



First report of *Prosaspicera validispina* Kieffer, 1910 (Hymenoptera: Figitidae) from Kerala (India), along with notes on range extension

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ABSTRACT

The Cynipoid wasp, *Prosaspicera validispina* Kieffer, 1910 is recorded from Kerala state for the first time. Range extension from the eastern to the western slopes of Western Ghats is documented. In addition distribution of the species in India is mapped.

Key Words: *Prosaspicera validispina*, *Aspicerinae*, Kerala, Western Ghats, Cynipoidea.

Parasitic hymenoptera, a major insect group having a wide significance in terrestrial ecosystems (Shaw & Hochberg 2001), constitute a specialized group of hymenoptera, one of the mega insect orders (Stevens *et al.* 2007). Great ecological value can be attributed to them for their ability in maintaining balance or equilibrium with regard to the population of their arthropod hosts, in the environ where they reside.

Alpha taxonomy of Hymenopteran parasitoids has progressed substantially in India, particularly in the case of major groups like Ichneumonoids, Chalcids, Platygastroids and Proctotrupoids (Rajmohana 2012). But a few groups like Cynipoids and Ceraphronoids, though quite speciose and common in both agro and natural ecosystems are comparatively less studied or less documented in the country. Our knowledge on such groups are confined to a few scattered old and outdated literature, reckoning a thorough revision of the group, for enabling accurate species identifications (Personal observation, unpublished).

Superfamily Cynipoidea comprises nearly 3000 species globally, in 223 genera under 5 monophyletic families - Austrocynipidae, Ibalidae, Liopteridae, Cynipidae and Figitidae (Ronquist 1999). Apart from Cynipidae (gall inducers and inquillines), the rest are larval parasitoids of various

insect orders. Figitidae is the most speciose with 9 extant subfamilies. The Figitid wasps of genus *Prosaspicera* Kieffer, 1907 (subfamily Aspicerinae) is distributed across the Nearctic, Neotropical, Afrotropical, Palaearctic and Oriental and are known to be parasitoids of Syrphid and Chamaemyiid (diptera) predators of aphids (Ronquist 1999). Though with 30 species worldwide, the genus is represented in India by a single species, *P. validispina* Kieffer, 1910 (Fig. 1). Originally described from Sri Lanka, the species is restricted to Oriental Region, and has been recorded from many Asian countries like Malaysia, Nepal, Indonesia, China, Taiwan and India. In India it is so far known only from the southern part (Table 1) (Ros-Farre & Pujade-Villar 2006).

During the faunistic surveys conducted by ZSI survey team in the period from 2011-2013, to various locales of Western Ghats (Kerala part), we were able to collect a few *P. validispina* from 3 localities (Fig. 2). This forms the first record of *Prosaspicera validispina* from the state of Kerala. It is rather interesting to note that, all the 7 instances of collections including both the earlier ones as well as the current, are between October-January, the post monsoon season in south India. However, this period has been found most ideal for collecting hymenopteran parasitoids in general in Kerala (Personal observation, Unpublished).

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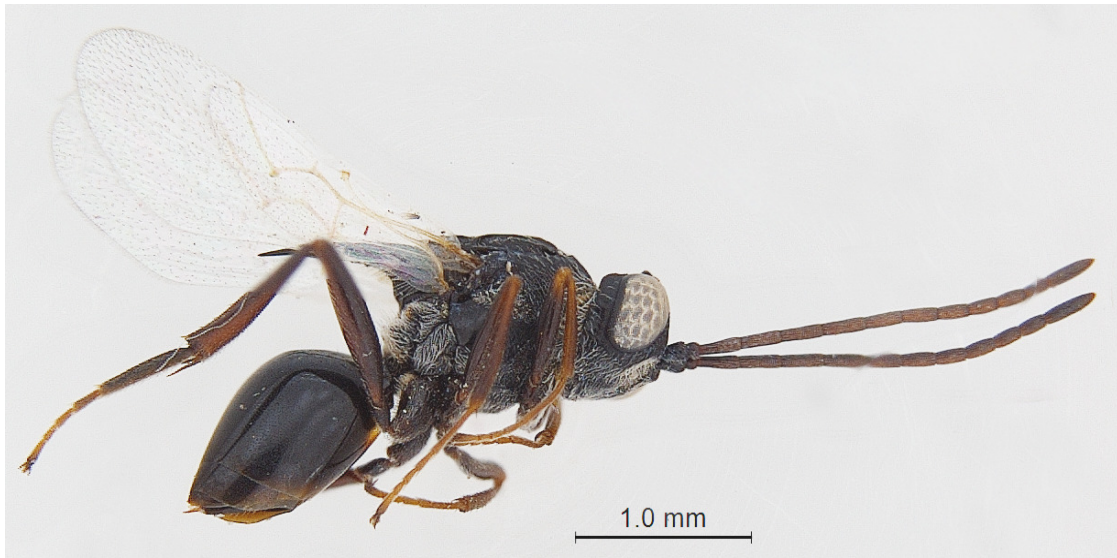


Fig. 1- Profile of *Prosaspicera validispina* Kieffer, 1910

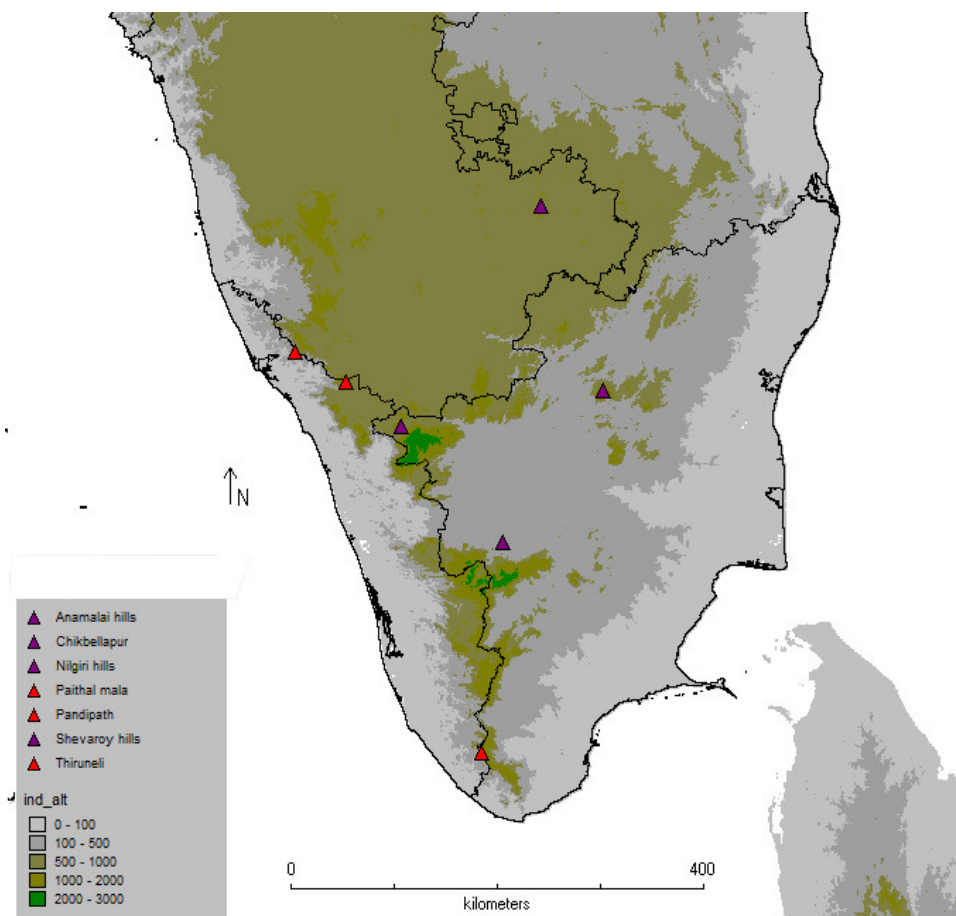


Fig. 2 – Map showing the distribution of *Prosaspicera validispina* Kieffer, 1910 in India (Red triangle shows the new records)

Table 1. Distributional records of *Prosaspicera validispina* Kieffer, 1910 from India

Sl. no	State	Locality	Collection date	altitude	Reference
1.	Tamil Nadu	Cherangode, Nilgiri hills	October 1950	1066 m	Ros-Farre et al (2006)
2		Anamalai hills	November 1959	1066 m	Ros-Farre et al (2006)
3		Yercaud, Shevroy hills	January 1955	1371 m	Ros-Farre et al (2006)
4	Karnataka	Chikkaballapur	October 1965	930 m	Ros-Farre et al (2006)
5	Kerala	Paithal mala	January 2013	1300 m	New record
6		Pandipath	October 2012	1338 m	New record
7		Thirunelli	November 2011	900 m	New record

The genus was identified using the key and description by Ros- Farre (2007), and the identity of the species was confirmed with the help of Ros- Farre & Pujade-Villar (2006). The distribution of the species in India is represented in a map using DIVA-GIS 7.5.0 Software.

Other than Yercaud and Chikkaballapur, *P. validispina* was hitherto known only from the eastern slopes of Western Ghats. The newly recorded localities lie in the western slopes of Western Ghats and hence depict a range extension of the species from eastern to the western slopes.

As per the current as well as earlier distribution of the species, all have essentially been from high altitudes. This data, put together to their absence in low elevations, lead to a speculation that, *P. validispina* is a high altitude species, preferring a moderately cool habitat throughout.

Considering the alarming rate of biodiversity loss and related species extinctions of the recent, there arise an urgent need to survey and document our indigenous fauna and flora, particularly those that are of relevance like parasitic hymenoptera, due to their specific ecosystem services and functional roles.

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