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## Revision of the genus *Pteroplistes* in India, with the description of two new species *Pteroplistes kervasae* Jaiswara, n. sp. and *Pteroplistes masinagudi* Jaiswara, n. sp. (Orthoptera, Grylloidea, Pteroplistinae)

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### Abstract

*Pteroplistes* Brunner von Wattenwyl, 1873 is an Indo-Malaysian cricket genus with only one species, *P. platycleis* Bolivar, 1899(1900) known from India. Here, we redescribe the genus *Pteroplistes* and *P. platycleis* and describe two new Indian species, *Pteroplistes kervasae* Jaiswara, n. sp. and *Pteroplistes masinagudi* Jaiswara, n. sp. from the Western Ghats, using morphology and genitalia. Identification keys to separate the Indian species of *Pteroplistes* are provided and the distribution of the genus in India is discussed.

**Key words:** Orthoptera, Grylloidea, Pteroplistinae, *Pteroplistes platycleis*, new species, Western Ghats, India

### Résumé

*Pteroplistes* Brunner von Wattenwyl, 1873 est un genre Indo-Malaisien de grillon connu en Inde par une seule espèce, *P. platycleis* Bolivar, 1899(1900). Dans le présent article, nous redécrivons le genre *Pteroplistes* ainsi que *P. platycleis*, et nous décrivons deux espèces indiennes nouvelles, *Pteroplistes kervasae* Jaiswara n. sp. et *Pteroplistes masinagudi* Jaiswara n. sp. originaires des Western Ghats, en utilisant les caractères de la morphologie et des genitalia. Une clé d'identification des espèces indiennes de *Pteroplistes* est proposée et leur distribution est discutée.

**Mots clés:** Orthoptera, Grylloidea, Pteroplistinae, *Pteroplistes platycleis*, espèces nouvelles, Western Ghats, Inde

### Introduction

Pteroplistinae are a unique group of crickets (Fig. 1) with exceptionally flat body, bulging eyes, very long and thick cerci, particular stridulatory apparatus (Fig. 2E, L) and supra-anal plate in males (Fig. 2G, K) and high, sword-like ovipositor in females (Fig. 3B, F, G). The subfamily was named after the genus *Pteroplistes* that was first proposed by Brunner von Wattenwyl (1873) and further described by Saussure (1877). In past two decades several genera were described, whose distribution is mostly restricted to the Southeast Asia (Vietnam, Thailand, Malaysia and Indonesia) (Gorochov & Kostia 1999; Gorochov 1990, 2004, 2010; Gorochov & Tan 2012) and India.

The relationships of Pteroplistinae remain highly speculative, because of their particular and homogenous morphology. Saussure (1877) isolated *Pteroplistes* within the Cachoplistites tribe together with the Indian genus *Cacoplistes* Brunner von Wattenwyl, 1873 and considered it as a “transition” between crickets and katydids. Kirby (1906) reconsidered the Cachoplistites as the division C of the Myrmecophilinae, which included ant crickets (Myrmecophilinae A), scaly crickets (Myrmecophilinae B) and a small group of genera now split into Pentacentrinae or Sclerogryllinae (Myrmecophilinae D). Finally, Chopard (1936) isolated *Pteroplistes* into the new subfamily Pteroplistinae, which Gorochov (2013) classified into the “Phalangopsinae subfamily group”, a relationship not supported by new molecular evidence (Chintauan-Marquier *et al.*, submit.). In the general context

obtained basal either to the Trigonidiinae – Nemobiinae clade only, or basal to all crickets minus (Trigonidiinae – Nemobiinae). Pteroplistinae anyway prove a clade of interest to study cricket evolution.

Indian biotas origin and distribution are well explained by “Out of Asia” or “Out of India” hypotheses. The distributions of *Pteroplistes* in particular and Pteroplistinae in general are centered in Indo-Malaysia. However, discovery of a cricket fossil from Denmark identified as *Pteroplistes danicus* (Rust, 1999) means that Pteroplistinae were more widely distributed in the past. Absence of Pteroplistinae in Europe and Middle East in current time could be explained either by their massive extinction, or a wrong assessment of relation of the fossil cricket. Phylogenetic patterns of Pteroplistinae and sister groups will be necessary to explain pteroplistine distribution in terms of “Out of Asia” or “Out of India” hypotheses (Datta-Roy & Karanth, 2009).

In India, *Pteroplistes* is so far known only from the Western Ghats, the plausible reason for this is our lack of knowledge on their distribution. As this is a forest dwelling cricket, their distribution in other parts of Indian forest is predictable according to present-day distribution of forested areas. It can thus be expected that *Pteroplistes* species should be found in Northeast India. Such disjunct distribution of habitat dependent species are well studied in frogs: *Batrachostomus* (frogmouths) for example is distributed only in the Western Ghats and Northeast India and absent in the central part. Similarly *Philautus* represents disjunct pattern of distribution in Indian subcontinent, species ranging from Southwestern peninsular India to Sri Lanka and reappearing in Northeast India (Frost 1985; Inger & Dutta 1986). A similar distribution may be observed for *Pteroplistes* species and further advanced study will unfold their route of dispersal and distribution pattern.

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