. alpium* BLÜTHGEN 1957. This is the first record for Pakistan.

Polistes gallicus (LINNÉ 1767): Hazarqanli, 5♀♀; Ziarat, 10♀♀. This species inhabits the southern part of Europe, N Africa, and the Middle East to SW Siberia. The Pakistan specimens have a completely yellow clypeus as in the form *P. g. f. omissus* (WEYRAUCH 1939). This is the first record for Pakistan.

Polistes indicus STOLFA 1934: Peshawar, 5♀♀. An Arabian species known from Afghanistan, Iran, Pakistan, UAE, and Oman.

Polistes rothneyi CAMERON 1900: Brun, 17♀♀. An Oriental species distributed in many forms from Pakistan to Indonesia. The Pakistan specimens can be identified as the subspecies *P. r. ssp. carletoni* VECHT 1968.

Polistes quadricingulatus GUSENLEITNER 2006: Brun, 1♀. This newly described species was known from 30 females from Nepal, Kashmir, and India. This is the first record for Pakistan.

Vespa velutina LEPELETIER 1836: Brun, 5♂♂; Chitral, 1♂. Natia Gali, 4♂♂. An Oriental species distributed from Afghanistan in the northwest to peninsular Malaysia in the southeast. This species is present in the form *V. v. f. auraria* SMITH 1852 in Pakistan; *V. auraria* has been synonymised with *V. velutina* by NGUYEN et al. (2006).

Vespa orientalis LINNÉ 1771: Brun, 5♀♀, 6♂♂. A very common hornet which is distributed from southern Europe and northern Africa across the Middle East to India, Nepal, and western China.

Vespa tropica (LINNAEUS 1758): Brun, 5♀♀. A widely distributed species (Indian subcontinent, China, Indochina, Malaysia, Indonesia), which appears in the form *V. t. f. haematodes* BEQUAERT 1936 in Pakistan (see ARCHER 1991 for synonymy).

Vespula flaviceps (SMITH 1870): Natia Gali, 9♂♂. An East Asian species, which was known from a zone along the Himalayas (Nepal, N India) at the west border of its distribution. The find from the northern Pakistan is connected with the Indian localities. All specimens have an almost completely yellow head (except the ocellar triangle area), which is the form typical for southernmost populations of the nominate form of this species (YAMANE et al. 1980). This is the first record for Pakistan.

Vespula germanica (FABRICIUS 1793): Brun, 5♂♂; Ziarat 9♂♂. A common Palaearctic species, which has been introduced into all continents except Antarctica.

Conclusions

According to published data (DAS & GUPTA 1989, CARPENTER 1996, CARPENTER & KOJIMA 1997, and KOJIMA & CARPENTER 1997) and this paper, 21 species of social wasps (12 of Polistinae, 9 of Vespinae) are known from Pakistan. The list of Pakistan social wasps follows:

Polistes (Polistes) biglumis LINNAEUS 1758

Polistes (Polistes) dominula (CHRIST 1791)

Polistes (Polistes) gallicus (LINNÉ 1767)

Polistes (Polistes) indicus STOLFA 1934

Polistes (Polistes) nimpha (CHRIST 1791)
Polistes (Polistella) quadricingulatus GUSENLEITNER 2006
Polistes (Gyrostoma) rothneyi CAMERON 1900
Polistes (Gyrostoma) wattii CAMERON 1900
Parapolybia escalerae (MEADE-WALDO 1911)
Ropalidia colorata colorata van der VECHT 1941
Ropalidia marginata marginata LEPELETIER 1836
Ropalidia variegata (SMITH 1852)
Vespa basalis SMITH 1852
Vespa orientalis LINNÉ 1771
Vespa tropica (LINNAEUS 1758)
Vespa velutina LEPELETIER 1836
Vespula austriaca (PANZER 1799)
Vespula flaviceps (SMITH 1870)
Vespula germanica (FABRICIUS 1793)
Dolichovespula intermedia (BIRULA 1930)
Dolichovespula sylvestris (SCOPOLI 1763)

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Zusammenfassung

Vorliegende Arbeit veröffentlicht Daten zu pakistanischen Wespen der Unterfamilien Vespinae und Polistinae. Als neu für Pakistan ergaben sich *Vespula flaviceps* (SMITH 1858), *Polistes (Polistes) biglumis* LINNAEUS 1758, *Polistes (Polistes) gallicus* (LINNÉ 1767) und *Polistes (Polistella) quadricingulatus* GUSENLEITNER 2006. *Vespula flaviceps* erreicht in Pakistan ihre westlichste Verbreitungsgrenze.

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Fig. 1. The world distribution of *Vespula flaviceps* (SMITH 1858).

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