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Cover: *Geodorum laxiflorum* Griff.—inflorescence (Orchidaceae) © Ashish Ravindra Bhojar.



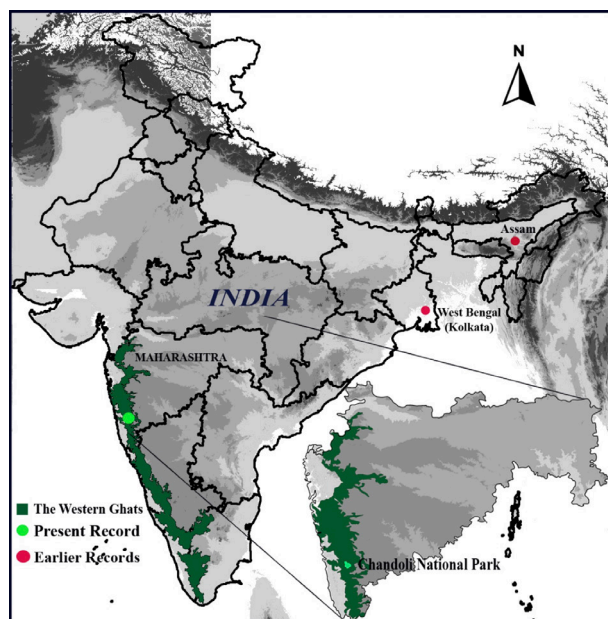


Figure 1. Distribution records of *Onomarchus leuconotus* in India.

calipers. The specimen was identified as *O. leuconotus* by using the original description (translated from French to English) of Serville (1838), De Jong (1939), Barman (1993), and images of the type specimen and keys on the website Orthoptera Species File (<http://orthoptera.speciesfile.org>). Dr. Sigfrid Ingrisch from The Alexander Koenig Zoological Research Museum in Germany confirmed the identification based on images of the specimen.

## RESULTS

### Description Female (Image 1 & 2):

Measurements (in mm): body length 82; pronotum 11; tegmen 75 & width 26; fore femur length 10, mid femur 12, hind femur 25, hind tibia 24; ovipositor length 30 & width 7 mm.

### Diagnostics

Head: Lateral margins, starting from the lower margin of the eyes and antennal socket downwards along the genae, broadly yellowish-white; labrum and mandibular base whitish (Image 1A, E).

Pronotum: short, disc white, hind margin acutely angular, centrally one long and one slightly short transverse groove running downwards and short vertical groove intersect posterior transverse suture vertically (Image 2A).

Meso and Metasternum: mesosternum somewhat quadrate, metasternum subquadrate narrows posteriorly; two large pits are situated nearly in the

central area in both meso and metasterna and one very fine additional pit found near mesosternal caudal margin medially; pits in the metasternum joined by nearly straight grooves, mesosternal lateral pits joined to the medial pit by oblique grooves (Image 2B).

Legs: yellowish, fairly short; fore and mid femur barely dented below; fore femur bearing three spines on internal carina and 6 spines on external carina; mid femur bearing five spines on external carina and seven spines on internal carina; hind femur bearing five strong spines, broad at the base and hooked at tip and four small spines on external carina and 10 small spines on internal carina; hind tibia armed with five spines on the upper side and ventrally seven pairs of moderate spines, 4<sup>th</sup> pair separated.

Forewing: slightly leathery, undulating anteriorly, large, more than twice the length of the body (Image 1A). Venation (Image 2C): The costa (C) fine, unbranched, long, runs along the anterior margin; subcosta (Sc), branched into anterior short subcostal (Sc1) and long posterior subcostal (Sc2); the radius (R), most prominent, runs 2/3 distance and branched into anterior radius (R1) and posterior radius (R2); median (M) long runs parallel to radius for a short distance and then separates, reaching to the apical region; cubitus (Cu) forks at the base into long cubitus 1 (Cu1) and short cubitus 2 (Cu2), continues with a hind margin of tegmen; anals short, unbranched, 4 in number (A1, A2, A3, and A4).

Hindwing: large, hyaline, protruding beyond the tegmina at rest (Image 1A).

Abdomen: Last abdominal tergite short, transverse, subfused with epiproct; epiproct semicircular with shallow Y shaped furrow; cerci cylindrical, narrower towards the apex, sinuately curved outside before apex, apex obtuse dark coloured with a minute spinule; subgenital plate roughly triangular with basal angles rounded, basal half portion strongly raised in the midline, apical half portion with fine medial furrow, apex subtruncate, crenulated and obtusely projecting short lateral lobes (Image 1C,D); ovipositor large about four times longer than broad, sabre like, dorsal valves with seven oblique furrows at apex, 2/3 ventral valve and 1/3 dorsal valve dark black (Image 1B).

## DISCUSSION

This species is distributed in India, Malaysia, Sumatra, Papua New Guinea, Java, China, Maluku, Indo-China, and Vietnam (<http://orthoptera.speciesfile.org>, accessed on 30 April 2021). This is the first illustrated report of this species from Western India, and the present record extends its known geographical range from Kolkata



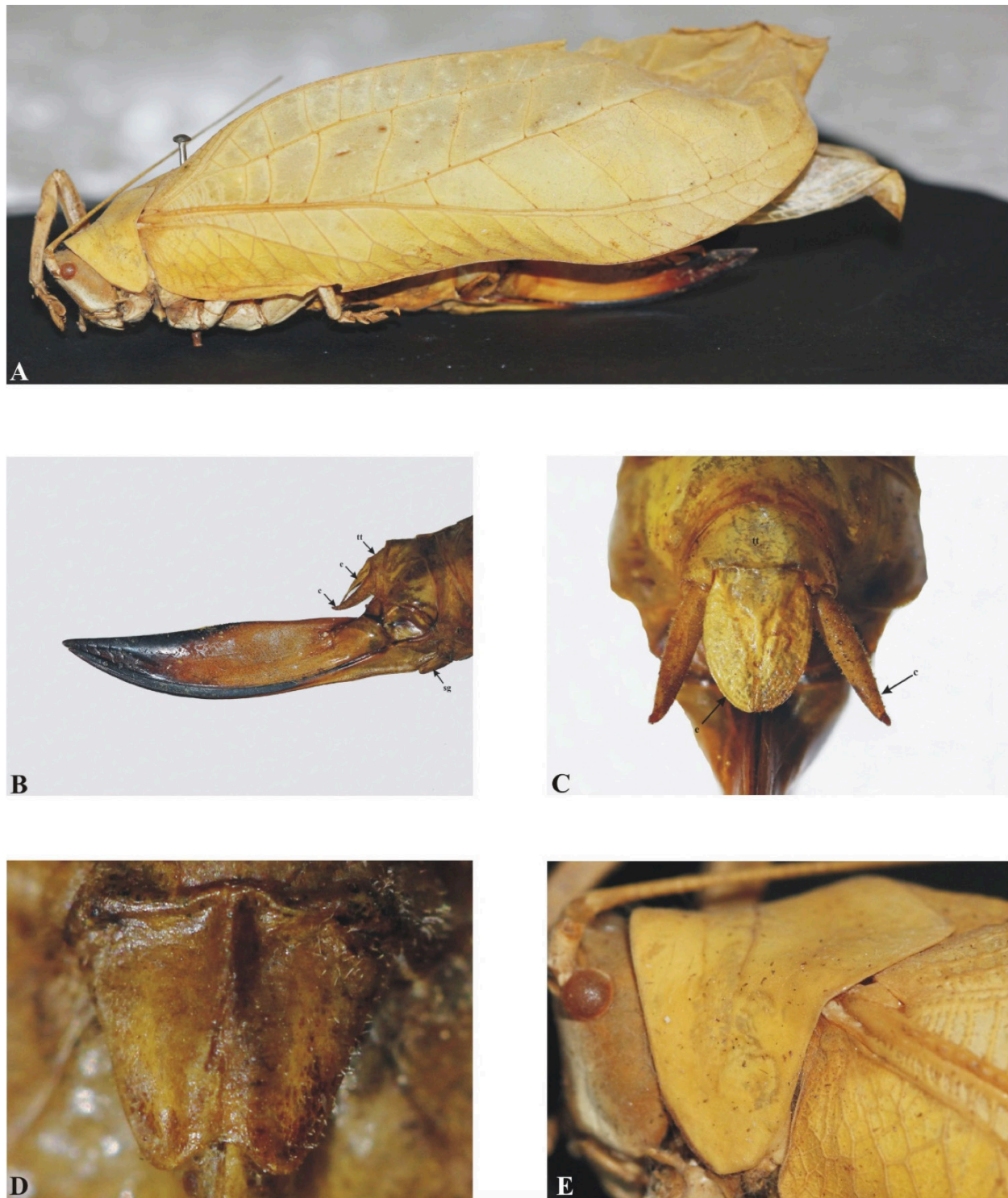


Image 1. A—*Onomarchus leuconotus* (lateral habitus of female) | B—Ovipositor | C—epiproct & abdominal apex with cerci (dorsal view) | D—subgenital plate (ventral view) | E—head- whitish gena & pronotum (lateral view). Abbreviation: tt—tenth abdominal tergite | e—epiproct | c—cercus | sg—subgenital plate. © Sunil Gaikwad.

to western India, a distance of about 1,630 km by air (Figure 1).

The holotype of *Onomarchus leuconotus* is from Java,

and the type specimen of this species is in the Natural History Museum, London. Serville originally described the *O. leuconotus* (male) in 1838 as *Pseudophyllus*

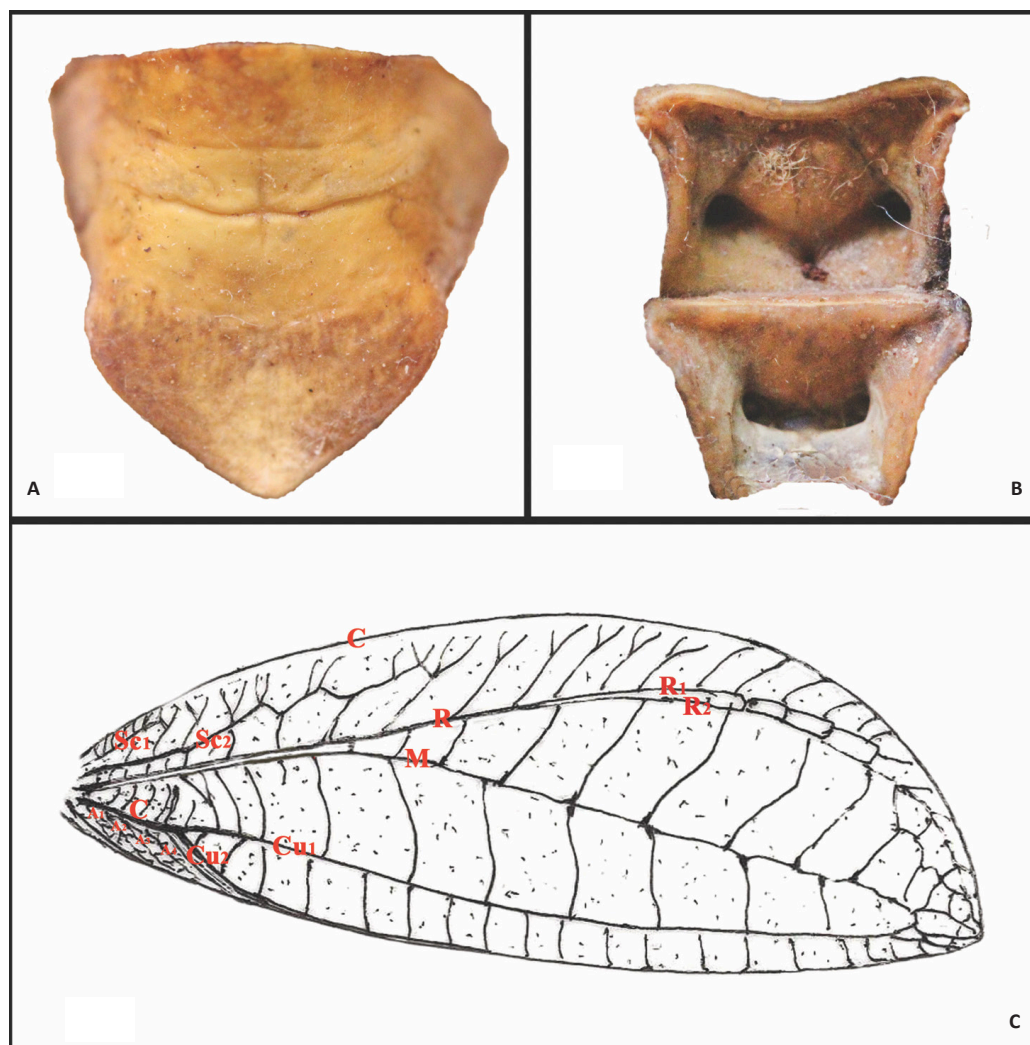


Image 2. *Onomarchus leuconotus*: A—pronotum with two horizontal & one vertical groove and acute angular hind margin (dorsal view) | B—meso and metasternum with deep pits | C—line drawing depicts right forewing venation- Costa (C); Subcosta 1 (Sc<sub>1</sub>), Subcosta 2 (Sc<sub>2</sub>); Radius (R), Radius 1 (R<sub>1</sub>), Radius 2 (R<sub>2</sub>); Median (M); Cubitus (C), Cubitus 1 (Cu<sub>1</sub>), Cubitus 2 (Cu<sub>2</sub>); Anals (A<sub>1</sub>, A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub>). © Sunil Gaikwad.

*leuconotus* in French. The same species was later described with three synonyms: *O. albisellatus* (Walker 1870), *O. latipennis* (Pictet & Saussure 1892) and *O. nobilis* (Brunner 1895), none described from India. However, Barman (1993) recorded *O. leuconotus* from India with scant diagnostics.

According to the original description by Serville (1838), elaborative diagnostics of de Jong (1939), images and keys on <http://orthoptera.speciesfile.org>, the specimen recorded from Chandoli National Park is treated here as *O. leuconotus*. The whitish genae, part of mouth and labrum; pronotal colour and shape; structure of meso- and metasternum; hind tibiae with strong 5 spines dorsally; broad tegmina and ovipositor in the present specimen are identical with *O. leuconotus*.

de Jong (1939) mentioned important characters for

identifying the three species of Serville. If hind tibia has five strong thorns on the dorso-internal margin, pronotum dorsally white, broad tegmen and ovipositor: *O. leuconotus*; if seven strong thorns on the dorso-internal margin of hind tibia, a white spot near the base of the tegmen and ovipositor five times as long as broad: *O. uninotus* and if six small thorns on hind and lot of white spots on tegmen and ovipositor is about six times longer than its thickness: *O. cretaceus*. Since the characters suggested for *O. uninotus* and *O. cretaceus*, are not found in our specimen and since our specimen contained the characters mentioned for *O. leuconotus* by de Jong (1939), our specimen proves to be *O. leuconotus*. Considering the thorns on the feet, it appears that only the large spines on the hind tibia are counted, mainly for *O. leuconotus*. However, while describing our specimen,

it has been found that in addition to large thorns, many small and blunt thorns are also found on femur and tibiae. It seems that the counting of the small spines has not been given importance thus information on this count is given here. Moreover, he mentioned additional character for *O. leuconotus* that narrow strip of little pits running from the lower margin of the eyes downwards along the genae, which is not found in the other species and the shape of the meso- and metasternum by line drawings. The characters and line drawings of meso- and meta-sternum given by de Jong (1939) are clear in our specimen. In addition, as per the revision of the Pseudophyllinae by Beier (1954), our specimen agrees best with *O. leuconotus* (Serville 1838). The smooth pronotum, the sinuate shape of the dorsal margin of the tegmen and its venation, and the white band at the genae agree with that species.

The pronotum has only one transverse groove in the anterior half of the disc, and the hind margin is acutely angular (de Jong 1939). The line drawing of pronotum on the website of Orthoptera species File (<http://orthoptera.speciesfile.org>) shows one transverse and one vertical groove, which intersect horizontal one. However, the pronotum of the specimen under study is having an additional short transverse groove. This is

probably because our specimen is female, it may have another groove in it, or it may not have been noticed, as the anterior transverse groove is indistinguishable.

## REFERENCES

- Barman, R.S. (1993).** Insecta: Orthoptera: Tettigoniidae. Zoological Survey of India, Fauna of West Bengal, State Fauna Series 3(4): 355–367.
- Beier, M. (1954).** *Revision der Pseudophyllinen*. Instituto Español de Entomología, Madrid, 479 pp.
- Brunner, V.W. (1895).** *Monographie der Pseudophylliden*. Herausgegeben von der K.K. Zoologisch-Botanischen Gesellschaft in Wien, 282 pp.
- de Jong, C. (1939).** On Indo-Malayan Pterophyllinae (Orthoptera, Family Tettigoniidae). *Zoologische Mededelingen* 21(1): 1–109.
- Pictet, A. & H. de Saussure (1892).** *Iconographie des quelques sauterelles vertes*. Imprimerie Aubert-Schuchardt, Geneve, 28 pp, 1–3 plates.
- Serville, J.G.A. (1838 [1839]).** *Histoire naturelle des insectes. Orthoptères*. Librairie Encyclopédique de Roret, Paris, i-xviii (index), 776 pp, 1–14 plates.
- Shishodia, M.S., K. Chandra & S.K. Gupta (2010).** An annotated checklist of Orthoptera (Insecta) from India. *Records of Zoological Survey of India*. Occasional paper No. 314: 1–366.
- Srinivasan, G. & D. Prabakar (2012).** Additional records of Tettigoniidae from Arunachal Pradesh, India. *Journal of Threatened Taxa* 4(14): 3255–3268. <https://doi.org/10.11609/JOTT.o3065.3255-68>
- Walker, F. (1870).** *Catalogue of the specimens of Dermaptera Saltatoria in the collections of British Museum. Part III*. Printed for the Trustees of the British Museum, London, 604 pp.







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