

**A NEW SPECIES OF GENUS *EUSCELIMENA* GÜNTHER, 1938
(ORTHOPTERA: TETRIGIDAE: SCELIMENINAE)
FROM CENTRAL INDIA**

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[Gupta, S. K. & Chandra, K. 2018. A new species of Genus *Euscelimena* Günther, 1938 (Orthoptera: Tetrigidae: Scelimeninae) from Central India. *Munis Entomology & Zoology*, 13 (1): 43-49]

ABSTRACT: A new species of genus *Euscelimena hardi* sp. nov. is described from Chhattisgarh, India. A Key to the genus *Euscelimena* is provided.

KEY WORDS: Tetrigoidea, Taxonomy, new species, Raipur, Hardi nala

The genus *Euscelimena* was erected by Gunther in 1938. Here it is consider a member of family Tetrigidae. This genus currently includes 3 species namely *Scelymena gavialis* Saussure, 1862 with type locality Sri Lanka later Gunther, 1838 synonyms with *E. gavialis* (Saussure, 1862); *Tetrix harpago* Serville, 1838 with type locality India, Maharashtra: Mumbai; Bolivar 1887, synonyms with *Scelimena harpago* later on Gunther synonyms with the species *E. harpago* (Serville, 1838) and Hancock, 1904 describe species *Scelimena logani* with type locality from Sri Lanka later on Blackith, 1992 synonyms with the species *E. logani* (Hancock, 1904) (Eades et al., 2016). Only two species *E. harpago* and *E. gavialis* from India (Shishodia et al., 2010).

MATERIAL AND METHODS

Study area. The survey were carried out in Chhattisgarh state, covering two protected areas. Barnawapara Wildlife Sanctuary is situated in Raipur, covering an area of about 244.66 sq. km., lies between 21°18'45" to 21°30'N and 88°22'30" to 82°37'30"E. Udanti Wildlife Sanctuary is situated in Gariyaband district of Chhattisgarh state, which lies between 20°0'N to 20°15'N, 82°30'E to 82°0'E with an area of about 4240.17 km².

The specimens were collected by sweeping over pebbles on the banks of Hardi nala and Bijakhera Nala, by using an insect net and killed by benzene vapor in killing jar. The specimens were preserved dry and pinned. The specimens were studied under a Leica stereozoom Microscope (Leica M205 A) and photographs were taken using the software Leica Application Suite (LAS V3.8). All the measurements are given in millimetres. The type specimen was deposited the Central Entomological Laboratory (CEL) of the Zoological Survey of India in Kolkata.

TAXONOMY

Order **Orthoptera** Olivier, 1789
Suborder **Caelifera** Ander, 1939
Superfamily **Tetrigoidea** Rambur, 1838
Family **Tetrigidae** Rambur, 1838

Subfamily **Scelimeninae** Bolivar, 1887

Genus **Euscelimena** Günther, 1938

Diagnosis: Body elongated and slender, head not exserted; vertex usually wider than an eye, a little oblique or inclined anteriorly, extend upto the eyes in front, slightly depressed anteriorly, median carinula visible only in front; frontal costa bifurcate between the paired ocelli, protuberant between antennae, depressed in front, narrowly sulcate between paired ocelli and a little widely forked between antennae; antennae filiform and located below the inferior margin of eyes. Pronotum transverse or truncated anteriorly, subulate posteriorly and usually extend beyond the apex of hind femora; dorsum rugose, granulose, tubercles present on the anterior margin below the eyes and also in between, generally distinct tubercles present on the shoulders and lateral margins; prozonal carinae distinct and parallel; posterior angle of lateral lobes of pronotum with a strong spine projecting outwards with its apex more or less directed forwards. Elytra usually elongate, punctuate, apex narrowly rounded. Wings usually extend upto the apex of pronotum; anterior and middle femora elongate, lobate with serrulate margins; hind femora elongate, crassate, inferior margin frequently dentate; hind tibiae and first joint of hind tarsi strongly lamellate; pulvilli of first segment of hind tarsi usually subequal.

***Euscelimena hardi* sp. nov.**

(Figs. 1-10)

Holotype: Chhattisgarh, Raipur, Barnawapara WLS; Hardi nala, 26.xii.2011, 1 (♂, DC); 21°24'6.20"N, 82°25'764"E, 283 m, Reg. No. 18825/ H5, coll. S. K. Gupta & party.

Paratypes: 3 (1♂, 2♀, DC) same data as Holotype, Reg. No. 18826-28/H5; Gariyaband, Udanti WLS; Baji Nala, 30.vi.2014, 5 (5♀, DC); 22°12' 58.2"N, 82°11' 16.5" E, 591 m, Reg. No. 18829-18833/H5, coll. S. K. Gupta & party.

Description: Male. Head in dorsal view vertex is below of the distal margin of compound eyes, Median carina of vertex present in the distal half of the length of the vertex, vertex smaller than a compound eye. Median ocellus situated far below the level of the lower margin of compound eyes, in the place where facial carinae end. Lateral ocelli situated in the level of the lower margins of the compound eyes. Frontal costa in lateral view not produced from the level of the distal margin of the compound eyes. Frontal costa bifurcate into facial carinae between the lateral ocelli and facial carinae run parallel to the median ocelli forming a very broad scutellum. Antennal grooves situated below the lateral ocelli, below the lower margin of the compound eyes. Antennal grooves length subequal to the scutellum width. Eyes in frontal view sub-globular, in lateral view sub-globular with margin above to the pronotum. Antennae 11-12 segmented.

Pronotum. Pronotum disc with 7 large tubercles. Anterior margin truncated, posterior margin subulated extend slightly apex of posterior femora. Prozonal carinae well developed, Humero-apical carinae forming with external lateral carinae obtuse angle. Interhumeral carinae distinct.

Wings: Tegmina reduced, not visible, covered by pronotum. Alae present, visible under pronotum, do not reach the apex of the pronotum.

Legs. Fore legs: femora 1.9 times as long as wide, laterally compressed, dorsal and ventral margin with 2 strongly projected teeth; tibia clothed with bristles

and large spines; second tarsal segments 2.6 times longer than first. **Mid legs:** femora 2.6 times as long as wide, serrated carina on external face distinct, ventral margin with 2 strongly projected teeth. tibiae clothed with bristles, dorsal and ventral margin serrated; second tarsal segments 5.9 times longer than first. **Hind legs:** hind femora robust – 2.3 times as long as wide, ventral margin with 5 strongly projected teeth; genicular and antigenicular teeth visible; posterior tibiae and first segment of posterior tarsi lamellated; first tarsal segments 1.6 times longer than third; tip of pulvilli I, II and III spinulately produced, pulvilli II distinctly shorter than length of I, III pulvilli together. Epiproct triangular, with pointed apex. Subgenital plate as long as wide, apex with v-shaped incision; cerci nearly triangular with slightly pointed tip.

Coloration. Body color from brown to dark blackish. Pronotal tubercles usually dark black. Lamellae of hind tibiae and first joint of hind tarsus sub-hyaline. Teeth of all legs yellowish.

Differentiated Characters:

Comparison of *Euscelimena hardi* sp. nov. and *Euscelimena harpago* is below:

Characters	<i>Euscelimena hardi</i> sp. nov.	<i>E. harpago</i>
Frontal costa	Frontal costa bifurcation start in about lower $\frac{1}{4}$ of the compound eye height. Facial carinae are undulated. Scutellum very broad	Frontal costa bifurcation start in about middle of the compound eye height. Facial carinae are almost parallel. Scutellum narrow.
Lateral spine of Pronotum	Lateral spine of pronotum broad at the base and directed transversely.	Lateral spine of pronotum narrow at the base and almost straight.
Pronotum	Pronotum disc convex and extend upto only hind femur apex	Pronotum disc depressed and extend above tip of hind tibiae
Tegmina and wings	Tegmina unvisibile and hind wings upto only 4 th or 5 th abdominal segment.	Tegmina visible and hind wings upto pronotum.

Keys to the genus *Euscelimena*

1. Lateral lobe of pronotum with two spines, curving forwards.....*E. logani*
-Lateral lobe of pronotum with only one spine.....2
2. Lamellae of hind tibiae and first joint of hind tarsi very wide, subhyaline.....3
- Lamellae of hind tibiae and first joint of hind tarsi narrower.....*E. gavialis*
3. Frontal costa bifurcation start in about lower $\frac{1}{4}$ of the compound eye height. Facial carinae are undulated. Scutellum very broad.....*E. hardi* sp. nov.
- Frontal costa bifurcation start in about middle of the compound eye height. Facial carinae are almost parallel. Scutellum narrow.....*E. harpago*

Measurements (all in millimetres). **Male: Body length** (from the tip of the vertex to the end of the abdomen): 8.557; Head length 0.892; Vertex: 0.519. compound eye length: 0.610, width: 0.517. Antennal grooves length: 0.194, scutellum width: 0.195, Antenna length: 1.678. **Pronotum** length: 8.391, shoulder width:2.607. **Fore leg:** femur length: 1.364, width: 0.715; tibia length:

1.812, width: 0.255; tarsus length (by segments): I: 0.273, II: 0.737; claw length: 0.359. **Mid leg:** femur length 1.806, width 0.675; tibial length 1.961, width 0.288; tarsus length: I: 0.117, II: 0.698; claw length 0.093. **Hind leg:** femur length: 4.685, width: 1.974; tibia length: 3.689, width: 0.364; tarsus length: I: 1.060, II: 0.112, III: 0.660; pulvilli length: I: 0.124, II: 0.204, III: 0.172; claw length 0.208. cerci length: 0.504. Subgenital plate length 0.799; width 0.773.

Measurements (all in millimetres). **Female. Body length** (from the tip of the vertex to the end of the abdomen): 11.662; Head length: 1.450; Vertex: 0.530. compound eye length: 0.852, width: 0.651. **Pronotum** length: 10.565, width: 2.937. **Fore leg:** femur length: 1.819, width: 0.741; tibia length: 1.990, width: 0.271; tarsus length (by segments): I: 0.269, II: 0.736; claw length: 0.196. **Mid leg:** femur length 2.262, width 0.595; tibial length 2.248, width 0.438; tarsus length: I: 0.282, II: 0.629; claw length 0.183. **Hind leg:** femur length: 5.97, width: 2.166; tibia length: 4.097, width: 0.672; tarsus length: I: 1.128, II: 0.237, III: 0.687; pulvilli length: I: 0.209, II: 0.207, III: 0.239; claw length 0.287. Abdomen length: 6.636; Dorsal ovipositor valves length: 1.480, ventral ovipositor valves length: 1.092, cerci length: 0.344.

Etymology. The name of the species has been given after the collection locality of the species.

ACKNOWLEDGEMENTS

The authors are grateful to the officer-in-Charge and staff of Orthoptera section for the necessary facilities. The authors are thankful to CAMPA (Compensatory Afforestation Fund Management and Planning Authority) for the funding.

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Figures 1-4. 1. *E. hardi* sp. nov. Male dorsum view, 2. Male lateral view, 3. Female dorsum view, 4. Female lateral view.



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Figures 5-10. 5. Male frontal costa, 6. Female ovipositor, 7. Male paranota, 8. Male mid legs and hind legs, 9. Male subgenital plate, 10. Male lamellae of hind tibiae and first tarsal segments.

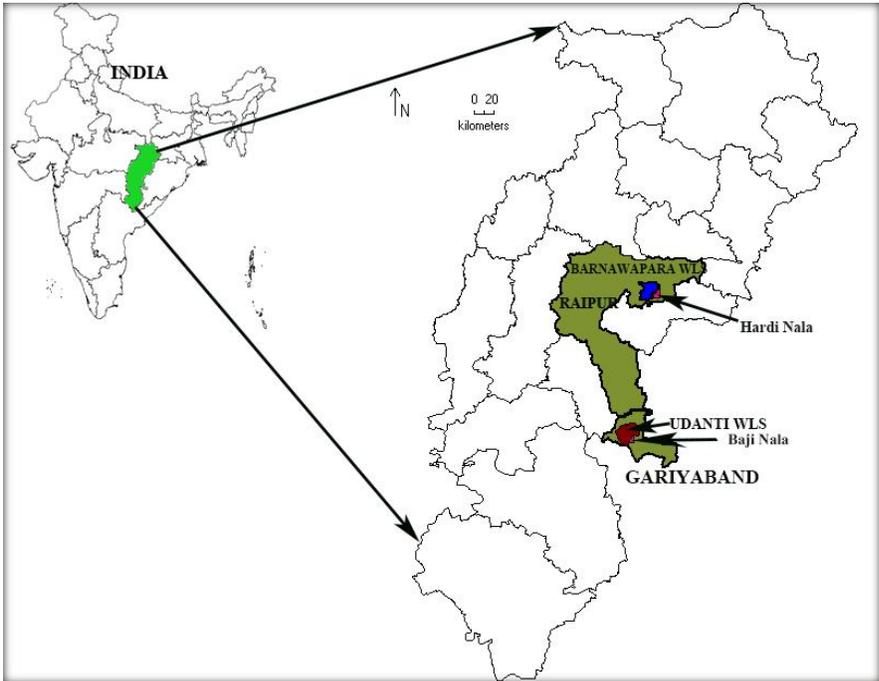


Figure 11. Collection localities in Chhattisgarh, India.