

SHORT COMMUNICATION

## A new species of genus *Oxytauchira* from India (Orthoptera: Acrididae)

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**Abstract.** A new species, *Oxytauchira truncata* Kumar & Chandra sp. nov. is described from Indian Himalaya. The new species is the second species of *Oxytauchira* Ramme, 1941 from India. It differs from previously known species by the presence of a comparatively very short tegmen and a truncated male cercus. A key to species of the genus *Oxytauchira* globally is also provided.

**Key words.** Orthoptera, Acrididae, Oxyinae, new species, taxonomy, Arunachal Pradesh, Himalaya, India

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### Introduction

The genus *Oxytauchira* Ramme, 1941 belonging to the subfamily Oxyinae Brunner von Wattenwyl, 1893 belongs to the family Acrididae and consists of 37 valid genera globally (CIGLIANO et al. 2018). This genus was erected by RAMME (1941) for *Tauchira gracilis* C. Willemse, 1931 and nowadays consists of 8 species distributed in the Oriental Region (CIGLIANO et al. 2018). The first Indian species, *Oxytauchira jaintia* Ingrisch, F. Willemse & Shishodia, 2004 was described by INGRISCH et al. (2004) from Meghalaya, a North-Eastern state of India. In the present paper a second species of *Oxytauchira* from Arunachal Pradesh, East Himalayan state of India is described.

### Material and methods

The specimen of the new species was collected from the Eastern part of the Indian Himalayan Landscape in the state of Arunachal Pradesh during a survey conducted in connection with a major research project entitled “Biodiversity Assessment through Long-term monitoring plots in the Indian Himalayan Landscape” in 2017. For the study of morphology and genitalia, the collected specimen was processed by the method of USMANI (2009) and KUMAR & USMANI (2015). Figure numbers 1A and 1G were taken by a Nikon digital camera (D-7000) and the other figures were

obtained by a digital camera attached to a Leica stereozoom Microscope (Leica M205A). The dissected parts of male genitalia were kept in a vial containing glycerine, pinned under the specimen. The terminology used for external morphology and male genitalia follows UVAROV (1966) and DIRSH (1956) respectively.

### Taxonomy

#### Genus *Oxytauchira* Ramme, 1941

*Oxytauchira* Ramme, 1941: 117.

**Type species.** *Tauchira gracilis* (C. Willemse, 1931), by monotypy.

**Redescription.** Head conical; fastigium of vertex parabolic, about as wide as long, median longitudinal carinula weakly present; frontal ridge sulcate. Antenna about as long as or longer than combined lengths of head and pronotum. Prosternal process transverse, antero-posteriorly flattened, trilobate or bilobate apically. Dorsum of pronotum weakly flattened, median carina weak, lateral carinae absent, shallowly crossed by three transverse sulci; mesosternal interspace longer than wide. Tegmen and hind wing fully developed or abbreviated, without the trace of transverse parallel stridulatory veinlets in the radial area of the tegmen. Lower genicular lobe of hind femur spined; hind tibia



hardly expanded apically, external apical spine of hind tibia present. Male 10th tergite with furculae on postero-dorsal margin (HOLLIS 1975).

**Composition.** There are nine species in the genus *Oxytauchira*, namely *O. aspinosa* Ingrisch, 1989 from Thailand, *O. aurora* (Brunner von Wattenwyl, 1893) from Myanmar, *O. bilobata* Ingrisch, 1989 from Thailand, *O. brachyptera* Zheng, 1981 from China (Yunnan), *O. elegans* F. Willemse, 1965 from Indonesia (Java), *O. gracilis* (C. Willemse, 1931) from Indonesia (Sulawesi), *O. jaintia* Ingrisch, F. Willemse & Shishodia, 2004 from India (Meghalaya), *O. oxyelegans* Otte, 1995 (= *O. elegans* Zheng & Liang, 1986) from China (Yunnan) (BRUNNER VON WATTENWYL 1893, C. WILLEMSE 1931, F. WILLEMSE 1965, ZHENG 1981, ZHENG & LIANG 1986, INGRISCH 1989, OTTE 1995, INGRISCH et al. 2004), and the new species described in present paper. A key to species of *Oxytauchira* is given below.

#### Key to the species

- 1 Prosternal process trilobate (Fig. 1F). ..... 7
- Prosternal process bilobate (INGRISCH 1989: Figs 44–45). ..... 2
- 2 Cerci of male with apex conical (INGRISCH 1989: Fig. 42). ..... 3
- Cerci of male with apex bilobate (INGRISCH 1989: Fig. 29). ..... *O. bilobata* Ingrisch, 1989
- 3 Tegmina not reaching the hind knees. .... 5
- Tegmina reaching or surpassing the tip of hind femora. .... 4
- 4 Hind knees dark brown. ....
- ..... *O. gracilis* (C. Willemse, 1931)
- Hind knees orange-red. ... *O. aspinosa* Ingrisch, 1989
- 5 Hind femora with a black marking on external surface. .... 6
- Hind femora without any marking on external surface. .... *O. elegans* F. Willemse, 1965
- 6 Body and tegmina comparatively larger in size. Lobes of outer lophi of epiphallus almost equal in size (ZHENG & LIANG 1986: Fig. 13). ....
- ..... *O. brachyptera* Zheng, 1981
- Body and tegmina comparatively smaller in size. Inner lobe of outer lophi of epiphallus larger than outer (ZHENG & LIANG 1986: Fig. 12). ....
- ..... *O. oxyelegans* Otte, 1995
- 7 Tegmina never reaching the apex of the hind femora. Male cercus without preapical tooth. .... 8
- Tegmina reaching (or slightly surpassing) the apex of the hind femora. Male cercus with preapical tooth. ....
- ..... *O. aurora* (Brunner von Wattenwyl, 1893)
- 8 Tegmina comparatively longer, slightly reaching to the tip of abdomen. Male supra-anal plate long and triangular; cercus conical with obtusely pointed apex. ....
- .. *O. jaintia* Ingrisch, F. Willemse & Shishodia, 2004
- Tegmina comparatively shorter, attaining the middle of 3<sup>rd</sup> abdominal segment. Male supra-anal plate short and triangular; cercus conical with truncated apex. ....
- ..... *O. truncata* Kumar & Chandra sp. nov.

#### *Oxytauchira truncata* Kumar & Chandra sp. nov.

(Figs 1–2)

**Type material.** HOLOTYPE: ♂, 'India, Arunachal Pradesh, Changlang, Deban, N27.50611, E96.39611, Alt. 345.4m., 24.vi.2017 (Coll. by H. Kumar)'. The holotype is deposited in the National Zoological Collection of Zoological Survey of India, Kolkata, India (NZSI).

**Description.** *Male* (holotype). *Coloration.* Antennae brown. Frons dark brown; genae ivory white with a dark brown stripe running from compound eye to mandible. Vertex and pronotal disc blackish brown with light bands bordering the fastigium, then running along inner margin of compound eyes and straight back, bordering pronotal disc and continuing on tegmina. Lateral lobes of pronotum blackish-brown above, ivory white below middle. Tegmina dark brown with a whitish band along cubital veins. Abdomen dark yellow. Sternum greenish yellow. Fore and mid legs green. Hind femur green, about apical half red, hind knees dark brown. Hind tibia blue. Hind tarsus yellow.

*Structure.* Medium sized for the genus (Figs 1A, G). Face (Fig. 1G) slightly concave in profile. Fastigium of vertex (Fig. 1B) rounded. Frontal ridge (Fig. 1C) distinct up to clypeus. Interocular distance about 1.7 times broader than frontal ridge between the antennal sockets. Antennae (Fig. 1E) longer than head and pronotum together, filiform. Pronotum (Fig. 1B) rugose, almost flat, crossed by three transverse sulci; median carina weak, lateral carinae absent. Prosternal process (Fig. 1F) compressed and widened to apex; apex trilobate. Mesosternal lobes (Fig. 1D) broader than long; mesosternal interspace longer than wide; metasternal lobes separated. Tegmen (Fig. 1A) reaching up to the middle of third tergite; upper half of tegmen triangular with obtusely rounded apex. Hind femur (Fig. 1G) moderately slender; dorsal carina smooth and terminating in a small spine; ventral genicular lobes terminating in a spine. Hind tibia (Fig. 1G) slightly expanded apically; with 8 external and 9 internal spines; external apical spine present.

*Genitalia.* Tenth abdominal tergite (Fig. 1H) with furculae. Supra-anal plate (Figs 1H, 2A) triangular, almost as long as wide, medially grooved in basal half, apical half flat, apex obtusely rounded. Cerci compressed and conical with truncated apex; more than 3.5 times longer than wide near the base. Subgenital plate (Figs 1I, 2B) broadly triangular, much wider than long with obtuse apex. Epiphallus (Fig. 2C) with bridge broad and divided; anchorae short and hook-shaped with pointed apex; outer lophi large and bilobate while inner lophi small and rounded. Aedeagus (Fig. 2D) flexured, apical valve broad with acute apex, narrower and shorter than basal valve, connected with basal valve by a weak flexure, basal valve broad and cylindrical, narrowing towards its obtuse apex, gonopore process large with truncated apex.

*Measurements* (mm). Body length – 17; length of antenna – 11.13; length of fastigium vertex in front of eyes – 0.87; eye length – 2.03; width of frontal ridge between the antennal sockets – 0.32; interocular distance – 0.54; head length – 3.22; pronotum length – 4.17; length of tegmen – 6.88; hind femur length – 11.87; hind tibia length – 10.35.

*Female.* Unknown.



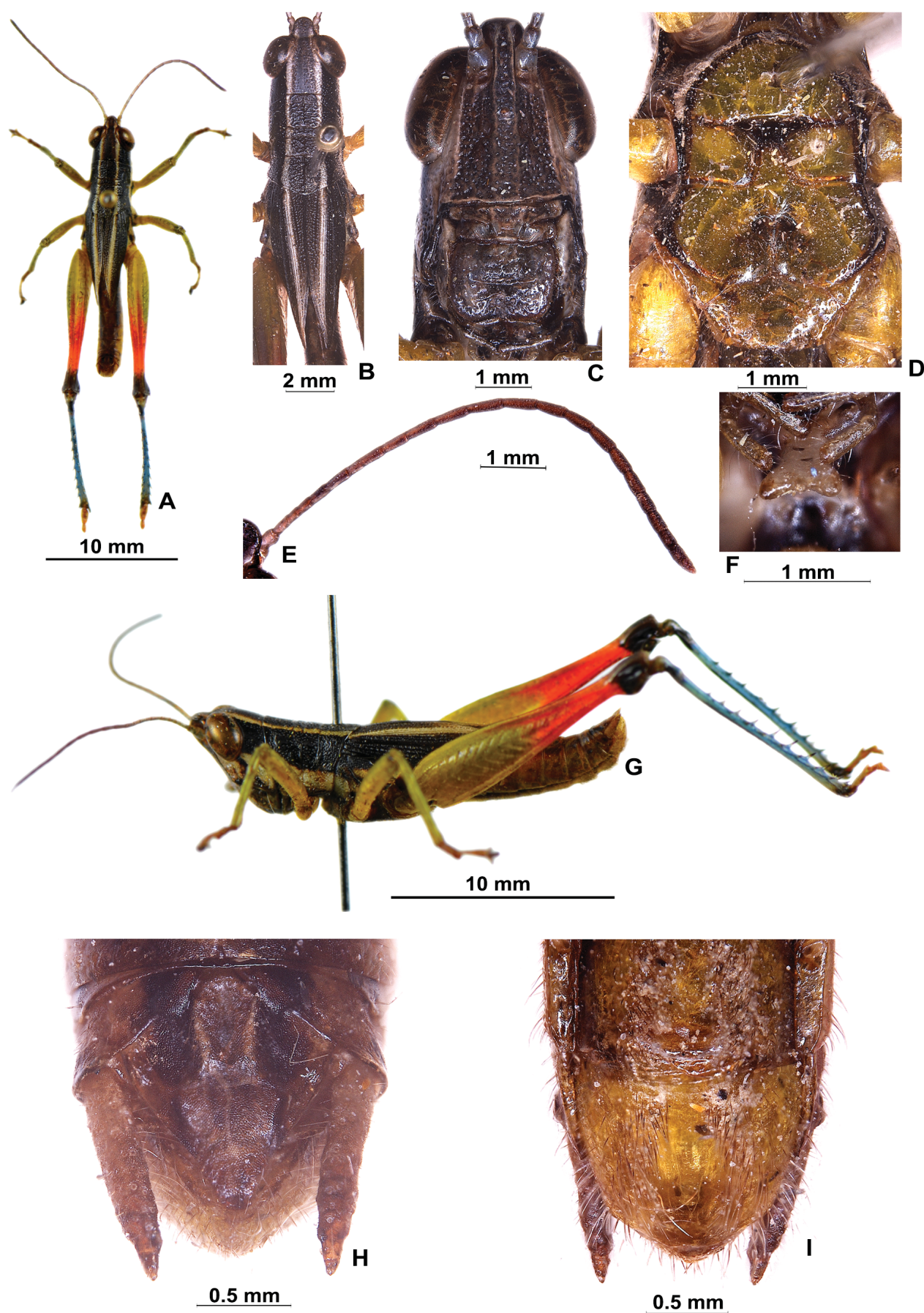


Fig. 1. Morphological details of the *Oxytauchira truncata* Kumar & Chandra sp. nov. male. A – dorsal view; B – head and pronotum, dorsal view; C – frontal ridge; D – sternum, ventral view; E – antenna; F – prosternal process; G – lateral view; H – supra-anal plate; I – subgenital plate.

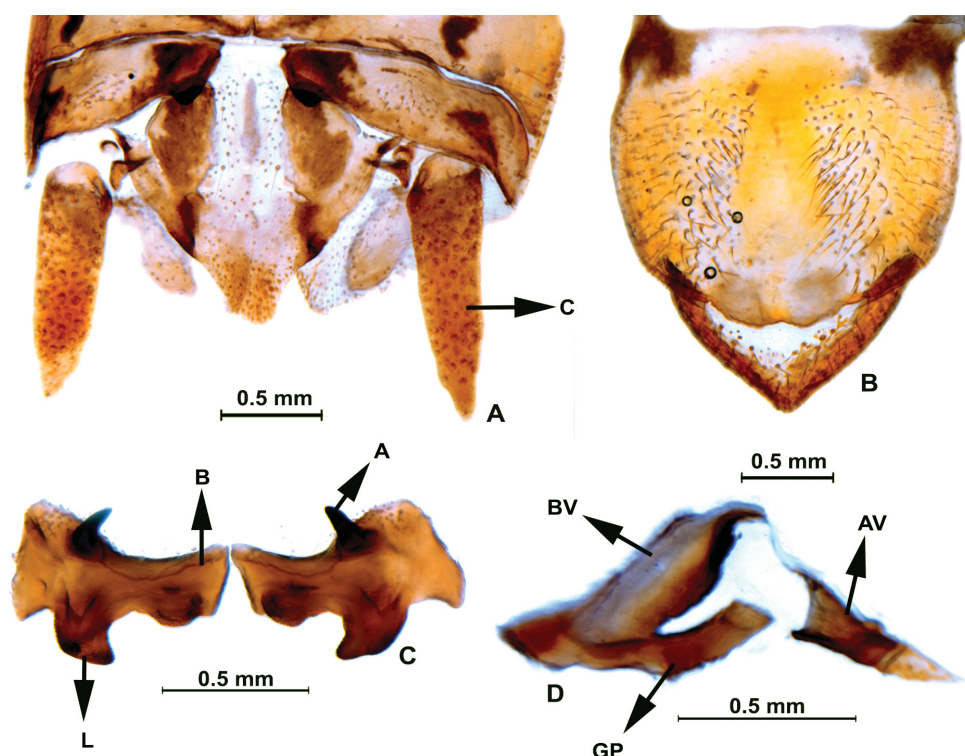


Fig. 2. Male genitalia of *Oxytauchira truncata* Kumar & Chandra sp. nov.. A – supra-anal plate; B – subgenital plate; C – epiphallus; D – aedeagus. Abbreviations: A – ancrae; AV – apical valve; B – bridge; BV – basal valve; C – cercus; GP – gonopore process; L – lophus.

**Differential diagnosis.** The male of the new species is similar to *O. jaintia* from Meghalaya in general appearance, but differs by its shorter tegmen (in *O. jaintia* tegmen length 10.2 mm), separated metasternal lobes, shorter supra-anal plate and truncated cercus. According to INGRISCH et al. (2004), the basic structure of the epiphallus, as well as the shape of the cerci and the color pattern of the hind femur are valuable diagnostic features. As the new species from the Himalaya differs in these characters, we reason that it is not conspecific with *O. jaintia*. The combination of coloration of the hind femora, trilobate prosternal process, truncated male cercus and very short tegmen make new species distinctly different from all other members of the genus.

**Etymology.** The new species name is Latin adjective *truncatus* (-a, -um) referring to its truncated male cercus.

**Distribution.** India: Arunachal Pradesh.

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### References

BRUNNER VON WATTENWYL C. 1893: Révision du système des Orthoptères et description des espèces rapportées par M. Leonardo Fea de Birmanie. *Annali del Museo Civico di Storia Naturale di Genova* **2**(33): 1–230.

- CIGLIANO M. M., BRAUN H., EADES D. C. & OTTE D. 2018: *Orthoptera species file. Version 5.0/5.0*. [accessed 2018 May 28]. <http://Orthoptera.SpeciesFile.org>.
- DIRSH V. M. 1956: The phallic complex in Acridoidea (Orthoptera) in relation to taxonomy. *Transactions of the Royal Entomological Society of London* **108**: 223–356.
- HOLLIS D. 1975: A review of the subfamily Oxyinae (Orthoptera: Acridoidea). *Bulletin of the British Museum (Natural History) Entomology* **31**: 189–234.
- INGRISCH S. 1989: Records, descriptions, and revisionary studies of Acrididae from Thailand and adjacent regions (Orthoptera: Acridoidea). *Spixiana* **11**: 205–242.
- INGRISCH S., WILLEMSE F. & SHISHODIAM S. 2004: New species and interesting records of Acrididae (Orthoptera) from Northeast India. *Tijdschrift voor Entomologie* **147**: 289–320.
- KUMAR H. & USMANI M. K. 2015: A review of the genus Hieroglyphus (Acrididae: Hemiaceridinae) from India, with description of a new species. *Tropical Zoology* **28**: 35–55.
- OTTE D. 1995. *Orthoptera Species File 4. Grasshoppers (Acridomorpha)* C. The Orthopterists' Society & Academy of Natural Sciences of Philadelphia, Philadelphia, 518 pp.
- RAMME W. 1941: Beiträge zur Kenntnis der Acrididen-Fauna des indomalayischen und benachbarter Gebiete (Orth.). Mit besonderer Berücksichtigung der Tiergeographie von Celebes. *Mitteilungen aus dem Zoologischen Museum in Berlin* **25**: 1–243.
- USMANI M. K. 2009: Male and female genitalia in some Libyan species of Acrididae (Orthoptera: Acridoidea). *Entomological Research* **39**: 1–35.
- UVAROV B. P. 1966: *Grasshoppers and locusts: A handbook of general acridology*. Cambridge University Press, Cambridge, 613 pp.
- WILLEMSE C. 1931: Orthoptera Celebica Sarasiniana. *Treubia* **12**(Suppl.): 189–273.
- WILLEMSE F. 1965: Orthoptera, Acridoidea chiefly from Java in the Zoologisches Staatsinstitut und Zoologisches Museum of Hamburg. *Entomologische Mitteilungen aus dem Zoologischen Museum Hamburg* **3**: 53–67.
- ZHENG Z. 1981: New genus and new species of grasshoppers from Xishuangbanna, China. *Acta Entomologica Sinica* **24**: 295–304 (in Chinese with English summary).
- ZHENG Z. & LIANG L. 1986: New species of grasshopper from Yunnan and Guizhou. *Acta Entomologica Sinica* **29**: 291–294 (in Chinese with English summary).