



Short Communication

New locality record of *Bipalium univittatum* Grube, 1866 (Tricladida: Geoplanidae: Bipaliinae) from India

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ABSTRACT

Land planarians (Platyhelminthes) are likely important components of the soil cryptofauna, although relevant aspects of their ecology such as their density remain largely unstudied. The land planarian *Bipalium univittatum* Grube, 1866 (Tricladida: Geoplanidae) is thought to be native from Southeast Asia. This species is found in Periyakallar, Valparai, Coimbatore district, Tamil Nadu state, India. This note gives details, distribution, description and conservation status

Keywords: New Record, *Bipalium univittatum*, Tamil Nadu, India.

INTRODUCTION

Terrestrial planarians are a relatively species-poor group with only 822 described nominal species worldwide (Winsor 1997, Jones 1998, Sluys 1999, Carbayo et al., 2002). Over 160 species of the genus *Bipalium* Stimpson, 1857 are known in this Asiatic triclad group. This group was also poorly studied due to various reasons namely restricted distribution, nocturnal habit, morphological similarity with earthworm etc. Land flatworms are transported with earth and pot plants between continents and often become invasive (Justine et al., 2014, 2015; Winsor, 1983) Since land flatworms are predators, they constitute a potential danger for the local soil fauna of the areas they invade. Among these land flatworms (family Geoplanidae), the hammerhead flatworms (subfamily Bipaliinae) are spectacular, by their large size, up to one meter, their distinctive colours, and the typical shape of their head which makes them easy to identify (Winsor, 1983). In Bipaliid taxonomy (Family: Bipaliidae von Graff, 1896), controversy persists for a long time with new proposals of genus from time to time. Elliot (1848) introduced the genus *Planaria* to describe a few land planarians. Wright (1860) described some hammerhead worm from India and China under the genus *Dunlopea*. Later, all the species of land planarian were put in the genus *Bipalium*. Graff (1899) at first reported three genera of land planarian on the shape of head namely *Bipalium*, *Perocephalus* and *Placocephalus*. In 1998,

Kawakatsu, erected another genus *Novibipalium* (new *Bipalium*) for those species with reduced or absence of genital papilla. But it draws controversy as in both genera, a set of folds formed the functional penis. In India, after independence, except a few early workers (Johri, 1952; Ramkrishna and Chauhan, 1960; Sharma and Sharma, 1977; Rout and Ghose, 1979), systematic study on this group is lacking. Kawakatsu and Jayashankar (2013) reported a checklist of 27 known species with description of three unidentified *Diversibipalium* spp. from India.

Bipalium, *Humbertium*, *Novibipalium* and *Diversibipalium* to list 27 Indian Bipaliid species with their distribution in India. The report is incomplete as there is no morphological description or biometric data of the concerned species. In this paper, we record a finding of *Bipalium univittatum* Grube, 1866 in Valparai, Coimbatore district, Tamil Nadu state, India, with identification based on photography.

MATERIALS AND METHODS

Study area

In this species recorded from Periyakallar, Valparai (10°16'04.5"N 76°58'05.4"E) (originally known as Poonachimalai) is a Taluk and hill station in the Coimbatore district of Tamil Nadu, India. In this species based on the identification by photographs. This locality has very rich species biodiversity.

Figure 2. Photo taken from Nirar dam Valparai, Coimbatore district, Tamil Nadu state, India.

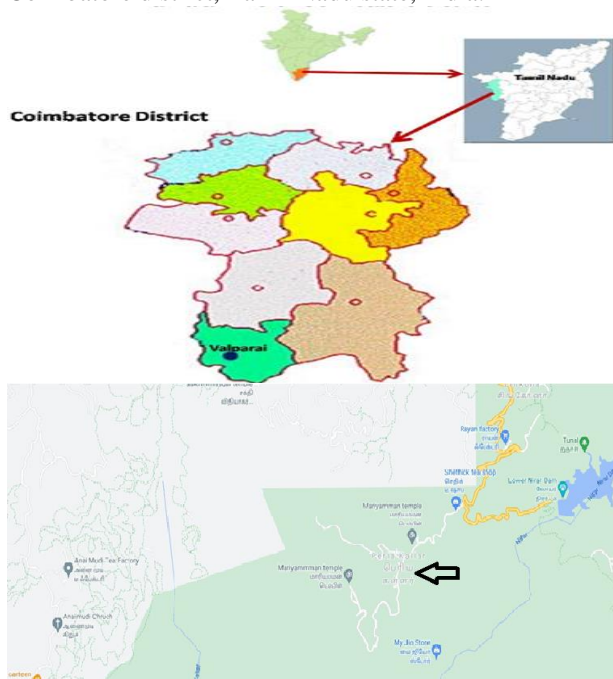


Fig. 1. Map showing study area Periyakallar, Valparai, Coimbatore district, Tamil Nadu.



Fig. 2. *Bipalium univittatum* Grube, 1866

Distribution and habitat:

The native range of *Bipalium* genus recorded from more than 40 countries of North, Central and South America, The Caribbean, Africa, Europe, Asia and Australasia, being one of the most widespread land planarians. More recently, recorded several specimens of an unidentified land planarian in a cave from India. We have recently recorded the genus *Bipalium* (*Bipalium univittatum* Grube, 1866) species in Tamil Nadu state, India.

Table 1. Scientific Classification

Kingdom	Animalia
Phylum	Platyhelminthes
Class	Rhabditophora
Order	Tricladida
Sub order	Continenticola
Family	Geoplanidae
Sub family	Bipaliinae
Genus	<i>Bipalium</i>
Species	<i>Bipalium univittatum</i> Grube, 1866

Descriptions

Some taxonomic groups of soil inhabitants, such as land planarians (Platyhelminthes, Tricladida, Geoplanidae), are rarely mentioned in studies of biodiversity. This may be a reflection of their paucity in the northern hemisphere, where most studies have been conducted (Platnick, 1991), also due to their cryptic habits (Dendy, 1890). In India need more survey to this taxonomic investigation, this locality rich biodiversity and habits.

This recorded the presence of specimens of *Bipalium* sp. in earthworm cultures from Western Ghats India. These specimens were identified only on the basis of photographs. Also, it is possible to distinguish the collar dorsally interrupted and posterior to the head plate. Thus, these specimens appear to belong to genus *Bipalium*. This further suggests a wide distribution of the species in the country, especially in areas disturbed by human activities. Further support for this statement will require morphological and molecular studies on a more broadly representative geographic sampling effort.

CONCLUSION

To better understand the current status of *Bipalium univittatum* in India and its potential threat to ecosystems, we investigated aspects of its distribution and natural history. The current study constitutes the first report of a tamilnadu, India. the land planarian identified to species level. Also, for the first time for new locality, future study carrying of histological studies and molecular analyses were combined with external morphology for the purpose of identification.

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