

REDESCRIPTION OF A GRASSHOPPER SPECIES, *PERIPOLUS PEDARIUS*  
STAL (ORTHOPTERA : ACRIDIDAE) FROM INDIA

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ABSTRACT

The species *Peripolus pedarius* (Stal, 1878) (Family Acrididae, Calliptaminae) is being redescribed and suitably illustrated.

INTRODUCTION

The species was described from the eastern Himalayas (probably from Assam) as *Calliptamus pedarius* Stal in 1878. It was subsequently transferred to the genus *Peripolus* Martinez (1902) as the type species by Kirby (1910). Till now it is the sole representative of the genus and of the Calliptaminae in Indian fauna. Uvarov (1927) recorded its occurrence in Sikkim. He (1942) described a species, *P. nepalensis*, from Nepal which, according to him, should have been regarded as a diminutive, dark and hairy subspecies of *P. pedarius* inhabiting higher altitude were it not that it showed appreciable difference in the shape of pronotum.

Recently a good number of examples of the species have been collected from Darjeeling. The National collection to the Zoological Survey of India also contains two authentically identified examples from Garhwal and a few examples from Darjeeling. Stal's description, as quoted by Kirby (1914), of

the species is very meagre and devoid of any illustration. Hence the need for redescription. It was further facilitated by having a male type, on loan, from Dr. A. Kaltenbach of Wien. Therefore, in this account more reliable specific characters with suitable illustrations which will help its easy identification and show its distinctness or otherwise from *P. nepalensis* (also devoid of any illustration) are presented below.

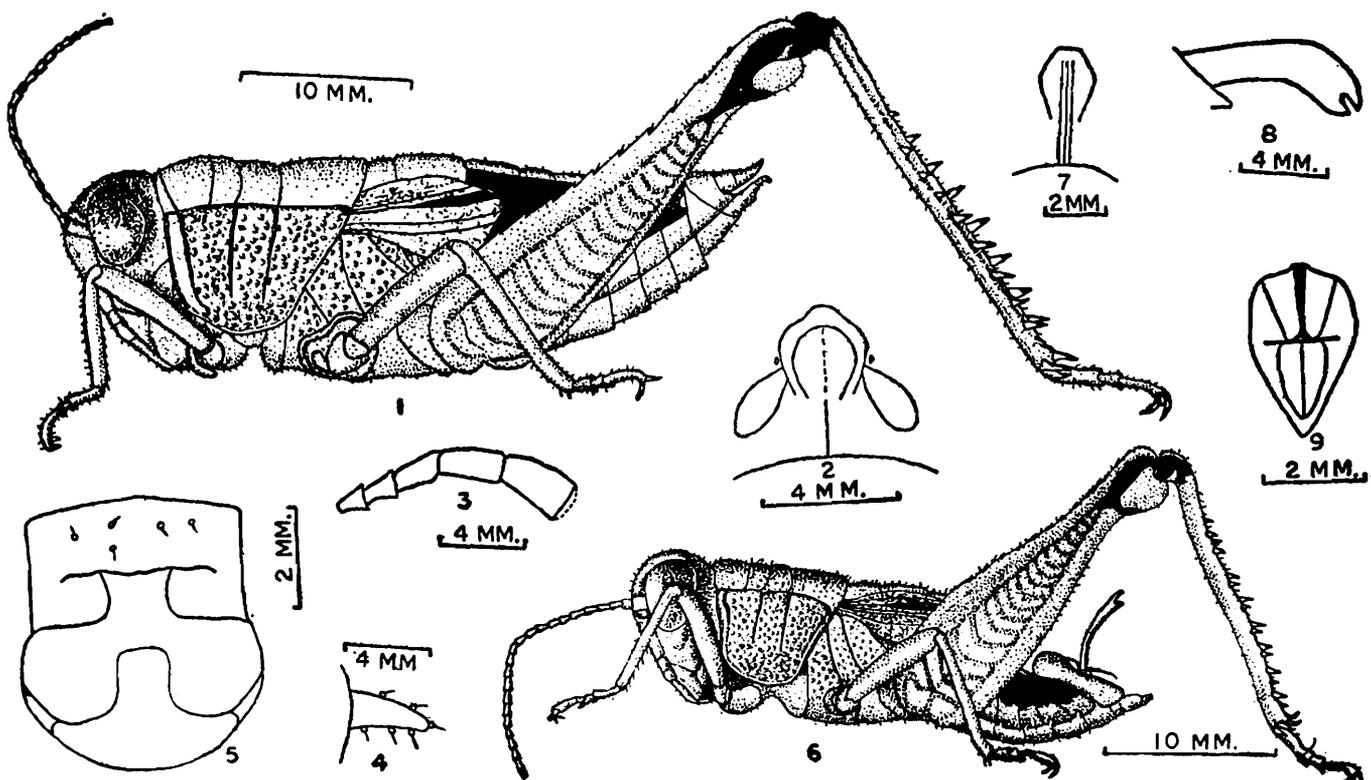
Previous distributional records : Known from Kurseong (Darjeeling), Assam and Sikkim.

*Material examined* : 3 ♀ ; Tadsh (alt. c. 1650 m), Darjeeling ; 31.7.59 ; H. Khajuria coll. 6 ♂, 8 ♀ ; Phaugri Beat House, Mirik (alt. c. 1500 m), Darjeeling (W. B.) ; 21.6.79 ; P. Halder coll. 7 ♂, 15 ♀ ; Singla, Darjeeling, Mar-April 1979 ; Kulkarni coll. 2 ♀ ; Dewal, Garhwal dist., U. P. (alte. c. 1250 m) ; 1.9.58 ; B. S. Lamba coll.

1 ♂ (type) bearing label as—"Typus/*Calop-*

*tenus pedarius* Stal det Stal/Ind. Orient/Br. v. Watt." (Type depository : *Nat. Mus. Wien* (Austria). The type nicely agrees with the specimens at our disposal.

*Redescription* : Females : Stout (Figs. 1. 10). Head small ; fastigium of vertex grooved, almost rounded, sloping, forming an obtuse angle with frontal ridge, from base of occiput



*Peripolus pedarius*, female

Figs. 1. Profile, lateral. 2. fastigium of vertex, dorsal. 3. maxillary palpus, lateral.  
4. prosternal lobe, lateral. 5. meso- and metasternal lobes, ventral.

*Peripolus pedarius*, male

6. profile, lateral. 7. fastigium of vertex, dorsal. 8. cercus, lateral. 9. supra-anal plate, dorsal,

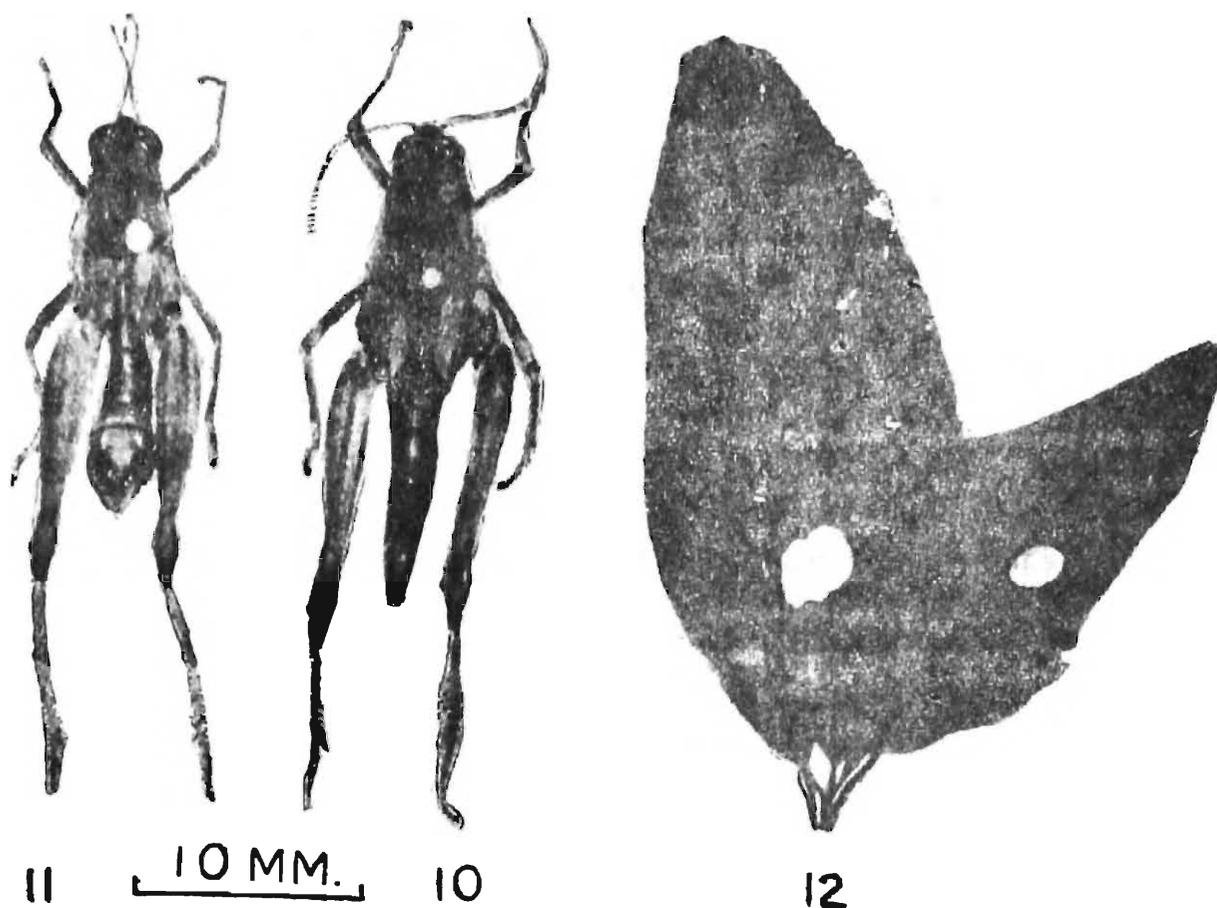
a median carinula extends up to end of fastigium in middle (Fig. 2); foveolae indistinct and not visible from above. Eyes prominent, lateral, brownish with dark facets, interocular distance less than individual diameter of eye. Lateral ocelli very much approximated to eyes. Frontal ridge prominent, flat, almost parallel, with moderate punctuation; lateral carinae seems straight but due to heavy and coarse punctuation on clypeus sometimes obliterated. Antennae filiform, longer (19-20 mm) than head and pronotum (16-17 mm); scape very robust, almost double size in length and breadth of pedicel; length of each middle joints about 3 times their width. Pronotum obtusely angulated both at anterior and posterior margins, intersected by 3 transverse sulci, posterior sulci placed beyond middle, prozona (7.25-7.75) longer than metazona (5.25-5.75); lateral carinae moderately and gradually diverge posteriorly (9 to 9.25 mm as to 5.5-5.75 at anterior margin); median carina more prominent but very moderately tectiform (measured from margin of lateral ventral border of pronotal lobe to lateral carinae it's about 8 mm where as median carina about 10 mm); lateral lobe densely and coarsely punctuated (where as in pronotal disc, it's fine and obscure due to velvety colouration); strongly ascending posteriorly, traversed laterally by 3 distinct sulci, almost up to lateral border, 2nd and 3rd sulci in continuation of 2nd and 3rd transverse sulci of disc whereas 1st sulci far in front and border anterior margin of lobe (Fig. 1). Episternum prominent, longer, roughly angulated. Prosternal tubercle cylindrical, conical (Fig. 4); mesosternal and metasternal lobes as shown in (Fig. 5). Tegmina short, extend slightly a little longer than 1st abdominal segment, lateral, rudimentary; veins and veinlets

obscure due to dense and very rough rugosities. Posterior leg stout, as long as abdomen; upper carina of posterior femora serrated, medial area rosy, upper lobe smooth; posterior tibia (23-24) slightly shorter than femora (26-27), armed with 8 external and 9 internal black tipped spines, as a whole internal spines longer than external ones; no outer apical spine. Abdomen laterally compressed, with a median carina which is in continuation with median carina of pronotum. Supra-anal plate broadly angulated at apex, with a median groove throughout but more so at basal half and which is intersected with a transverse sulcus; subgenital plate almost flat, a little depressed at middle. Cerci short, slightly smaller than paraproct, broad at base which gradually taper towards apices.

*Colouration* : Colour brownish mixed with dark in different grade and shape; abdomen uniformly dark, shiny. In some examples, a median dark band extends from fastigium in front to pronotal disc behind. Pronotal disc more or less velvety. Antennae yellowish brown with apical segments a little dark. Posterior femora as a whole characteristically rosy, specially medial area, upper marginal area yellowish green; crescent area and base of posterior tibia very dark; posterior tibia yellowish brown; tarsi brownish. Labial and maxillary palpi yellowish.

*Pubescence* : Whole body covered sparsely with white, small and thin hairs except valves of ovipositors which display moderately dense silky pubescence.

*Males* : Males. (Figs. 6, 11) differ from females in the following features—Size distinctly smaller. Body rather slender, a little more hairy. Fastigium of vertex (Fig. 7) differs. Scutellum almost straight, lateral carinae not rounded but gradually diverge



*Peripolus pedarius* male.

Figs. 10. profile, dorsal (female). 11. profile, dorsal (male). 12. wild leaves which form natural diet (showing mode of damages).

towards middle from apex, then converge or almost straight posteriorly. Lateral carinae of frontal ridge more clear. In tegmina a more pronounced black longitudinal band in discoidal area. Pronotal disc more depressed, smooth and shiny in colouration. Upper part of last abdominal segment stout. Cerici large, laterally compressed, curved inside and bilobed at apex (Fig. 8) with a concavity in between. Supra-anal plate with 3 fine longitudinal furrows, forming 2 plates, lateral ones converge in middle of plate in a transverse sulcus; posterior portion also grooved at middle, forming two lobes (Fig. 9); subgenital plate short, navicular, angulated at apex.

*Colouration* ; More patterned than females.

In some cases there is a blackish band on vertex, separated by median carina, and extends up to groove of fastigium in front and up to end of pronotal disc. A more prominent lateral band on sides of abdomen above, intersected by a yellowish brown band along median carina. Otherwise colouration is more or less identical to that of females.

*Nymphs* : The present collection contains 2 advanced female nymphs (30-31) which are easily distinguishable from their adults. The abdominal segments specially the valves of ovipositor incompletely formed; rudiments of tegmina and wings present; tegmina as long as metathorax, pointed at apex; wing almost half as long as 1st thoracic

segment, more lateral and curved towards sides ; and antennae fully formed. Otherwise nymphs are identical to adults.

*Measurements (in mm)* : Length ♂ 26-30 (30), ♀ 40-48 ; length of head ♂ 3.2-3.75 (3.5), ♀ 5.25-5.75 ; maximum width of head ♂ 4-4.5 (4.5), ♀ 6.5-7 ; interocular distance ♂ 1.75-2 (1.7), ♀ 2.5-3 ; maximum length/width of pronotum ♂ 6.5-7/4.9-5.25 (8/5.1), ♀ 12-13/8.75-9 ; length of tegmen ♂ 4.5-4.75 (5), ♀ 8.5-8.75 ; length of posterior femur ♂ 16.5-17 (19), ♀ 29-29.5 ; length of posterior tibia ♂ 14.5-15 (16.5), ♀ 23.5-24 (measurements of male type is given in brackets).

*Remarks* : It is a high altitude species, always occurring at an altitude about 1250 m or more. The present series was collected from Phaugri Beat House, Mirik, having an altitude of more than 1500 m and 70% humidity in the summer. Here the specimens were found inhabiting broad leaved bushes (Fig. 12) which form their natural diet. The occurrence of two nymphs in the collection is, perhaps, indicative of the starting of a post winter new generation in June.

Its occurrence in Garhwal district (a new record), other than the Eastern Himalayas indicates its probable distribution throughout the Himalayan range.

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