



New Record of *Polistes (Polistella) strigosus* Bequaert (Hymenoptera: Vespidae: Polistinae) from South India

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ABSTRACT : *Polistes (Polistella) strigosus* Bequaert is herewith recorded for the first time from South India and also from Western Ghats.

Keywords : *Polistes (Polistella) strigosus* Bequaert, Western Ghats, Kerala, South India, new record.

INTRODUCTION

The genus *Polistes* Latrille is the cosmopolitan genus which is most abundant and widely distributed among social Vespidae. They are commonly known as paper wasps and usually make relatively small colonies and usually build their nests in human inhabited areas. They are generally non-aggressive compared to other social wasps but can be provoked into an aggressive morale for defending their nests. They are considered as beneficial insects since all the species are predatory and many consume large numbers of caterpillars of many insect pests.

This genus is currently divided into four subgenera (Carpenter, 1996a). They are: *Polistes (Polistes)* Latrille, *P. (Gyrostoma)* Kirby, *P. (Polistella)* Ashmead and *P. (Aphanilopterus)* Meunier. The first three subgenera are distributed in the old World (including Australasia), but a few species of the subgenera *Gyrostoma* and *Polistes* have been accidentally introduced into the New World and the subgenus *Aphanilopterus* is distributed in the New World. Two hundred and sixteen described species and numerous subspecies are recorded under this genus from the world, of which 82 species belongs to the subgenus *Polistella* Ashmead (Carpenter, 1996b; Nguyen *et al.*, 2011).

There are eighteen species of *Polistes (Polistella)* recorded from Indian subcontinent till date (Das and Gupta, 1989; Carpenter, 1996b; Gusenleitner, 2006). They are *Polistes (Polistella) adustus* Bingham, *P. (P.) angusticlypeus* Gusenleitner, *P. (P.) assamensis* Bingham, *P. (P.) dawnae* Dover and Rao, *P. (P.) delhiensis* Das and Gupta, *P. (P.) ephippium* Cameron, *P. (P.) khasianus* Cameron, *P. (P.) latinis* Das and Gupta, *P. (P.) lepcha* Cameron, *P. (P.) nigratarsis* Cameron, *P. (P.) opacus* Gusenleitner, *P. (P.) quadricingulatus* Gusenleitner, *P. (P.) rubella* Gusenleitner, *P. (P.) Sagittarius* de Saussure, *P. (P.) santoshae* Das and Gupta, *P. (P.) similis* Das and Gupta, *P. (P.) stigma* Fabricius and *P. (P.) strigosus* Bequaert. *P. (P.) strigosus* Bequaert is a polytypic species with 3 subspecies based on the colour pattern. Out of the 3 subspecies, *P. (P.) strigosus atratus*

Das and Gupta and *P. (P.) strigosus mimus* Bequaert are recorded from Indian subcontinent of which *P. (P.) strigosus atratus* Das and Gupta is reported from India (Assam, Bihar, Delhi, Manipur, Sikkim, Tripura, Uttarakhand and West Bengal). None of them were reported from South India. The black and brown colour pattern is highly variable in this species. It requires further studies with more specimens from different localities for confirming the status of different colour variants (subspecies). So, at present, we are not dealing with the colour variants (subspecies) of this species here. In the present paper, this is the first report of this species from South India.

MATERIAL AND METHODS

The present study is based on a collection from Anakkampoyil (11.26°N 76.3°E), hill side valley of Vellarimala, part of Western Ghats, Erivetti (11.12°N 76.05°E), near Areekode, an adjacent area of Western Ghats, Chevayoor (11.16°N 75.49°E) and Balussery (11.45°N 75.83°E) of Kozhikode district, Tanur (10.58°N 75.52°E) of Malappuram district and Agricultural University Campus (10.31°N 76.17°E), Vellanikkara of Thrissur district in Kerala state. All the studied specimens were kept in the Department of Zoology, Malabar Christian College (DZMCC), but eventually will be transferred to the Hymenoptera Section of the Zoological Survey of India, Kolkata (NZSI).

Abbreviations used in the text : DZMCC = Department of Zoology, Malabar Christian College, Kozhikode, India; MCZ = Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA; NZSI = Hymenoptera Section of Zoological Survey of India, Kolkata, India.

RESULTS AND DISCUSSION

Polistes (Polistella) strigosus Bequaert

Polistes strigosus Bequaert, 1940, *Trans. Amer. Ent. Soc.*, **66**: 269-272, Holotype Female, Wong-Sa-Shui, China (MCZ).



Image.1 *Polistes (Polistella) strigosus* Bequaert, female

Material examined : Anakkampoyil, hill side valley of Vellarimala, part of Western Ghats, Kozhikode district, Kerala, India, 2 Female, 21. iv. 2012, Coll. Lambert Kishore and Party; Erivetti, near Areekode, an adjacent area of Western Ghats, Malappuram district, Kerala, India, 1 Female, 25.iv. 2012, Coll. Lambert Kishore and Party; Chevayoor, Kozhikode District, Kerala, India, 1 Female, 20.iv. 1999, Coll. Vyjayanthi; Balussery, Kozhikode District, Kerala, India, 1 Female, 13.xi. 1999, Coll. Jobiraj; Tanur, Malappuram District, Kerala, India, 1 Female, 2.i. 2002, Coll. Roshni; Kerala Agricultural University Campus, Vellanikkara, Thrissur District, Kerala, India, 1 Female, 5.v.1999, Coll. Ushakumari.

Diagnostic characters : Female : Head reddish brown with supraclypeal area, a band on vertex, antennal flagellum dorsally, posterior margin of clypeus, basal margin of mandible, blackish. Thorax reddish brown with following parts blackish : A line along posterior margin of pronotum, antero-lateral margin of mesoscutum, a mark on each posterior lateral corner of mesoscutum, outer margin of tegula, propodeum with two marks laterally and one median mark, dorsal metapleuron, lower half of ventral metapleuron, a mark on the mesepimeron along the dorsal metapleuron, epicnemium almost entirely, ventral side almost entirely. Gaster brownish with first tergite except medially, third and fourth tergite almost entirely blackish; first tergite reddish brown medially; second tergite almost entirely yellow.

Head wider than high (65 : 60) and narrower than thorax (70 : 60); clypeus wider than long (47 : 40), lateral margin that lie along the inner eye margin longer than malar space (23 : 17), with scattered deep punctures; mandible, vertex behind posterior ocelli, temple, malar space with scattered punctures; ocular sinus, frons, vertex up to posterior ocellus, pronotum, mesoscutum, scutellum, postscutellum, mesopleuron, metapleuron densely rugoso-reticulate;

interocular distance more at clypeus than on vertex (45 : 43); ocellocular distance slightly shorter than ocello-occipital distance (11 : 13); temple narrower than eye in profile (10 : 16); malar space slightly shorter than fourth antennal segment (8 : 11), antenna nearer to eye than to each other (11 : 18); dorsal metapleuron, propodeum and metasternum with strong striations; about apical half of mesosternum with dense deep punctures; second cubital cell at top slightly shorter than the distance between first intercubitus and first recurrent vein (17 : 18); first gastral tergite wider than long (110 : 86); second gastral tergite wider than long (73 : 47) and also wider than head (110 : 97).

Length : Female, 12-15 mm; Fore wing 13-14 mm.

Distribution : India : Assam, Bihar, Delhi, Kerala (new record), Manipur, Sikkim, Tripura, Uttarakhand and West Bengal.

Published record from Tanakpur of Uttar Pradesh (Das and Gupta, 1989) is needed to change because Tanakpur is now situated in the newly formed Uttarakhand state.

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REFERENCES

- Carpenter, J.M. (1996a). *Phylogeny and Biogeography of Polistes*. (Eds. Turillazzi, S and West-Eberhard, M.J.) Natural History and Evolution of Paper-Wasps, Oxford University Press, Oxford, p. 18-57.
- Carpenter, J.M. (1996b). Distributional checklist of the species of the genus *Polistes* (Hymenoptera: Vespidae: Polistinae, Polistini). *American Museum Novitates*, **3188**: 1-39.
- Das, B.P. and Gupta, V.K. (1989). *The social wasps of India and the Adjacent countries (Hymenoptera: Vespidae)*. *Oriental Insects Monographs*. The Association for the Study of Oriental Insects, Gainesville pp.292.
- Gusenleitner, J. (2006). Uber Aufsammlungen von Faltenwespen in Indien (Hymenoptera, Vespidae). *Linzer Biologische Beiträge*, **38**(1): 677-695.
- Nguyen, L.T.P., Kojima, J. and Saito, F. (2011). *Polistes (Polistella)* wasps (Hymenoptera: Vespidae: Polistinae) from mountainous areas of northern Vietnam, with description of five new species. *Zootaxa*, **3060**: 1-30.