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# *Pseudoblaps nuristanica* Kaszab, 1960: New Record for Pakistan (Coleoptera: Tenebrionidae)



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#### **Abstract**

**Objective:** This study documents new records of Tenebrionidae in Pakistan and contribute to the country's fauna diversity. This study first documented the occurrence of *Pseudoblaps nuristanica* Kaszab 1960 in Pakistan, describing the species and providing illustrations of its genitalia and fore tibia. Such discoveries not only expand our knowledge base but also highlight the rich biodiversity within Pakistan's East Palaearctic zone, which remains largely unexplored.

**Materials and Methods:** The specimen, which is now part of the first author's collection (ZACP), was discovered in the lowland region of the Sheikh Badin National Park, Khyber Pakhtunkhwa, Pakistan. The species was identified by Maxim Nabozhenko (personal communication). The habitat is characterised by semi-arid regions with bushes, and specimens were collected at night.

**Results:** This new record establishes the occurrence of *Pseudoblaps nuristanica* in Pakistan, enriching the diversity of Tenebrionidae in the region.

**Conclusion:** Previous beetle checklists for Pakistan have been incomplete, partly due to uncertainties regarding species housed in the country's museums. Thorough exploration and preservation of insect fauna in museums are essential. The study not only documents a novel finding and provides comprehensive illustrations and descriptions of the species' morphological characteristics.

#### **Keywords**

 ${\tt Biodiversity} \cdot {\tt Coleoptera, Tenebrionidae} \cdot {\tt Pseudoblaps \ nuristanica} \cdot {\tt Pakistan} \cdot {\tt New \ Record} \cdot {\tt Palaearctic \ zone}$ 



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### **INTRODUCTION**

Darkling beetles exhibit high diversity, inhabit diverse habitats and displaying nocturnal behaviour. The identification of a worm is facilitated by distinct features such as antennae, legs, and smooth strial margins on elytra. This study presents a novel addition to the Tenebrionidae family. Currently, comprehensive biodiversity surveys of insects in Pakistan are lacking, leading to incomplete distribution data and insufficient documentation of the insect fauna. Specifically, the assessment of species within the genus *Pseudoblaps* in Pakistan remains inadequate. The Palaearctic zone, which is renowned for its rich insect diversity, consistently introduces new species and records to Pakistan.

The genus Pseudoblaps Guérin extends across both the East and West Palaearctic regions, recognised for their broad, black body structures. Iwan (1997) conducted a detailed morphological study illustrating the key characteristics required to differentiate species within the Asiatic genera of Platynotini.<sup>1</sup> He listed 11 species of Pseudoblaps. In 1998, Iwan and Ferrer described a new species within Platynotini from India.<sup>2</sup> Iwan (2002) compiled a worldwide catalogue of Platynotini, listing 7 species with 3 reported from Pakistan.<sup>3</sup> Subsequently, in 2003, Iwan reviewed the genus *Pseudoblaps* in the Oriental region, describing 14 species with key and detailed illustrations of their characters. 4 The species within Pseudoblaps exhibit close affinities, necessitating the study of subtle morphological characters for their discrimination, especially since male genitalia, though similar, do not provide distinguishing features across tribes. 4 Recently, Iwan and Löbl (2020) listed 10 species and two subspecies of Pseudoblaps, including three species and one subspecies recorded from Pakistan.<sup>5</sup> Hashmi and Tashfeen (1992) previously listed P. mellyi and P. crenata from Pakistan<sup>6</sup>, but these species are not considered valid according to the catalogue by Iwan and Löbl (2020).5

The present investigation focused on a species identified by Maxim Nabozhenko as *P. nuristanica* Kaszab, 1960; previously recorded only in Afghanistan. Therefore, this species represents a new record for Pakistan.

#### **MATERIALS AND METHODS**

Specimens were collected from Paniala village (32.2431° N, 70.8863° E) near Sheikh Badin National Park, Tehsil Paharpur, District Rangpur, Dera Ismail Khan, KPK, Pakistan by Abdullah Hassini by hands in Sep 2023 after passing the rainfall season. One specimen was collected because the emerging season is approaching. The specimen was killed in 70% ethyl acetate and brought to the laboratory of the first author. Photographs

were taken using a stereo zoom microscope SZM 405, with a Nikon camera model D-7000 and an AF-S micro lens (60 mm f/2.8. Line drawings made using an ocular grid graph 1 mm. The species was identified by Maxim Nabozhenko (personal communication).

### **RESULTS AND DISCUSSION**

**Family:** Tenebrionidae **Subfamily:** Blapinae

**Tribe:** Platynotini

Pseudoblaps Guérin, 1834

P. nuristanica Kaszab, 1960 (Figure 1a and Figure 1b)

Body length, 22 mm; slightly convex; thorax and elytra mat; abdominal entries glossy.

**Head:** Clypeus with shallow emargination, clypeus with a shiny incomplete median line, a small weak depression along with eyes on either side, circumocular depression strongly shallow, eye narrowed laterally (between tempus and genal canthus two ommatidia visible); genal canthus as broad as eyes or scarcely broader than eyes, head narrow, distinctly away from pronotal angles, circumocular margin projected exteriorly, then oblique towards clypeus, antenna shorter than pronotum, antennae with distal segments (7-11) widened and oval, maxillary palps wide, last segment strongly widened.

Pronotum broadly quadrate; anterior margin deeply angulate; lateral angles well projected with narrow round apex; sides subrounded; angulate before base scarcely; posterior margin slightly convex with distinct hind angles; disc with two light depressions before base medially; and some weak depressions around middle to disc reaching anteriorly.

Elytron with 9 rows (punctate, sulcate, sides sub rounded, distinctly tucked in posteriorly (interval IX visible from underside), interval VII convex at base, intervals with fine and sparse puncturation, anterior margin straight and unbordered, upper edge convex medially (disappearing just before humeri); laterad of scutellum not depressed; prosternal process without grooved, downward at fore coxae, epileuron flat and evenly narrowing towards apex, outer margin oblique, inner margin bordered, convexly produced, mesosternal process with short groove.

**Legs:** Male fore tarsi widened, hind tarsi long, fore tibiae (Figure 1f) slender, fore tibiae with concavity, outer margin of mid tibia simple, male mid tibia straight, inner spur of hind tibia as long as previous tibiae, fore femur distinctly widened.

The last abdominal pentrite without border, process of 1 abdominal pentrite distinctly broad with anterior margin sinuate.

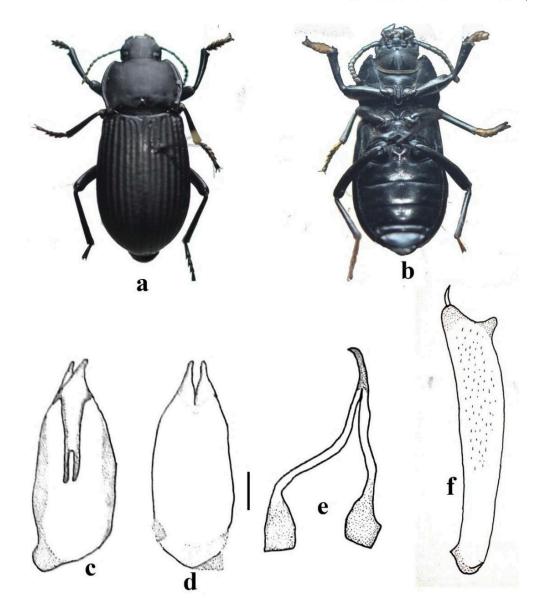


Figure 1. Pseudoblaps nuristanica: a) habitus dorsal view, b) habitus ventral view, c) aedeagus ventral view, d) aedeagus dorsal view, e) tegmen view, and f) foretibia.

**Male genitalia:** Aedeagus broadened from base, narrower at apex with two narrow lobe-like parameres, deeply invaginate with loop (Figure 1c), deeply bifurcate (Figure 1d); tegmen (Figure 1e) with curved apex, broad bases, and quadrat form.

Iwan (2003) described 14 species in the genus *Pseudoblaps* Guérin, 1834 (Figure 1) and extensively studied the characteristics of male genitalia and foretibiae of these species also with illustration.<sup>4</sup> We followed these characters with illustrations of such a new record with male habitus. The range of this species extends to the East Palaearctic region, which overlaps two regions: Pakistan and Afghanistan.<sup>5</sup> The other species of the genus also found in the West Palaearctic zone, bordered Balochistan and Afghanistan.<sup>6</sup> These ranges show diverse habitats as well as mountainous to desert or semi-desert areas. The Saharan realm also occupied

this genus, extending from Rajhastan (India) to Tharparkar (Pakistan) in the desert. The later species are being examined.

## **CONCLUSION**

It is concluded that this new record significantly enhances the diversity of the Tenebrionidae fauna in Pakistan. Previously, the beetle checklist for Pakistan was inadequate due to uncertainties surrounding species housed in the country's four museums. Without proper curation, these species are at risk of being lost. It is imperative not only to explore the insect fauna of Pakistan but also to ensure its preservation in museums.



Ethics Committee Ethics committee approval is not required for the

Approval study.

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Author Conception/Design of Study- Z.A.; Data

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