



New Records of Darkling Beetles (Tenebrionidae: Coleoptera) from Chhattisgarh, India

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ABSTRACT: The paper is based on the faunal exploration carried out mainly in 07 districts of Chhattisgarh state viz; Raipur, Raigarh, Surguja, Koriya, Bastar, Bilaspur and Durg. The paper contains 12 new records to the state of Chhattisgarh and the recorded 12 species belonging to 09 genera of 05 tribes under 03 subfamilies of the family Tenebrionidae. All the species are registered and deposited in National Zoological Collection of Zoological Survey of India, Kolkata and registration numbers are also given for each species.

Keywords: Darkling Beetles, Tenebrionidae: Coleoptera, Chhattisgarh

INTRODUCTION

Chhattisgarh state located in the central part of India is rich in forest covered area and faunal diversity. This state is surrounded by Madhya Pradesh, Maharashtra, Odisha, Jharkhand and Andhra Pradesh and has varied geographical regimes such as riverine ecosystem, plain land ecosystem, ranges of hills and plateau region. Except Hegde *et al* (2014), there is no report on the Tenebrionidae fauna of this state. While studying the Tenebrionidae of this state recently collected by various survey parties of Zoological survey of India the identification yielded 12 new records of darkling beetles to this state.

METHODOLOGY

Present paper is based on the faunal exploration carried out mainly in 07 districts of Chhattisgarh state viz; Raipur, Raigarh, Surguja, Koriya, Bastar, Bilaspur and Durg. The collections were done mainly in the forests, by hand picking and dusting and light traps were also used during night. The materials collected are sorted out, set, pinned, identified and classified as per Bouchard *et al* (2005). Since, most of the specimens are collected during night, habitats were not mentioned in the material examined column. The synonyms and distribution of *Gonocephalum* species were taken from Iwan *et al* (2010). Distribution of some species was corrected as per present scenario. The identification is mainly based on the differences in the morphological characters and the structure of the male genitalia. The images were taken with the help of Leica M 205A stereo-zoom microscope and were presented in this paper (Plate I and II). All the identified collections are registered and deposited in National Zoological Collection of Zoological Survey of India, Kolkata and registration numbers are also given for each species.

RESULTS

This Paper deals with 1-12 new records to the state of Chhattisgarh and the recorded 12 species belonging to 09 genera of 05 tribes under 03 subfamilies collected mainly from 07 districts of Chhattisgarh state. Further extensive study covering all the districts may also reveal more number of species, thereby proving richness of diversity of darkling beetles in Chhattisgarh state.

Subfamily Lagriinae Latreille, 1825 (1820)

Tribe: Lupronini Ardoin, 1958

1. *Luprops gracillior* Fairmaire, 1896

Subfamily: Tenebrioninae Latreille, 1802

Tribe: Pedinini Eschscholtz, 1829

2. *Platynotus punctatipennis* Mulsant and Rey, 1853
- Tribe: Opatrini Brulle, 1832
3. *Gonocephalum catenulatum* (Fairmaire, 1896)
4. *Gonocephalum tuberculatum* (Hope, 1831)
5. *Heterotarsus crenatus* Fairmaire, 1894
6. *Heterotarsus foveoseriatus* Fairmaire, 1894
7. *Mesomorphus villiger* Blanch, 1853
8. *Scleron bengalensis* Kaszab, 1942
9. *Scleron latipes* Guerin, 1834

Tribe : Ulomini Blanchard, 1845

10. *Anacycus navicularis* Fairmaire, 1894

Subfamily: Stenochiinae Kirby, 1837

Tribe : Cnodalonini Oken, 1843

11. *Derosphaerus cribrum* Fairmaire, 1896
12. *Promethis impressa* (Fabricius, 1801)

Species details:

Luprops gracillior Fairmaire, 1896 (Plate I)

Lyrops gracillior Fairmaire, 1896: 28.

Material examined: Raipur, Barnawapara WLS, Mudpur Nalla, 05.VII.2011, Sunil Kumar and party, 01 ex., Reg. No. 20597/H4A and Sitamata temple, 13.II.2012, S. Gupta and party, 01 ex., Reg. No.20600/H4A; Surguja, Shankar Ghat, 12.IX.2012, A. Raha and party, 01 ex., Reg. No.20598/H4A; Koriya, Lemru water fall, Devpahari, 12.IX.2012, 1 ex., Reg. No.20599/H4A; Jagdalpur (Bastar), CGFD, Umargaon vill., 28.I.2012, R P Gupta and party, 01 ex., Reg. No.20601/H4A.

Distribution: INDIA: Assam (Kaziranga), Karnataka (Bangalore, Shimoga), Kerala (Vazhachal, Kottiyoor), Madhya Pradesh (Amarwara, Jabalpur), Maharashtra (Pune), West Bengal (Calcutta, Darjeeling-Sukna), Chhattisgarh - Raipur, Barnawapara WLS, Sitamata temple, Surguja, Shankar Ghat, Koriya, Lemru water fall, Devpahari, Jagdalpur (Bastar) CGFD, Umargaon vill.

Elsewhere: Bhutan and Pakistan.

***Platynotus punctatipennis* Mulsant and Rey, 1853** (Plate I)

Platynotus punctatipennis Mulsant and Rey, 1853a: 270. – Gemminger and de Harold 1870: 1912; Gebien 1910b: 273, 1938b: 293; Kaszab 1975b: 295; Iwan 1997a: 268, 2002: 91.

Material examined: Jagdalpur (Bastar), Degru colony 12.IX.2011, R.P. Gupta and party, 01 ex. Reg. No.20546/H4A.

Distribution: INDIA: Rutlam, Silhet, Kadegaon, Ahmednagar, Eldeka, Jabalpur, Bombay-Molwar, Chhattisgarh – Jagdalpur (Bastar), Degru colony.

Elsewhere: Myanmar.

***Gonocephalum catenulatum* (Fairmaire, 1896)** (Plate I)

Hopatrum catenulatum Fairmaire, 1896: 19.

Gonocephalum catenulatum (Fairmaire, 1896). – Gebien 1910b: 322, 1939: 447; Kaszab 1952a: 463; Iwan and Löbl 2008: 263.

Material examined: Koriya, GGNP, Gudhara, 12. VII. 2012 A. Paraida and party, 01 ex., Reg. No.20662/H4A.

Distribution: INDIA: Karnataka (Kanara), Maharashtra (Bombay), Sikkim, West Bengal (Darjeeling) Himalaya, Chhattisgarh – Koriya, GGNP, Gudhara.

***Gonocephalum tuberculatum* (Hope, 1831)** (Plate I)

Opatrum tuberculatum Hope, 1831: 31.

Gonocephalum tuberculatum (Hope, 1831). – Chatanay 1917: 243; Miwa 1931: 151; Gridelli 1934: 67; Reichardt 1936: 108; Gebien 1939: 446; Kaszab 1941a: 51, 1952a: 464, 1960a: 139, 1961d: 236, 1968b : 19, 1970a: 423, 1970c: 145, 1973b: 55, 1974a: 193, 1980b: 171; Gridelli 1954: 283; Nakane 1966: 243; Schawaller 1997a: 13; Hua Li 2002: 139; Iwan and Löbl 2008: 266.

Hopatrum elongatum Guérin-Méneville, 1834. – Fairmaire 1894: 17; Gemminger, 1870: 1931.

Opatrum elongatum Guérin-Méneville, 1834: 32.

Gonocephalum elongatum (Guérin-Méneville, 1834) – Gebien 1910b: 323, 1913: 4; Schuster 1928: 989; Reichardt 1936: 108; Kaszab 1952a: 672.

Gonocephalum quadrinodosum Reitter, 1904: 146. – Gebien 1910b: 325, 1939: 446; Schuster 1928: 989 (= *Opatrum elongatum* Guérin-Méneville, 1834); Reichardt 1936: 108 (= *Opatrum elongatum* Guérin-Méneville, 1834); Kaszab 1952a: 672.

Material examined: Surguja, Shankar Ghat, 12.IX.2012A. Raha and party, 03 exs., Reg. No. 20614/H4A.

Distribution: INDIA: Kashmir; Himachal Pradesh, Sikkim, Uttarakhand, Uttar Pradesh, West Bengal (Darjeeling, Purulia), Chhattisgarh – Surguja, Shankar Ghat.

Elsewhere: Nepal; Pakistan; Taiwan (Formosa), Bangladesh, Myanmar, Philippines, Vietnam Afghanistan; China, Hainan, Hongkong, Hubei (Hupeh), Sichuan (Szechwan), Yunnan.

***Heterotarsus crenatus* Fairmaire, 1894** (Plate I)

Heterotarsus crenatus Fairmaire, 1894 *Ann. Soc. Ent. Belg.* XXXVIII, p.23.

Material examined: Raipur, Barnawapara WLS, Basatiya Domar, 13.VI.2012, S. Gupta and party, 03 exs. Reg. No.20656/H4A., Pachhivihar, 20.IV.2012, S. Gupta and party, 04 exs. Reg. No. 20657/H4A; Mohda vill. S. Gupta and party, 21.VI. 2012, 73exs., Reg. No. 20658/H4A; Hardi vill. 14.IV 2012, S. Gupta and party, 2 exs. Reg. No. 20659/H4A; Sagdalpur, Tekamata, R. P. Gupta and party, 23.VI.2012, 1ex., Reg. No. 20660/H4A; Raigarh, Gomerda, Patika Jalasaya, S. Gupta and party, 1 ex. Reg. No. 20661/H4A.

Distribution: INDIA: Jharkhand (Chota Nagpur), Uttar Pradesh (Bahraich, Lucknow), West Bengal (Konbir), Chhattisgarh -Raipur, Barnawapara WLS, Pachhivihar, Mohda Vill. Hardi vill. Jagadalpur- Tekamata, Raigarh, Gomerda- Patika Jalasaya.

***Heterotarsus foveoseriatus* Fairmaire, 1894** (Plate I)

Material examined: Rajgarh, Gomed, Naresh Sagar, 20.IV.2012, S. Gupta and party, 01 ex. Reg. No. 20582/H4A.; Bilaspur, Bakar, Chaparawa, 11.V.2012, A. Raha and party, 01 ex. Reg. No. 20543/H4A.

Distribution: INDIA: West Bengal (Barway), Chhattisgarh- Rajgarh, Gomed- Naresh Sagar, Bilaspur, Bakar-Chaparawa.

***Mesomorphus villiger* Blanch, 1853** (Plate II)

Mesomorphus villiger Blanch, 1853, *Voy. Pole Sud.* 4: 154, t.10, f.15. *Mesomorphus villiger* Fairmaire, 1894, *Ann. Soc. Ent. Belg.* XXXVIII : 20

*Luprops gracillior**Platynotus punctatipennis**Gonocephalum catenulatum**Gonocephalum tuberculatum**Heterotarsus crenatus**Heterotarsus foveoseriatus***Plate I**

Material Examined: Raipur, Barnawapara WLS, 06.II.2012, S. Gupta and party, 01 ex. Reg. No. 20666/H4A.

Distribution: INDIA: Karnataka (Dharwar, N. Kanara), West Bengal (Calcutta, Hooghly-Singur), Uttar Pradesh (Lakhimpur Kheri, Saharanpur, Shahjahanpur, Meerut, Rampur, Allahabad, Etawah, Etah, Moradabad, Ghaziabad, Bijnor, Ballia, Varanasi, Gorakhpur, Mirzapur, Sitapur, Hardoi, Auraiya, Mau, Gazipur, Basti), Jammu & Kashmir (Shinghai Gah).

Elsewhere: Myanmar (Rangoon) Afghanistan, China and Korea.

***Scleron bengalensis* Kaszab, 1942** (Plate II)

Material examined: Bilaspur, Karidongri R.H., 19.IX.2012, A. Raha and party, 01 ex. Reg. No. 20545/H4A.

Distribution: INDIA: Uttar Pradesh (Bareilly, Sultanpur), Chhattisgarh – Bilaspur, Karidongri R.H.



Mesomorphus villiger



Scleron bengalensis



Scleron latipes



Anacycus navicularis



Derosphaerus cribrum



Promethis impressa

Plate II

Scleron latipes Guerin, 1834 (Plate II)
Scleron latipes Guerin, 1834, *Mag. Zool. Melasomes*
p.33. t.118, f.3

Material examined: Rajgarh, Gomeda, Dev Talab,
23.II.2012, S. Gupta and party, 01 ex. Reg. No.

20664/H4A.; Patuka Jalsaya, 16.II.2012, S. Gupta
and party, 01 ex. Reg. No. 20665/H4A.

Distribution: INDIA: Bengalen, Rajasthan (Pilani),
Chhattisgarh – Rajgarh, Gomeda, -Dey Talab, Patuka
Jalsaya.

Anacycus navicularis Fairmaire, 1894 (Plate II)

Anacycus navicularis Fairmaire, 1894, *Ann. Soc. Ent. Belg.* 38: 26.

Material examined: Koriya, GGNP, Sonahat F.R.H., 29.VI.2012 A. Paraida and party, 01 ex., Reg. No. 20654/H4A; Raipur, Barnawapara WLS, 26.VI.2012, S. Gupta and party, 02 exs. Reg. No. 20641/H4A; 01 ex. Reg. No. 20655/H4A, 25.VI.2012, S. Gupta and party.

Distribution: INDIA: West Bengal (Calcutta), Chhattisgarh-Raipur, Barnawapara WLS, Koriya, GGNP, Sonahat F.R. H.

Derosphaerus cribrum Fairmaire, 1896 (Plate II)

Derosphaerus cribrum Fairmaire, 1896, *Notes Leyd. Mus.* XVIII, p. 231.

Material examined: Durg, Tendua Dam, 25.XII.2012, S. Gupta and party, 01 ex. Reg. No. 20579/H4A; Raipur, Barnawapara WLS, 24.IX.2011, Sunil and party, 02 exs. Reg. No. 20580/H4A.

Distribution: INDIA: Uttarakhand (Raipur, Dehradun) and West Bengal (Calcutta, Siripur-Saran), Chhattisgarh - Raipur, Barnawapara WLS, Durg, Tendua Dam.
Elsewhere: Nepal.

Promethis impressa (Fabricius, 1801) (Plate II)

Tenebrio impressus Fabricius, 1801 : *Syst. Eleuth.* 1 : 146.

Tenebrio sulcator Knoch, 1801: *Neue Beytrage zur Insectencunde*, Leipzig 1 : 174.

Tenebrio sulcator Klug, 1833 : *Ins. Madag. Berlin* : 91.

Iphtinus impressus Dejean, 1837: *Catalogue de coleopteres*, Paris, ed. 3: 225.

Iphtinus impressicollis Dejean, 1837: *Catalogue de coleopteres*, Paris, ed. 3: 225.

Seteris impressa Gebien, 1906 : *Dt. Ent. Z.* 1906 (1): 231.

Seteris impressa Gebien, 1927 : *Suppl. Ent.* 15: 36.

Nyctobates sulcithorax Deyrolle in litt.

Nyctobates sulcicollis Chevrolat in litt.

Material examined: Raipur, Barnawapara WLS, 30.I.2012, S. Gupta and party, 05 exs. Reg. No. 20536/H4A.

Distribution: INDIA: Uttar Pradesh (Hegde and Lal 2014), Chhattisgarh- Raipur, Barnawapara WLS.
Elsewhere: Sri Lanka, Thailand, Nepal, Madagascar, Singapore, Karimon, Riouw, Sumatra, Bonka, Nias, Java, Borneo, Banguay, Sulawesi, Philippines.

SUMMARY

Paper contains 12 new records to the state of Chhattisgarh of which 12 species belonging to 08 genera of 05 tribes fewer than 03 subfamilies collected mainly from 07 districts of Chhattisgarh state. Further extensive study covering all the districts may also reveal more number of species, thereby richness of diversity of Tenebrionidae in Chhattisgarh state.

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REFERENCES

- Bouchard, P., Lawrence, J.F., Davies, A.E. & Newton, A.F. (2005). Synoptic classification of the world Tenebrionidae (Insecta: Coleoptera) with a review of family-group names. *Annales Zoologici*, **55**, 499-530.
- Hegde, V.D., B. Lal and K. Chandra (2014). Tenebrionidae (Coleoptera) Fauna of Chhattisgarh, India. *Zoo's Print* **XXIX**(12): 31-34.
- Iwan, D., Ferrer, J., M. Ras (2010). Catalogue of the world *Gonocephalum* Solier, 1834 (Coleoptera: Tenebrionini: Opatrini) Part 1. List of the species and subspecies, *Annales Zoologici* (Warszawa), **60**(2), 245-304.
- Schawaller, W. (1997). The genus *Gonocephalum* Chevrolat (Coleoptera: Tenebrionidae) in the Nepal Himalayas. – *Stuttgarter Beitr. Naturk. (A)* **559**: 1-18.