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Sunil Kumar Gupta & Kailash Chandra

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## DIVERSITY OF ORTHOPTERA (INSECTA) FAUNA FROM GOMERDA WILDLIFE SANCTUARY, CHHATTISGARH, INDIA

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**Abstract:** The paper deals with the study of faunal diversity of Orthoptera of Gomerda Wildlife Sanctuary, Raigarh District of Chhattisgarh. Altogether 47 species pertaining to 44 genera under seven families are reported for the first time from the sanctuary. Two species, i.e., *Phonarellus (Phonarellus) erythrocephalus erythrocephalus* (Serville, 1839) and *Teleogryllus (Macroteleogryllus) mitratus* (Burmeister, 1838) are new additions to the Chhattisgarh State.

**Keywords:** Chhattisgarh, Gomerda Wildlife Sanctuary, India, Orthoptera.

**Abbreviation:** WS - Wildlife Sanctuary; FRH - Forest Rest House; coll.: - collector; NC - night collection; DC - day collection.

The Cosmopolitan Orthoptera is a moderately diverse order of exopterygote insects. The number of known species of Orthoptera from the whole world is about 27,260 species (Eades et al. 2016). Out of these, 1,033 species are known from India (Shishodia et al. 2010). The name of Orthoptera is derived from the combination of two Greek words, ortho and pteron, meaning straight or rigid wing, which refer to the forewings. This order is subdivided into two suborder: Ensifera, or long-horned orthopterans (katydids, cave-cricket, crickets and mole crickets), and Caelifera, or short-horned orthopterans (grasshoppers, locusts, pygmy grasshoppers, and pygmy mole-cricket). The orthopteran insects may be winged,

brachypterous or apterous. These insects are usually moderate to large sized. The mouth parts are of the biting and chewing type, the compound eyes are well developed and the ocelli mostly 1 to 3. Antennae may be short with few segments or long and filiform with many segments. The prothorax is large. The hind legs are usually enlarged and modified for leaping or jumping. Fore-wings, if developed well, are elongate and more or less thickened with a submarginal costal vein and most often modified as stridulatory organs, while the hind-wings are membranous with an extensive anal area. Females generally possess a well developed ovipositor. The male external genitalia organs are symmetrical, concealed at rest by the enlarged 9<sup>th</sup> abdominal sternum (subgenital plate) which may or may not bear a pair of styles. The cerci are usually short and almost invariably unsegmented. Specialized auditory and stridulatory organs are frequently developed. Mostly the males stridulate but the females of some species can also produce sound. Metamorphosis is incomplete.

The oldest Orthoptera (suborder Ensifera, family Oedischidae) hail from the Late Carboniferous period in France and China. The oldest Caelifera (family Locustopseidae) known is from the Triassic period (Gorochoff 1995; Gorochoff & Rasnitsyn 2002; Grimaldi

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& Engel 2005).

Notable work on Orthoptera fauna from Chhattisgarh was done by Chopard (1970) who described one new species of cricket from Kutumswar cave, Bastar. Sinha & Agrawal (1973) also studied one species of cave gryllid from the same locality. Dwivedi (1978) reported one species from Bilaspur District of Chhattisgarh. Dwivedi & Chatteraj (1985) studied on energy budget of grasshopper *Acrida exaltata* (Walker) population from Bilaspur. Agrawal & Sinha (1987) described a new species *Homoeogryllus indicus* from Kacchuwa Pahar Cave, Raigarh. Dwivedi (1990) worked on bioenergetics of the grasshopper *Catantops pinguis innotabilis* (Walker) at Bilaspur (Chhattisgarh). Shishodia (1995) reported 15 species belonging to six families of Orthoptera from Indravati Tiger Reserve. Shishodia (2000) reported 77 species of crickets and grasshoppers from Bastar. Chandra & Gupta (2005) recorded one species of family Schizodactylidae from Chhattisgarh. Chandra et al. (2007) reported 139 species of Orthoptera from Madhya Pradesh and Chhattisgarh, of which 94 species from Madhya Pradesh and 84 species are from Chhattisgarh. Gupta et al. (2008) studied 18 species pertaining to 18 genera under five families of Orthoptera from Achanakmar Wildlife Sanctuary, Bilaspur. Gupta & Chandra (2009) reported 23 species belonging to 23 genera under seven families of Orthoptera from Madhav National Park, Shivpuri. Gupta & Shishodia (2009) reported 54 species belonging to 48 genera under nine families of Orthoptera from Orthoptera fauna from Pachmarhi Biosphere Reserve.

Gupta & Chandra (2010) reported 64 species belonging to 57 genera under 12 families of Orthoptera fauna from Achanakmar Wildlife Sanctuary, Bilaspur. Gupta & Chandra (2011) reported 16 species belonging to 16 genera under five families of Orthoptera from Van Vihar National Park, Bhopal. Chandra & Gupta (2011) published 154 species of Orthoptera belonging to 100 genera under 10 families are reported from Madhya Pradesh and Chhattisgarh, of which, 131 species from Madhya Pradesh and 101 species are from Chhattisgarh. Gupta & Chandra (2013) worked on Orthoptera fauna of Barnawapara Wildlife Sanctuary and reported 73 species pertaining to 62 genera under eight families. Gupta & Chandra (2014a) reported 50 species belonging to 47 genera under 8 families of Orthoptera fauna from Pachmarhi Biosphere Reserve. Gupta & Shishodia (2014b) reported 80 species under 68 genera belonging to 10 families of Orthopteran insects from Achanakmar Amarkantak Biosphere Reserve. Chandra (2014) reported 50 species pertaining to 42 genera under seven

families of Orthoptera fauna from Boramdev Wildlife Sanctuary. Gupta (2015) published 31 species pertaining to 29 genera belonging to six families of Orthoptera fauna from Badalkhol Wildlife Sanctuary.

Recently Gupta (2016a,b) worked on Orthoptera fauna of Chhattisgarh and described two new species of family Tetrigidae, i.e., *Euparatettix dandakaranyensis* and *Ergatettix subtrunctatus*. Gupta & Chandra (2016) reported 56 species pertaining to 43 genera under eight families of Orthoptera fauna from Barnawapara Wildlife Sanctuary.

Some workers including Hancock (1915), Mason (1973), Bhowmik (1985a,b), Shishodia & Hazra (1986), Shishodia & Tandon (1987), Vasanth (1993), Dey & Hazra (2003), Shishodia & Barman (2004) and Shishodia et al. (2010) have worked on the fauna of other states and included the distribution of some species in Madhya Pradesh and Chhattisgarh.

Skejo & Gupta (2015) worked on the genus *Hedotettix* (Orthoptera: Tetrigidae) and reported *Hedotettix punctatus* Hancock, 1909 from Gomerda Wildlife Sanctuary. There is no comprehensive faunal study of orthopterans is available for the sanctuary.

A total of 47 species and subspecies pertaining to 44 genera under seven families, viz., Acrididae—26 species 23 genera, Pyrgomorphidae—two species two genera, Tetrigidae—three species three genera, Tridactylidae—one species one genus, Gryllidae—six species six genera, Trigonidiidae—two species two genera, and Tettigoniidae—seven species seven genera, were collected from different localities by the survey team of Zoological Survey of India, Kolkata, during the extensive and intensive survey of Gomerda Wildlife Sanctuary from 2011–2014. Two species, viz., *Phonarellus (Phonarellus) erythrocephalus erythrocephalus* (Serville, 1839) and *Teleogryllus (Macroteleogryllus) mitratus* (Burmeister, 1838) are recorded for the first time from Chhattisgarh State. The systematic account, details of material collected, co-ordinates and geographic distribution of all the species in Chhattisgarh are incorporated.

## MATERIAL AND METHODS

### Study area

Gomerda Wildlife Sanctuary spread over 277.82km<sup>2</sup> located in the Raigarh District lies between 21°30'24"N & 83°06'47"E. The vegetation of the sanctuary comprises of tropical dry deciduous forest with Tendu (*Diospyros melanoxylon*), Saja (*Terminalia tomentosa*), Teak (*Tectona grandis*), Sal (*Shorea robusta*), Bamboo (*Dendrocalamus strictus*), Semal (*Bombax ceiba*), Dhaora (*Anogeissus latifolia*), Salai (*Boswellia serrata*), Aonla



(*Emblica officinalis*), Haldu (*Adina cordifolia*), Mahua (*Madhuca longifolia*), Kulu (*Sterculia urens*), Amaltas (*Cassia fistula*) and Ber (*Ziziphus* as prominent species).

The specimens were collected by sweeping over vegetation by insect net, and the larger specimens were picked up directly by hand or with the help of fine forceps. The specimens were killed containing benzene or ethyl acetate in a killing bottle. For temporary storage in the field they were kept in insect envelopes. The specimens were brought to laboratory and pinned, labeled and preserved for the identification. Survey site co-ordinates were recorded using GPS (Garmin Oregon 550). The identified specimens were deposited in National Zoological Collection, Zoological Survey of India, Kolkata.

**Collection localities:** The list of collection localities along with latitude, longitude and altitude from Gomerda Wildlife Sanctuary: Adharpani Bhaithak 21°27'15.4"N & 83°03'28.1"E, altitude 432m; Katal Dam 21°23'23.9"N & 83°05'59.6"E, altitude 253m; Kankabira 21°27'39.0"N & 83°07'120"E, altitude 254m; Lohari Pond 21°27'42.3"N & 83°04'59.6"E, altitude 313m; Madosilly Water Fall 21°27'28.4"N & 83°10' 39.5"E, altitude 278m; Naresh Nagar 21°28'38.1"N & 83°07'21.5"E, altitude 220m; Putaka Jalasya 21°23'54.0"N & 83°05'18.9"E, altitude 247m; Saler Village, 21°31'12.4"N & 83°08'03.9"E, altitude 233m; Tamtora barrier 21°26'21.0"N & 83°05'48.9"E, altitude 262m; Tamtora Forest Rest House 21°26'39.6"N & 83°04'58.6"E, altitude 372m.

## RESULTS

### Systematic Account

#### Order Orthoptera

#### Suborder Caelifera

#### Infraorder Acrididea

#### Superfamily Acridoidea

#### Family Acrididae

#### Subfamily Acridinae

#### Genus *Acrida* Linnaeus, 1758

##### 1. *Acrida exaltata* (Walker, 1859)

1859. *Truxalis exaltata* Walker, Ann. Mag. nat. Hist., 4(3): 222.

2010. *Acrida exaltata*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 15-16.

Material examined: 14492/H5, Chhattisgarh, Raigarh, Gomerda Wildlife Sanctuary (WS); Kulhadighat, 28.vi.2014, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Koriya, Raigarh and Raipur.

##### 2. *Acrida gigantea* (Herbst, 1786)

1786. *Truxalis gigantea* Herbst, Fuessly Archiv.: 173.

2008. *Acrida gigantea*, Shishodia, in: Faunal Diversity of Jabalpur District, Madhya Pradesh, Zool. Surv. India: 97.

Material examined: 14495-96/H5, Chhattisgarh, Raigarh, Gomerda WS; Putaka Jalasya, 16.ii.2012, 2 (male, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Koriya, Raigarh and Raipur.

##### 3. *Acrida turrita* (Linnaeus, 1758)

1758. *Gryllus (Acrida) turritus*, Linnaeus, Syst. Nat. (ed. X),: 427.

1914. *Acrida turrita*, Kirby, Fauna Brit. India, Orth.,: 98.

Material examined: 14498/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 23.v.2014, 16.ii.2012, 1 (female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Raigarh and Raipur.

#### Genus *Phlaeoba* Stål, 1861

##### 4. *Phlaeoba panteli* Bolivar, 1902

1902. *Phlaeoba panteli* Bolivar, Anns. Soc. Ent. Fr., 70: 589.

2003. *Phleoba panteli*, Dey & Hazra, Memoirs, zool. Surv. India, 19(3): 27.

Material examined: 14448/H5, Chhattisgarh, Raigarh, Gomerda WS; Katal dam, 17.ii.2012, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bilaspur, Raigarh and Raipur.

#### Subfamily Catantopinae

#### Genus *Choroedocus* Bolivar 1914

##### 5. *Choroedocus illustris* (Walker, 1870)

1870. *Heteracris illustris* Walker, Cat. Derm. Salt. Br. Mus., 4: 662, 663.

1921. *Choroedocus illustris*, Uvarov, Trans. ent. Soc. Lond., 69: 109.

Material examined: 14500/H5, Chhattisgarh, Raigarh, Gomerda WS; Lohari Pond, 28.v.2014, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Raigarh and Raipur.

#### Genus *Diabolocatantops* Jago, 1984

##### 6. *Diabolocatantops innotabilis* (Walker, 1870)

1870. *Acridium innotabile* Walker, Cat. Derm. Salt. Brit. Mus., 4: 629.

2010. *Diabolocatantops innotabilis*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 39.

Material examined: 14428-29-30/H5, Chhattisgarh, Raigarh, Gomerda WS; Madosilly Water Fall, 22.ii.2012, 3 (1 male, 2 female, DC); 13969-13971/H5, Tamtora Forest Rest House, 26.v.2014, 3 (female, NC); 13975/H5, Lohari Pond, 28.v.2014, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

#### Genus *Stenocatantops* Dirsh, 1953

##### 7. *Stenocatantops splendens* (Thunberg, 1815)

1815. *Gryllus splendens* Thunberg, Mem. Acad. Sci. St. - Petersb., 5: 236.

2000. *Stenocatantops splendens* Shishodia & Tandon, *State Fauna Series 7: Fauna of Tripura, Part 2*, Zool. Surv. India: 210.

Material examined: 14414/H5, Chhattisgarh, Raigarh, Gomerda WS; Madosilly Water Fall, 22.ii.2012, 2 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Raigarh and Raipur.

#### Genus *Xenocatantops* Dirsh, 1953

##### 8. *Xenocatantops humilis* (Serville, 1838)

1838. *Acridium humile* Serville Ins, Orth.: 662.

1953. *Xenocatantops humilis humilis*, Dirsh and Uvarov, Tijdschr. Ent., 96: 237.

2000. *Xenocatantops humilis humilis*, Shishodia, Rec. zool. Surv. India, 98(1): 62.

Material examined: 14404/H5, Chhattisgarh, Raigarh, Gomerda WS; Katal Dam, 17.ii.2012, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Raigarh and Raipur.

#### Genus *Pachyacris* Uvarov, 1923

##### 9. *Pachyacris vinosa* (Walker, 1870)

1870. *Acridium vinosum* Walker, Cat. Derm. Salt. Brit. Mus., 4: 587.

2010. *Pachyacris vinosa*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 33.

Material examined: 14505/H5, Chhattisgarh, Raigarh, Gomerda WS; Madosilly Water Fall, 22.ii.2012, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Koriya, Raigarh and Raipur.

#### Subfamily Coptacridinae

#### Genus *Eucoptacra* Bolivar, 1902

##### 10. *Eucoptacra praemorsa* (Stål, 1860)

1860. *Acridium (Catantops) praemorsum* Stål, Kongl.

Svensk. Fregat Eugen. Res., Omkring Jorden, 3: 330.

2010. *Eucoptacra praemorsa*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 48.

Material examined: 14436/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 28.v.2014, 1 (female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Koriya, Raigarh and Raipur.

#### Subfamily Eyprepocnemidinae

#### Genus *Eyprepocnemis* Fieber, 1853

##### 11. *Eyprepocnemis alacris alacris* (Serville, 1839)

1839. *Acridium alacre* Serville, Ins. Orth.,: 682.

2010. *Eyprepocnemis alacris alacris*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 56.

Material examined: 14426/H5, Chhattisgarh, Raigarh, Gomerda WS; Madosilly Water Fall, 22.ii.2012, 1(female, NC); 14427/H5, Tamtora Forest Rest House, 28.v.2014, 1(female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Koriya, Raigarh and Raipur.

##### 12. *Eyprepocnemis roseus* Uvarov, 1942

1942. *Eyprepocnemis roseus* Uvarov, Ann. Mag. nat. Hist., 9 (11): 597.

1999. *Eyprepocnemis roseus*, Shishodia, Rec. zool. Surv. India, 97(4): 40-42.

Material examined: 14476/H5, Chhattisgarh, Raigarh, Gomerda WS; Naresh Nagar, 20.ii.2012, 1 (female, DC), coll. S.K. Gupta & party

Distribution in Chhattisgarh: Bilaspur and Raigarh.

#### Genus *Tylootropidius* Stål, 1873

##### 13. *Tylootropidius varicornis* (Walker, 1870)

1870. *Heteracris varicornis* Walker, Cat. Derm. Salt. Brit. Mus., 4: 667.

2000. *Tylootropidius varicornis*, Shishodia, Rec. zool. Surv. India, 98(1): 60.

Material examined: 14411/H5, Chhattisgarh, Raigarh, Gomerda WS; Saler village, 15.ii.2012, 1 (male, DC); 14412/H5, Kanakbira, 19.ii.2012, 1 (male, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Koriya, Raigarh and Raipur.

#### Subfamily Gomphocerinae

#### Genus *Leva* Bolivar, 1909

##### 14. *Leva indica* (Bolivar, 1902)

1902. *Gymnobothrus indicus* Bolivar, Anns. Soc. Ent. Fr., 70: 596.

1996. *Leva indica* Jago, Jour. Orth. Res. 5: 94.

Material examined: 14497/H5, Chhattisgarh, Raigarh, Gomerda WS; Naresh Nagar, 20.ii.2012, 1 (female, DC), coll. S.K. Gupta & Party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Koriya and Raipur.

#### Subfamily Hemiacridinae

##### Genus *Clonacris* Uvarov, 1943

###### 15. *Clonacris kirbyi* (Finot, 1903)

1903. *Euthymia kirbyi* Finot, Anns. Soc. ent. Fr., 71: 622-629.

1976. *Clonacris kirbyi*, Tandon, Rec. zool. Surv. India, Occ. Pap. No. 3: 3.

Material examined: 13984-85/H5, Chhattisgarh, Raigarh, Gomerda WS; Lohari Pond, 28.v.2014, 2 (male, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Koriya and Raipur.

#### Subfamily OEDIPODINAE

##### Genus *Acrotylus* Fieber, 1853

###### 16. *Acrotylus humbertianus* Saussure, 1884

1884. *Acrotylus humbertianus* Saussure, Mem. Soc. Phys. Hist. nat. Geneva, 28(9): 189.

2000. *Acrotylus humbertianus*, Shishodia, Rec. zool. Surv. India, 98(1): 49.

Material examined: 14447/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 23.v.2014, 1 (male, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bilaspur and Raigarh.

##### Genus *Aiolopus* Fieber, 1853

###### 17. *Aiolopus thalassinus tamulus* (Fabricius, 1798)

1798. *Gryllus tamulus* Fabricius, Entomologia systematica Suppl.: 195.

2010. *Aiolopus thalassinus tamulus*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 88.

Material examined: 14445/H5, Chhattisgarh, Raigarh, Gomerda WS; Madosilly Water Fall, 22.ii.2012, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

##### Genus *Ceracris* Walker, 1870

###### 18. *Ceracris nigricornis nigricornis* Walker, 1870

1870. *Ceracris nigricornis* Walker, Cat. Derm. Salt. Brit. Mus., 4: 791.

1914. *Ceracris nigricornis*: Kirby, Fauna Brit. India, Orth.: 110.

Material examined: 14499/H5, Chhattisgarh, Raigarh, Gomerda WS; Lohari Pond, 28.v.2014, 1 (female, DC),

coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Koriya and Raipur.

##### Genus *Ditopternis* Saussure, 1884

###### 19. *Ditopternis venusta* (Walker, 1870)

1870. *Oedipoda venusta* Walker, Cat. Derm. Salt. Brit. Mus., 4: 740.

2000. *Ditopternis venusta*, Shishodia, Rec. Zool. Surv. India, 98(1): 50.

Material examined: 14446/H5, Chhattisgarh, Raigarh, Gomerda WS; Adharpani Bhaithak, 24.v.2014, 1 (male, DC), coll. S.K. Gupta & Party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Koriya and Raipur.

##### Genus *Gastrimargus* Saussure, 1884

###### 20. *Gastrimargus africanus africanus* (Saussure, 1888)

1888. *Oedaleus (Gastrimargus) marmoratus* var. *africana* Saussure, Mem. Soc. Phys. Hist. nat. Geneve, 30 (1): 39.

2006. *Gastrimargus africanus africanus*, Shishodia, Bionotes, 8(1): 11.

2010. *Gastrimargus africanus africanus*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 90.

Material examined: 13992/H5, 14138/H5, Chhattisgarh, Raigarh, Gomerda WS; Adharpani baithak, 24.v.2014, 2 (male, DC); 13988/H5, 13990/H5, Tamtora Forest Rest House, 26.v.2014, 2 (male, female, NC); 13989/H5-13995/H5, Lohari Pond, 28.v.2014, 2 (male, female, DC), 14118/H5, 28.v.2014, 1 (female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

##### Genus *Morphacris* Walker, 1870

###### 21. *Morphacris fasciata* (Thunberg, 1815)

1815. *Gryllus fasciatus* Thunberg, Mem. Acad. Sci. St. Petersb., 5: 230.

2009. *Morphacris fasciata*, Hemp, Jour. Orth. Res., 18(2): 208.

2000. *Morphacris fasciata sulcata*, Shishodia, Rec. zool. Surv. India, 98(1): 50.

Material examined: 14435/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 23.v.2014, 1 (female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur and Raigarh.

**Genus *Oedaleus* Fieber, 1853****22. *Oedaleus abruptus* (Thunberg, 1815)**

1815. *Gryllus abruptus* Thunberg, Mem. Acad. Sci. St. Petersburg. 5: 233.

1990. *Oedaleus abruptus*, Shishodia & Mandal, Rec. zool. Surv. India 87(1): 70.

2010. *Oedaleus abruptus*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 93.

Material examined: 13996/H5, 14449/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 23.v.2014, 2 (male, female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

**Genus *Pternoscirta* Saussure, 1884****23. *Pternoscirta cinctifemur* (Walker, 1859)**

1859. *Acridium cinctifemur* Walker, Ann. Mag. nat. Hist., 4(3): 223.

2004. *Pternoscirta cinctifemur*, Shishodia & Tandon, State Fauna Series, 10: Fauna of Manipur, Zool. Surv. India, : 121.

Material examined: 14435/H5, Chhattisgarh, Raigarh, Gomerda WS; Katal dam, 17.ii.2012, 1(female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Raigarh.

**Genus *Trilophidia* Stål, 1873****24. *Trilophidia annulata* (Thunberg, 1815)**

1815. *Gryllus annulatus* Thunberg, Mem. Acad. Sci. St. Petersburg. 5: 234.

1990. *Trilophidia annulata*, Shishodia & Mandal, Rec. zool. Surv. India, 87 (1): 70.

Material examined: 14186/H5, Chhattisgarh, Raigarh, Gomerda WS; Madosilly Water Fall, 22.ii.2012, 1(female, DC); 14167/H5, Tamtora Forest Rest House, 23.v.2014, 1(male, DC); 14469/H5, 28.v.2014, 1(female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

**Subfamily Oxyinae****Genus *Oxya* Serville, 1831****25. *Oxya hyla* Serville, 1831**

1831. *Oxya hyla* Serville, Ann. Sci. nat. (Zool.), Paris, 22: 287.

2010. *Oxya hyla hyla*, Shishodia et al. Rec. zool. Surv. India, Occ. Paper No. 314: 109.

Material examined: 14004-06/H5, Chhattisgarh, Raigarh, Gomerda WS; Lohari Pond, 28.v.2014, 3(male, DC); 14364-71/H5, Kulhadighat, 28.vi.2014, 8 (5males,

3females), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

**Subfamily Spathosterninae****Genus *Spathosternum* Krauss, 1877****26. *Spathosternum prasiniferum prasiniferum* (Walker, 1871)**

1871. *Heteracris prasiniferum* Walker, Cat. Derm. Salt. Brit. Mus., 5: 65.

2010. *Spathosternum prasiniferum prasiniferum*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No., 314: 114.

Material examined: 14083/H5, Chhattisgarh, Raigarh, Gomerda WS; Madosilly Water Fall, 22.ii.2012, 1 (female, DC); 14082/H5, Adharpani Baithak, 23.v.2014, 1(male, DC); 14070/H5, 14080-81/H5, Tamtora Forest Rest House, 23.v.2014, 3 (1 male, 2 females, NC); 14013-14/H5, 26.v.2014, 2 (female, DC); 14012/H5, Lohari Pond, 28.v.2014, 2(male, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

**Superfamily Pyrgomorphoidea****Family Pyrgomorphidae****Subfamily Pyrgomorphinae****Genus *Atractomorpha* Saussure, 1862****27. *Atractomorpha crenulata crenulata* (Fabricius, 1793)**

1793. *Truxalis crenulatus* Fabricius, Ent. Syst. II: 28.

1914. *Atractomorpha crenulata*, Kirby, Fauna Brit. India, Orth.,: 181.

2010. *Atractomorpha crenulata*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No., 314: 129.

Material examined: 14420/H5, Chhattisgarh, Raigarh, Gomerda WS; Saler village, 15.ii.2012, 1 (female, DC); 14419/H5, Kanakbira, 19.ii.2012, 1 (female, DC); 14422/H5, Adharpani Bhaithak, 24.v.2014, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raipur and Raigarh.

**Genus *Chrotogonus* Serville, 1838****Subgenus *Chrotogonus* Serville, 1838****28. *Chrotogonus (Chrotogonus) trachypterus trachypterus* (Blanchard, 1836)**

1836. *Ommexecha trachypterus* Blanchard, Ann. Soc. ent. France, 5: 618.

2010. *Chrotogonus (Chrotogonus) trachypterus trachypterus*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 134.



Material examined: 14440-43/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 23.v.2014, 4 (2 males, 2 females, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

### Superfamily Tetrigoidea

#### Family Tetrigidae

##### Subfamily Scelimeninae

#### Genus *Euscelimena* Günther, 1938

##### 29. *Euscelimena harpago* (Serville, 1839)

1839. *Tetrix harpago* Serville, Orthopteres, : 763.

2010. *Euscelimena harpago*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 162.

Material examined: 14415-18/H5, Chhattisgarh, Raigarh, Gomerda WS; Kanakbira, 19.ii.2012, 4 (3 males, 1 female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

##### Subfamily Tetrigininae

#### Genus *Ergatettix* Kirby, 1914

##### 30. *Ergatettix dorsiferus* (Walker, 1871)

1871. *Tettix dorsifera* Walker, Cat. Derm. Salt. Brit. Mus., 5: 825.

2010. *Ergatettix dorsiferus*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 165.

Material examined: 14488/H5, Chhattisgarh, Raigarh, Gomerda WS; Kulhadighat, 28.vi.2014, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

#### Genus *Hedotettix* Bolivar, 1887

##### 31. *Hedotettix gracilis* (Haan, 1843)

1842. *Acridium gracile* Haan, Gesch. Ned. Overszee. Bezitt, 2: 169.

2010. *Hedotettix gracilis*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 169.

Material examined: 14486-87/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 28.v.2014, 2 (female, NC); 14477-80/H5, Kulhadighat, 28.vi.2014, 4 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Koriya, Raigarh and Raipur.

### Superfamily Tridactyloidea

#### Family Tridactylidae

##### Subfamily Tridactylinae

#### Genus *Tridactylus* Olivier, 1789

##### 32. *Tridactylus thoracicus* Guérin-Meneville, 1844

1844. *Tridactylus thoracicus* Guérin, Iconogr. R. Anim., Ins., : 336.

2010. *Hedotettix gracilis*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 184.

Material examined: 14037/H5, Chhattisgarh, Raigarh, Gomerda WS; Lohari Pond, 28.v.2014, 1 (male, DC) coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bilaspur, Raigarh and Raipur.

#### Suborder Ensifera

### Superfamily Grylloidea

#### Family Gryllidae

##### Subfamily Gryllinae

#### Genus *Gryllodes* Saussure, 1874

##### 33. *Gryllodes sigillatus* (Walker, 1869)

1869. *Gryllus sigillatus* Walker, Cat. Derm. Salt. Brit. Mus., : 46.

2000. *Gryllodes sigillatus*, Shishodia, Rec. zool. Surv. India. 98 (1): 67.

Material examined: 14463/H5, Chhattisgarh, Raigarh, Gomerda WS; Katal dam, 17.ii.2012, 1 (female, DC); 14462/H5, Tamtora barrier, 22.ii.2012, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Koriya, Raigarh and Raipur.

#### Genus *Itaropsis* Chopard, 1925

##### 34. *Itaropsis tenella* (Walker, 1869)

1869. *Gryllus tenellus* Walker, Cat. Derm. Salt. Brit. Mus., : 37.

1871. *Gryllus parviceps* Walker, Cat. Derm. Salt. Brit. Mus., : 8.

1998. *Itaropsis tenellus*, Schmidt, J. Ent. Res. Soc., 1(1): 43.

Material examined: 14444/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 28.vi.2014, 1 (male, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Raigarh.

#### Genus *Modicogryllus* Chopard, 1961

##### Subgenus *Modicogryllus* Chopard, 1961

##### 35. *Modicogryllus (Modicogryllus) confirmatus* (Walker, 1859)

1859. *Acheta confirmata* Walker, Ann. Mag. nat. Hist., 4(3): 221.

2010. *Modicogryllus (Modicogryllus) confirmatus*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 220.

Material examined: 14489-90/H5, Chhattisgarh,

Raigarh, Gomerda WS; Tamtora Forest Rest House, 28.vi.2014, 2 (1 male, 1 female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

**Genus *Phonarellus* Gorochoy, 1983**

**Subgenus *Phonarellus* Gorochoy, 1983**

**36. *Phonarellus (Phonarellus) erythrocephalus erythrocephalus* (Serville, 1839)**

1839. *Gryllus erythrocephalus* Serville, *Orthopteres*,: 339.

1993. *Phonarellus erythrocephalus*, Shishodia & Tandon, State Fauna Series, 3: Fauna of West Bengal, Part 4, Zool. Surv. India,: 233.

Material examined: 14501-02/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 02.ii.2012, 2 (male, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Raigarh.

Remark: New record from Chhattisgarh State.

**Genus *Teleogryllus* Chopard, 1961**

**Subgenus *Macroteleogryllus* Gorochoy, 1988**

**37. *Teleogryllus (Macroteleogryllus) mitratus* (Burmeister, 1838)**

1838. *Gryllus mitratus* Burmeister, Handb. Ent., 2: 34.

2002. *Teleogryllus mitratus*, Ingrisch, Entomologica Basiliensia, 24: 140.

Material examined: 14491/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 28.vi.2014, 1 (female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Raigarh.

Remark: New record from Chhattisgarh State.

**Subfamily Nemobiinae**

**Genus *Dianemobius* Vickery, 1973**

**38. *Dianemobius fascipes* (Walker, 1869)**

1869. *Eneoptera fascipes* Walker, Cat. Derm. Salt. Brit. Mus.,: 67.

2010. *Dianemobius fascipes*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 240.

Material examined: 14473-74/H5, Chhattisgarh, Raigarh, Gomerda WS; Madosilly Water Fall, 22.xi.2012, 2 (1 male, 1 female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Jashpur and Raigarh.

**Family Trigonidiidae**

**Genus *Homoeoxipha* Saussure, 1874**

**39. *Homoeoxipha lycoides* (Walker, 1869)**

1869. *Phyllopalpus lycoides* Walker, Cat. Derm. Salt.

Brit. Mus.,: 71.

2007. *Homoeoxipha lycoides*, Chandra et al., Zoos' Print Journal, 22 (5): 2685.

Material examined: 14450-51/H5, Chhattisgarh, Raigarh, Gomerda WS; Kulhadighat, 28.vi.2014, 2 (males, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar and Raigarh.

**Genus *Trigonidium* Rambur, 1838**

**Subgenus *Trigonidium* Rambur, 1838**

**40. *Trigonidium (Trigonidium) cicindeloides* Rambur, 1838**

1839. *Trigonidium cicindeloides* Rambur, Faune Andal, 2: 39.

2010. *Trigonidium (Trigonidium) cicindeloides*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 258.

Material examined: 14472/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 28.v.2014, 1 (female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Koriya and Raigarh.

**Superfamily Tettigoniodea**

**Family Tettigoniidae**

**Subfamily Conocephalinae**

**Genus *Conocephalus* Thunberg, 1815**

**Subgenus *Anisoptera* Latreille, 1829**

**41. *Conocephalus (Anisoptera) maculatus* (Le Guillou, 1841)**

1841. *Xiphidion maculatum* Le Guillou, Revue Zool., 4: 294.

2010. *Conocephalus (Anisoptera) maculatus*, Shishodia et al., Rec. zool. Surv. India, Occ. Paper No. 314: 284.

Material examined: 14159/H5, Chhattisgarh, Raigarh, Gomerda WS; Saler Village, 15.ii.2012, 2 (females, DC); 14425/H5, Kankabira, 19.ii.2012, 1 (male, DC); 14424/H5, Adharpani Bhaithak, 04.v.2014, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

**Subfamily Phaneropterinae**

**Genus *Himertula* Uvarov, 1940**

**42. *Himertula kinneari* (Uvarov, 1923)**

1923. *Himerta kinneari* Uvarov, J. Bombay nat. Hist. Soc., 29 (3): 661.

2007. *Himertula kinneari*, Chandra et al., Zoos' Print Journal, 22 (5): 2684.

Material examined: 14423/H5, Chhattisgarh, Raigarh,

Gomerda WS; Kanakbira, 19.ii.2012, 1(female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bastar, Raipur and Raigarh.

#### Genus *Khaoyaiana* Ingrisch, 1990

##### 43. *Khaoyaiana nitens* Ingrisch, 1990

1990. *Khaoyaiana nitens* Ingrisch, Senckenbergiana biologica, 70: 107.

2000. *Khaoyaiana nitens*, Ingrisch & Shishodia, Mitt. Münch. Ent. Ges., 90: 20.

Material examined: 14456-57/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 28.v.2014, 2 (males, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Raipur and Raigarh.

#### Genus *Letana* Walker, 1869

##### 44. *Letana intermedia* Ingrisch, 1990

1990. *Letana intermedia* Ingrisch, Entomologica Scandinavica, 21(3): 260.

2005. *Letana intermedia*, Kulkarni & Shishodia, Conservation Area Series, 24: Fauna of Melghat Tiger Reserve, Zool. Surv. India, : 321.

Material examined: 14470-71/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 23.v.2014, 1 (female, NC), 28.v.2014, 1 (female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bilaspur, Jashpur, Kabirdham, Koriya, Raigarh and Raipur.

#### Genus *Phaneroptera* Serville, 1831

##### 45. *Phaneroptera gracilis* Burmeister, 1838

1838. *Phaneroptera gracilis* Burmeister, Handb. Ent., 2: 690.

2003. *Phaneroptera gracilis*, Ingrisch & Muralirangan, Bonn. Zoolog. Beitr. 51(4): 310.

Material examined: 14455/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora Forest Rest House, 23.v.2014, 1 (female, NC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Bilaspur, Koriya and Raigarh.

#### Subfamily Hexacentrinae

#### Genus *Hexacentrus* Serville, 1831

##### 46. *Hexacentrus unicolor* Serville, 1831

1831. *Hexacentrus unicolor* Serville, Ann. Sci. nat. (Zool.), Paris, 22: 146.

2000. *Hexacentrus unicolor* Shishodia, Rec. zool. Surv. India. 98 (1): 13.

Material examined: 14438/H5, Chhattisgarh, Raigarh, Gomerda WS; Tamtora RH, 28.v.2014, 1 (male, NC), coll.

S.K. Gupta & party.

Distribution in Chhattisgarh: Raigarh and Raipur.

#### Subfamily Mecopodinae

#### Genus *Mecopoda* Serville, 1831

##### 47. *Mecopoda elongata elongata* (Linnaeus, 1758)

1758. *Gryllus / Tettigonia elongata* Linnaeus, Systema Naturae per Regna Tria naturae, (10<sup>th</sup> ed.): 429.

1993. *Mecopoda elongata*, Barman, State Fauna Series 3: Fauna of West Bengal, Zool. Surv. India, (4): 363.

Material examined: 14506/H5, Chhattisgarh, Raigarh, Gomerda WS; Madosilly Water Fall, 22.ii.2012, 1 (female, DC), coll. S.K. Gupta & party.

Distribution in Chhattisgarh: Raigarh and Raipur.

#### DISCUSSION

Orthopteran insects have not been reported by any workers from Gomerda Wildlife Sanctuary, except single species *Hedotettix punctatus* Hancock, 1909 of Tetrigidae, Orthoptera by Skejo & Gupta (2015). Agrawal & Sinha (1987) described *Homoeogryllus indicus* sp. nov. Phalangopsidae: Orthoptera from Kacchuwa Pahar Cave Amadol (Botalda): Kharsia, District Raigarh.

The present work is an attempt to provide a comprehensive account of Orthopteran fauna of Gomerda Wildlife Sanctuary, Raigarh, Chhattisgarh. A total of 47 species and subspecies under 44 genera belonging seven families of Order Orthoptera have been reported from Gomerda Wildlife Sanctuary, Raigarh, Chhattisgarh, of which two species are new additions to the Chhattisgarh State.

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