

## Notes on Vespoidea from Nepal

by

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**ABSTRACT.** — An annotated list is given of 13 spp of Eumenidae and 14 of Vespidae, collected in the Kathmandu Valley, Chautara and Khumbu, Nepal. The ♂ of *Ancistrocerus aureovillosus* Giordani Soika is described and figured for the first time. *Vespa vivax* Smith is new for Nepal, and an aberrant worker of *Polistes rothneyi carletoni* v. d. Vecht is brought on record.

The material brought together by the First and Second Khumbu Himal Expeditions of the Netherlands Centre for Alpine Biological Research (N.C.A.B.R.), Utrecht (September-October, 1972 and April-June, 1973 respectively) includes 113 specimens, referable to 27 species and 14 genera of the families Vespidae and Eumenidae. It originates from 12 localities of the administrative districts: Kathmandu Valley (6), Chautara (= No. 1 East) (2), and Khumbu (Okhaldhunga = No. 3 East) (4). It is housed in the collections of the Centre, the duplicates are deposited in the Rijksmuseum van Natuurlijke Historie, Leiden. The collections in the Khumbu Himal region were made by Dr. and Mrs. B. Kiauta, while Dr. J. M. van Brink joined in the collecting in the other two districts.

### LIST OF LOCALITIES

For transcription of topographic names the following maps were used: Survey of India, 1957, Sheet Nepal No. 72 E/6 1: 63.360 (for the Kathmandu Valley); — United Kingdom Ministry of Defence, 1969, U462 East Sheet (3rd ed.), 1: 506.850 (for Chautara); — and E. Scheider, 1965, Khumbu Himal, 1: 50.000 (for Khumbu).

#### Kathmandu Valley

Chauni. A suburb of Kathmandu. Under this collection name is understood the cultivated area between the Vishnumati River, Tahachal and the Swayambhunath Hill; 1350-1400 m.

Godawari. A more or less forested valley in the southeast corner of the Kathmandu Valley, some 16 km from the Kathmandu proper; 1600 m. (For topographical, geological and climatological details cf. P. N. Suval, 1969. Flora of Phulchoki and Godawari. *Bull. Dept. Medicinal Plants*, Kathmandu, No. 2, XXIX + 145 pp.).

Kamal Pokhari. A small lake in Kathmandu; 1340 m.

Shutetar. Village in the Kathmandu Hills, West of the Capital; in the fields; 1300-1400 m.

Saranpur. A village in the same region; in the fields; 1400 m.

Swayambhunath. Fields along a small stream, North of the wellknown temple of this name; 1350 m.

#### Chautara (No. 1 East)

Barabhise. A small village in the Sun Kosi Valley, on the Lhasa-Kathmandu Road; 950 m.

Bulephi. A locality on the same road; 770 m.

#### Khumbu Himal (Okhaldhunga = No. 3 East)

Khumde. A village North of Namche Bazar; deforested alpine meadows; ca. 3700 m.

Phakding. In the Dudh Kosi Valley; clearings in the forest and fields, 2500 m.

Phunki. East of the confluence of the Dudh Kosi and Imja Kola, under Tengpoche (Thyangboche) Monastery; rhododendron forest; 3200-3300 m.

Thumbug. Near the confluence of Bothe Kosi and Dudh Kosi, under the Namche Hill; alpine forest; 2850 m.

# SURVEY OF COLLECTED MATERIAL

## Eumenidae

1. *Antodynerus limbatus* (Saussure) (= *Odynerus rugolatus* Cameron) (comb. nov.). — Chauni, 2 ♂, 11-14.IX.1972, 1 ♀, 1 ♂, 27.IX.-5.X.1972; Godawari, 1 ♂, 6.VI.1973; Kamal Pokhari, 1 ♂, 7.VI.1973.

2. *Rhynchium brunneum* (Fabricius). — Chauni, 4 ♀, IX.1972, IV.1973, VI. 1973.

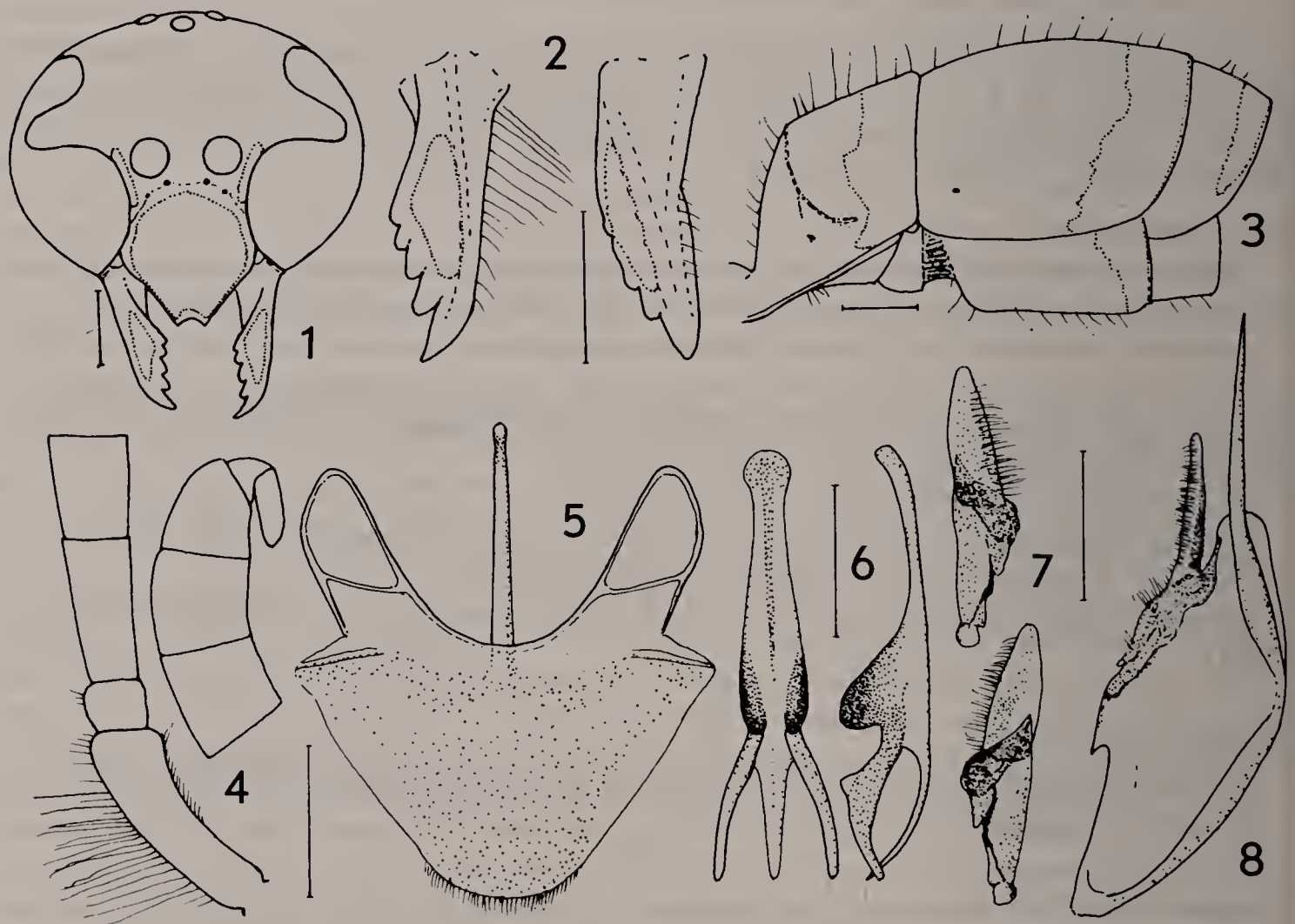
3. *Allorhynchium* spec. — Godawari, 1 ♀, 6.VI.1973. Similar to *A. metallicum* (Saussure), but the gastral tergites rather densely and distinctly punctate.

4. *Ancistrocerus sikhimensis* (Bingham), subsp. (det. A. Giordani Soika, 1975). — Phunki, 1 ♀, 7-8.V.1973.

5. *Ancistrocerus aureovillosus* Giordani Soika. — Phunki, 3 ♀, 1 ♂, 7-8.V.1973; Phakding, 1 ♂, 13.V.1973.

Two of these specimens were examined by dr. A. Giordani Soika in 1975. He labelled them as paratypes (♂ and ♀) of *A. aureovillosus*, but overlooked to mention this material when he published the description of this species which is based on 3 females from Tibet in the collection of the British Museum (Giordani Soika, 1977: 177).

The male resembles the female, but it is smaller (length to end of gastral segment 2: 7-8 mm), the anterior emargination of the clypeus is deeper and the head is marked with yellow on mandibles, clypeus and at inner orbits; on the other hand the interantennal spot is very small or absent (fig. 1). Humeral angles of pronotum strongly projecting. Tegulae reddish with black inner margin. Gastral bands as in the female. Further details are shown in the accompanying figures.



Figs. 1-8. *Ancistrocerus aureovillosus* Giordani Soika, ♂. - 1. front view of head, 2. mandible, anterior and lateral aspects, 3. gastral segments 1-3, 4. antennal segments 1-4 and 9-13, 5. terminal gastral sternite, flattened, 6. aedeagus, ventral and lateral aspects, 7. volsella, inner (above) and outer aspects, 8. paramere and volsella.- Scale lines represent 0.5 mm.



6. *Delta conoideum* (Gmelin). — Chauni, 2 ♀, 11-14.IX.1972. Widely distributed in India, occurring eastward to Indo-China and Siam.

7. *Delta dimidiatipenne* (Saussure). — Chauni, 2 ♀, 1 ♂, 11-14.IX.1972, 1 ♂, 27.IX.-5.X.1972.

According to the map published by Giordani Soika (1958: 197) the Eastern limit of the area of distribution of this species lies at about 77° E, but evidently it occurs further eastward, at least to 85° E, on the southern slopes of the Himalayan mountains.

It has not yet been possible to determine the specific names of the following species.

8. *Antepipona* spec. A. — Phunki, 1 ♀, 1 ♂, 7-8.V.1973; Phakding, 2 ♂, 13.V.1973.

9. *Antepipona* spec. B — Saranpur, 1 ♀, 2-3.VI.1973; Swayambhunath, 1 ♂, 18-24.IV.1973.

10. *Stenodynerus* spec. A. — Godawari, 1 ♀, 1 ♂, 26-29.V.1973.

11. *Symmorphus* spec. A. — Chauni, 1 ♀, 27.IX.-5.X.1972.

12. *Symmorphus* spec. B. — Swayambhunath, 1 ♂, 18-24.IV.1973; Chauni, 2 ♂, 2-4.V.1973.

13. *Eumenes* spec. A. — Swayambhunath, 1 ♀, 18-24.IV.1973.

## VESPIDAE

### Vespinae

14. *Vespa tropica haematodes* Bequaert. — Chauni, 2 ♀, 1 ♂, 11-14.IX.1972, 1 ♂, 27.IX.-5.X.1972, 3 ♀, 18-24.IV.1973; Shutetar, 1 ♀, 17-18.V.1973.

Length of the fore wing in the two workers 21 mm, in the females 26-27 mm. The extent of the dark red colour on head and thorax is variable; in one of the workers head, pronotum, scutellum and metanotum are almost entirely red, in one female the head is black except for a spot on the clypeus and a band over vertex and temples (as far as lower end of eyes), and the thorax is entirely black; the other specimens vary between these extremes. In the more brightly coloured worker the anterior, vertical, surface of the first gastral tergite is almost entirely brownish orange.

15. *Vespa velutina auraria* Smith. — Chauni, 7 ♀, 11-14.IX.1972, 5 ♀, 27.IX.-5.X.1972, 2 ♀, 18-24.IV.1973; Swayambhunath, 1 ♀, 18-24.IV.1973; Saranpur, 1 ♀, 20-25.V.1973.

The females vary in length (to apex of second gastral tergite) from 16-18 mm, with a fore wing length (measured from posterior edge of tegula) of 17-18 mm; for the single worker these measurements are both about 12.5 mm. The colour pattern agrees with that of specimens collected in Assam (Van der Vecht, 1959: 229).

16. *Vespa vivax* Smith. — Thumbug, 2 ♀, 27.IV.1973.

This is the only species not mentioned by Yamane (1974) in his interesting review of *Vespa* in Nepal.

17. *Vespa basalis* Smith. — Chauni, 2 ♀, 11-14.IX.1972, 2 ♀, 27.IX.-5.X.1972; Kamal Pokhari, 2 ♀, 7.VI.1973.

The length of the fore wing varies from 14.5 to 17 mm.

18. *Vespula (Allovespula) rufa* (Linnaeus) subsp. — Phunki, 3 ♀, 7-8.V.1973; Khumde, 1 ♀, 9.V.1973, 1 ♂, 22.IX.1972.

In the male the first and second gastral segments are much more extensively reddish than in the females, in which the extension of reddish spots on these segments appears to be rather variable.

19. *Paravespula structor* (Smith). — Phunki, 2 ♀, 22.IX.1972.

20. *Paravespula flaviceps* (Smith). — Phakding, 1 ♀, 26.IV.1973.

### Polistinae

21. *Polistes rothneyi carletoni* Van der Vecht. — Chauni, 2 ♀, 18-24.IV.1973; Shutetar, 1 ♀, 1 ♀, 17-18.V.1973 (wings of ♀ worn!); Saranpur, 1 ♀, 20-25.V.1973, 1 ♀, 2-3.VI.1973; Godawari, 1 ♀, 26-29.V.1973.

The workers are distinctly smaller than the females (length of fore wing 14-15 and 18-20 mm resp.). In all specimens the black markings are a little more extensive than in typical *carletoni* from Kulu (North of Simla), but the worker from Godawari is so aberrant that it is not

identifiable with my key to the subspecies (Van der Vecht, 1968: 99): mesoscutum black with two short red lines, mesepisternum black with three red spots on each side, metapleura black with small red spot in upper part, propodeum black with a short and narrow yellow stripe on each side of the median furrow; hind femora and tibiae mainly black.

22. *Polistes sulcatus* Smith. — Chauni, 2 ♀, 18-24.IV.1973; Swayambhunath, 1 ♀, 1.VI.1973; Saranpur, 2 ♀, 2-3.VI.1973.

Length of fore wing of ♀ 19.5-21 mm, of ♀ 16-17 mm.

23. *Polistes olivaceus* (De Geer). — Bulephi, 1 ♀, 3.VI.1973.

Length of fore wing 15 mm.

24. *Polistes* spec. — Chauni, 5 ♀, 11-14.IX.1972, 1 ♂, 27.IX.-5.X.1972, 3 ♀, 18-24.IV.1973, 2 ♀, 16-25.V.1973, 1 ♀, 1-8.VI.1973; Godawari, 2 ♀, 26-29.V.1973, 5 ♀, 6.VI.1973; Barabhise, 1 ♀, 3.VI.1973.

The specimens collected in April are slightly more robust than most of the others, but it is not possible to divide the material reliably into females and workers. The length of the fore wing varies from 9.5 tot 12 mm.

25. *Polistes adustus* Bingham. — Godawari, 1 ♀, 26-29.V.1973.

Length of fore wing 10.5 mm.

26. *Polistes sagittarius* Saussure. — Godawari, 1 ♀, 26-29.V.1973.

Length of fore wing 15 mm.

27. *Parapolybia varia* (Fabricius). — Chauni, 1 ♀, 16-25.V.1973, 1 ♀, 25-31.V. 1973.

Colour pattern similar to that of the typical form (see Van der Vecht, 1966, f. 12 a), but the brownish areas of the thorax are somewhat darker and more extensive; the clypeus, however, is yellow with a large pale brown spot in the middle.

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PIRONE, PASCAL P., 1978. DISEASES AND PESTS OF ORNAMENTAL PLANTS. 5th edition, X + 566 pp., index 51 kolommen, ISBN 0-471-07249-4. John Wiley & Sons, Chichester. Prijs (gebonden): £ 13,—.

The writer, plant pathologist himself, clearly pays most attention to the diseases. The general part deals with the insects in 13 pp.

The book demonstrates clearly that since the 4th edition (1970), national and state laws in the U.S.A. on Environmental Protection and bans on most persistent insecticides brought a large change in the pest management situation. However, the chemicals are only replaced by less harmful ones, but hardly by any of the alternative methods of insect control such as those by cultural or biological methods.

The major part of the book contains an alphabetic list of ornamentals with their specific diseases and pests. Descriptions and control measures are given. The illustrations are almost all black-white photographs; very few drawings are inserted which is a drawback to recognize insects. Of course, exclusively the situation in the United States has been dealt with. — P. A. van der Laan.