

# Bugs & ALL

Invertebrate Conservation & Information Network of South Asia (ICINSA)

Newsletter of the  
Invertebrate Conservation & Information Network of South Asia (ICINSA)

## GROUND BEETLES

### From Dudhwa National Park, Uttar Pradesh, India



Dudhwa  
locality map

The Ground Beetles belong to one of the largest family “Carabidae” of the order Coleoptera. It comprises 34,275 species in the world (Lorenz 2005). In India, it is represented by nearly 2000 species (Saha 1992). These beetles are cosmopolitan in distribution. They live under bark, log, stone, at light, vicinity of water and sand bank of water bodies. Most of the Ground beetles are carnivorous and nocturnal. Very few are herbivore and diurnal.

These beetles can be recognised by hind coxae fused to metasternum and not dilated; first abdominal sternite completely divided; antennae filiform, 11 segmented and generally segment 1-4 glabrous, rest pubescent; 5-5-5 tarsal arrangement.

Dudhwa National park (DNP) is the only National Park in the state of Uttar Pradesh and it comprises the parts of Terai region which is rich in flora and fauna. Insect fauna of its neighbouring regions which now come under Uttarakhand state, was always centre of



attraction but Terai region remained secondary as it is evident from literature (Andrewes 1929, 1930, 1935; Biswas 1995). Hence an attempt has been done to throw some light on the Ground Beetles of the DNP by studying the collected materials of earlier and recent surveys. To make the study comprehensive, earlier reports (Andrewes 1929 & 1935) were also taken in to account.

Dudhwa National Park is situated in the Terai region of the Uttar Pradesh in Lakhimpur Kheri districts. Collection were done from all types of habitats of DNP.

The present study is based on the specimens collected by different survey parties of Zoological Survey of India during 1974, 2011 and 2013. Specimens were collected by different method like sweeping, dusting, hand picking and at light, from different localities of Dudhwa National Park. Preserved specimens were sorted out, set-pinned and labelled. Specimens were identified mainly on the basis of external morphological characters (Andrewes 1929, 1935). All the identified species are deposited in Coleoptera Section of Zoological Survey of India. Images are having a 1 mm scale bar at right side.

### **Systematic account of taxa**

Subfamily 1. Lebiinae Bonelli, 1810

Tribe 1. Cyclosomini Laporte, 1834

Genus 1. *Tetragonoderus* Dejean, 1829

1829. *Tetragonoderus* Dejean, *Spec. Gen. des Col.* 4: 485.

#### **1. *Tetragonoderus rhombophorus* Schmidt-Goebel, 1846**

1846. *Tetragonoderus rhombophorus* Schmidt-Goebel, *Faun. Col. Birm.*: 93.

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Salukapur, 02.iii.2013, Coll. V. D. Hegde & Party (Reg. no. 20054/H4A).

Diagnostic characters: Head not narrowed behind, 2 supraorbital seta; labrum normal, basal membrane not exposed; mandible sharp and without seta; apex of maxillae not jointed, with obtuse ciliated lobe at apex, apical joint of the maxillary palpi attached normally to penultimate joint; antennal insertion close to the pre-ocular ridge, joint 1 not scapiform; pronotum with two lateral setae, basal fovea small and flat, widest at middle and sides rounded; elytra truncated, yellow coloured with dark markings, without inner plica; metatibiae

with long spurs, mesepimera not reaching the coxae, venter with 6 visible segments.

Distribution: India (Uttar Pradesh), Bangladesh, Laos and Myanmar (Andrewes, 1930).

Remarks: This species is recorded for the first time from India. The earlier record of nearest locality i.e. Bangladesh (Andrewes, 1930) is older than 85 years and it is close to Eastern part of India; the present record i.e. DNP, lies within Northern India.

#### **2. *Tetragonoderus arcuatus* Dejean, 1829**

1829. *Tetragonoderus arcuatus* Dejean, *Spec. Gen. des Col.* 4: 495.

Material examined: India: Uttar Pradesh, 1 ex., Lakhimpur Kheri, Dudhwa National Park, Sathiyana, 01.iii.2013, Coll. V. D. Hegde & Party (Reg. no. 23654/H4A).

Distribution: India (Assam, Bihar, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Meghalaya, Puducherry, Uttarakhand, Uttar Pradesh and West Bengal), Bangladesh, Egypt, Iraq, Laos, Myanmar and Sudan.

#### **3. *Tetragonoderus taeniatus* (Wiedeman, 1823)**

1823. *Bembidium taeniatus* Wiedeman, *Zool.*



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*Mag.*(2) 1: 62.

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Sathiyana, 27.ii.2011, Coll. V. D. Hegde & Party (Reg. no. 23655/H4A).

Distribution: India (Bihar, Himachal Pradesh, Uttarakhand, Uttar Pradesh and West Bengal) and Myanmar.

Tribe 2. *Lebiini* Bonelli, 1810

Genus 2. *Lachnoderma* Macleay, 1873

1873. *Lachnoderma* Macleay, *Trans. Ent. Soc. N. S. Wales* 2: 321

#### 4. *Lachnoderma biguttatum* Bates, 1892

1892. *Lachnoderma biguttatum* Bates, *Ann. Mus. Civ. Sto. Nat. Gen.*32: 424.

Material examined: INDIA: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Salukapur, 02.iii.2013, Coll. V. D. Hegde & Party (Reg. no. 23656/H4A).

Distribution: India (Assam, Sikkim, Uttarakhand and Uttar Pradesh) and Myanmar.

Subfamily 2. *Trechinae* Bonelli, 1810

Tribe 3. *Bembidiini* Stephens, 1827

Genus 3. *Asaphidion* Des Gozis, 1886

1886. *Asaphidion* Des Gozis, *Reche. espe. typi. de quelq. ancien. genr., recti. syno., notes diver.*: 6.

#### 5. *Asaphidion indicum* (Chaudoir, 1850)

1850. *Tachypus indicum* Chaudoir, *Bull. Soc. Imp. Nat. Mosc.*2: 189 (Note).

Material examined: India: Uttar Pradesh: 1 ex. Lakhimpur Kheri, Dudhwa National Park, Sathiyana, 27.ii.2011, Coll. V. D. Hegde & party, Ex. Under leaf litter (Reg. no. 23648/H4A).

Distribution: India: Bihar, Haryana, Himachal Pradesh, Uttarakhand, Uttar Pradesh and West Bengal.

Remarks: Earlier this species is recorded only from high altitude region except Sitamarhi in West Bengal; for the first time from Uttar Pradesh.

Genus 4. *Tachys* Dejean, 1821

1821. *Tachys* Dejean, *Cat. Col.*: 16.

#### 6. *Tachys opalescens* Andrewes, 1925

1925. *Tachys opalescens* Andrewes, *Ann. Mus.*

*Civ. Gen.* 51: 342 and 352.

Material examined: India: Uttar Pradesh: 1 ex. Lakhimpur Kheri, Dudhwa National Park, Sathiyana, 27.ii.2011, Coll. V. D. Hegde & party, Ex. Under leaf litter (Reg. no. 23649/H4A).

Distribution: India (Uttar Pradesh) and Sri Lanka.

Genus 5. *Elaphropus* Motschulsky, 1839

1839. *Elaphropus* Motschulsky, *Bull. Soc. Imp. Nat. Mosc.* 1: 73.

#### 7. *Elaphropus ceylanicus* (Nietner, 1858)

1858. *Bembidium ceylanicus* Nietner, *Ann. Mag. Nat. Hist.* (3)2: 423.

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Salukapur, 02.iii.2013, Coll. V. D. Hegde & Party (Reg. no. 20053/H4A).

Distribution: India (Karnataka, Uttarakhand and Uttar Pradesh) and Sri Lanka.

#### 8. *Elaphropus latissimus gracilis* Motschulsky, 1862

1862. *Elaphropus gracilis* Motschulsky, *Etud. Ent.*11: 36.

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Sathiyana, 01.iii.2013, Coll. V. D. Hegde & Party (Reg. no.23650/H4A).

Distribution: India (Bihar, Maharashtra, Meghalaya, Nicobar Island, Uttarakhand, Uttar Pradesh and West Bengal), Indonesia, Myanmar and Thailand.

#### 9. *Elaphropus poecilopterus* (Bates, 1873)

1873. *Tachys poecilopterus* Bates, *Trans. Ent. Soc. Lond.*: 331.

Material examined: Not seen.

Distribution: India (Assam, Sikkim, Uttarakhand, Uttar Pradesh and West Bengal), Cambodia, China, Indonesia, Laos, Malaysia, Myanmar, Singapore, Thailand and Vietnam.

Genus 6. *Bembidion* Latreille, 1802

1802. *Bembidion* Latreille, *Hist. Nat. Crust. et. Ins.* 3:82.

#### 10. *Bembidion xanthacrum* Chaudoir, 1850

1850. *Bembidion xanthacrum* Chaudoir, *Bull. De la soc. Imp. Des nat. Mosc.* 2: 175 (note).

Material examined: India: Uttar Pradesh: 1



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ex., Lakhimpur Kheri, Dudhwa National Park, Salukapur, 02.iii.2013, Coll. V. D. Hegde & Party (Reg. no. 20052/H4A).

Distribution: India (Andhra Pradesh, Assam, Bihar, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal), Cambodia, Laos, Myanmar, Pakistan, Thailand and Vietnam.

Subfamily 3. Scaritinae Bonelli, 1810

Tribe 4. Scaritini Bonelli, 1810

Subtribe 1. Dyschiriina Kolbe, 1880

Genus 7. *Dyschirius* Bonelli, 1813

1813. *Dyschirius* Bonelli, *Mem. Acad. Sci. Turin.*, Tab Synop.

**11. *Dyschirius mahratta*** Andrewes, 1929  
1929. *Dyschirius mahratta* Andrewes, *Faun. Brit. Ind.*, Coleoptera, Carabidae 1: 392, 396.

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Salukapur, 02.iii.2013, Coll. V. D. Hegde & Party (Reg. no. 20050/H4A).

Distribution: India (Karnataka and Uttar Pradesh) and Sri Lanka.

Remarks: This species is recorded for the first time from Northern India.

Subtribe 2. *Scaritina* Bonelli, 1810

Genus 8. *Scarites* Fabricius, 1775

1775. *Scarites* Fabricius, *Syst. Ent.*: 249.

**12. *Scarites sulcatus*** Olivier, 1795

1795. *Scarites sulcatus* Olivier, *Ent.* iii, 36: 7. t. 1. f. 11.

Material examined: India: Uttar Pradesh: 1 ex. Lakhimpur Kheri, Dudhwa National Park, 27.ii.2011, Coll. V. D. Hegde & Party, Ex. Under log (Reg. no. 23646/H4A).

Distribution: INDIA (Arunachal Pradesh, Assam, Himachal Pradesh, Uttarakhand, Uttar Pradesh and West Bengal), Cambodia, China, Indonesia, Korea, Laos, Myanmar, Nepal, Pakistan and Vietnam.

Genus 9. *Distichus* Motschulsky, 1857

1857. *Distichus* Motschulsky, *Etud. Ent.*: 96.

**13. *Distichus puncticollis*** (Chaudoir, 1855)  
1855. *Taeniolobus puncticollis* Chaudoir, *Bull.*

*De la soc. Imp. Des nat. Mosc.* 1: 47.

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Salukapur, 02.iii.2013, Coll. V. D. Hegde & Party (Reg. no. 20051/H4A).

Distribution: India (Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Puducherry, Tamil Nadu, Uttar Pradesh and West Bengal), Bangladesh, Nepal and Sri Lanka.

**14. *Distichus striaticeps*** (Chaudoir, 1880)

1880. *Distichus striaticeps* Chaudoir, *Ann. Soc. Ent. Belg.*: 52.

Material examined: India: Uttar Pradesh: 1 ex. Lakhimpur Kheri, Dudhwa FRH, 24.ix.1974, P. K. Maiti and party, Ex. At light on 7.30 PM (Reg. no. 23647/H4A).

Distribution: India (Assam, Jharkhand and Uttar Pradesh), Bangladesh and Myanmar.

**15. *Distichus picicornis*** (Dejean, 1831)

1831. *Scarites picicornis* Dejean, *Spec. Gen. des Col.* 5: 493.

Material examined: Not seen.

Distribution: India (Bihar, Uttar Pradesh and West Bengal), Angola, Bangladesh, Ethiopia, Mozambique, Senegal, Sri Lanka, South Africa, Sudan and Tanzania.

Subfamily 4. Ctenodactlinae Castelnau, 1834

Tribe 5. Hexagonini Horn, 1881

Genus 10. *Hexagonia* Kirby, 1825

1825. *Hexagonia* Kirby, *Trans. Linn. Soc. Lond.* 14: 563.

**16. *Hexagonia uninotata*** Andrewes, 1935

1935. *Hexagonia uninotata* Andrewes, *Fauna Brit. Ind.*, Carabidae 2, Harpalinae 1: 14, Pl. 2 F. 3.

Material examined: India: Uttar Pradesh: 1 ex. Lakhimpur Kheri, Dudhwa National Park, Sathiyana, 01.iii.2013 (Reg. no. 23659/H4A); 1 ex. Belrayan, 28.ii.2013, All Coll. V. D. Hegde & Party (Reg. no. 23658/H4A)  
Distribution: India (Bihar, Uttarakhand and Uttar Pradesh).

Subfamily 5. Licininae Bonelli, 1810

Tribe 6. Chlaeniini Brulle, 1834

Genus 11. *Chlaenius* Bonelli, 1813

1813. *Chlaenius* Bonelli, *Mem. Acad. Sci. Turin.*

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## Ground Beetles (Carabidae) of Dudhwa National Park



*Tetragonoderus rhombophorus*



*Tetragonoderus arcuatus*



*Tetragonoderus taeniatus*



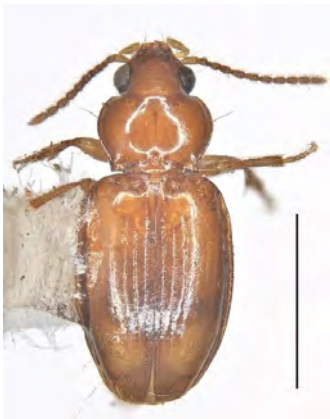
*Lachnoderma biguttatum*



*Asaphidion indicum*



*Tachys opalescens*



*Elaphropus ceylanicus*



*Elaphropus latissimus gracilis*



*Bembidion xanthacrum*

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*Distichus puncticollis*



*Dyschirius mahratta*



*Hexagonia uninotata*



*Chlaenius trinotatus*



*Drypta lineola*



*Siagona fabricii*



*Siagona pumila*



*Siagona baconi*



*Siagona atrata*



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20, Tab. Synop.

**17. *Chlaenius trinotatus*** Laferte-Senectere, 1851

1851. *Chlaenius trinotatus* Laferte-Senectere, *Ann. Soc. Ent. Fr.* (2) 9: 240.

Material examined: India: Uttar Pradesh: 1 ex. Lakhimpur Kheri, Dudhwa FRH Compound, 23.ix.1974, P. K. Maiti and Party, Ex. at light (Reg. no. 23651/H4A)

Distribution: India (Bihar, Uttarakhnad and Uttar Pradesh).

**18. *Chlaenius* sp.**

Material examined: India: Uttar Pradesh: 2 ex., Lakhimpur Kheri, Dudhwa National Park, Chandan Chauki, 27.ii.2013, Coll. V. D. Hegde & Party (Reg. no. 23652-23653/H4A).

Genus 12. *Rhopalopalpus* Laferte, 1851

1851. *Rhopalopalpus* Laferte, *Ann. Soc. Ent. Fr.*: 212.

**19. *Rhopalopalpus janthinus*** (Redtenbacher, 1844)

1844. *Chlaenius janthinus* Redtenbacher, *Hugel's kaschmir* iv, 2: 500.

Material examined: Not seen.

Distribution: India (Himachal Pradesh, Kashmir, Punjab, Uttarakhnad and Uttar Pradesh) and Pakistan.

Subfamily 6. Brachininae Bonelli, 1810

Tribe 7. Brachinini Bonelli, 1810

Genus 13. *Brachinus* Weber, 1801

1801. *Brachinus* Weber, *Obs. Ent.*: 22.

**20. *Brachinus* sp.**

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Chandan Chauki, 27.ii.2013, Coll. V. D. Hegde & Party (Reg. no. 23660/H4A).

Subfamily 7. Siagoninae Bonelli, 1813

Tribe 8. Siagonini Bonelli, 1813

Genus 14. *Siagona* Latreille, 1804

1804. *Siagona* Latreille, *Nouv. Dict. Hist. Nat.* 24 Tab. Meth.: 141.

**21. *Siagona atrata*** Dejean, 1825

1825. *Siagona atrata* Dejean, *Spec. Gen. des*

*Col.* 1:360

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Chandan Chauki, 27.ii.2013, Coll. V. D. Hegde & Party (Reg. no. 23642/H4A).

Distribution: India (Assam, Bihar, Jharkhand, Orissa, Uttar Pradesh and West Bengal), Bangladesh and Myanmar.

**22. *Siagona baconi*** Chaudoir, 1876

1876. *Siagona baconi* Chaudoir, *Bull. Mosc.* 1: 89

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Chandan Chauki, 27.ii.2013, Coll. V. D. Hegde & Party (Reg. no. 23643/H4A).

Distribution: India (Bihar, Jharkhand, Madhya Pradesh, Odisha, Uttar Pradesh and West Bengal), Bangladesh and Myanmar.

**23. *Siagona fabricii*** Andrewes, 1921

1921. *Siagona fabricii* Andrewes, *Trans. Ent. Soc. Lond.*: 158.

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Gauriphanta, 26.ii.2013, Coll. V. D. Hegde & Party (Reg. no. 23644/H4A).

Distribution: Throughout India (including Uttar Pradesh) and Sri Lanka.

**24. *Siagona pumila*** Andrewes, 1921

1921. *Siagona pumilus* Andrewes, *Trans. Ent. Soc. Lond.*: 164.

Material examined: India: Uttar Pradesh: 1 ex., Lakhimpur Kheri, Dudhwa National Park, Gauriphanta, 26.ii.2013, Coll. V. D. Hegde & Party (Reg. no.23645/H4A).

Distribution: India (Bihar, Karnataka, Maharashtra, Tamil Nadu, Uttarakhnad, Uttar Pradesh and West Bengal) and Bangladesh.

Subfamily 8. Dryptinae Bonelli, 1810

Tribe 9. Dryptini Bonelli, 1810

Genus 15. *Drypta* Latreille, 1796

1796. *Drypta* Latreille, *Prec. des cara. Gen. des Insectes*: 75.

**25. *Drypta lineola*** Macleay, 1825

1825. *Drypta lineola* Macleay, *Ann. Jav.*: 27.

Material examined: India: Uttar Pradesh, 1



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ex. Lakhimpur Kheri, Dudhwa National Park, 26.ii.2011, Coll. V.D. Hegde & party, Ex. Dusting (Reg. no. 23657/H4A).

Distribution: India (Himachal Pradesh, Maharashtra, and Uttar Pradesh) and throughout Southeast Asia.

Remarks: This is a very common species throughout S. E. Asia.

Subfamily 9. Apotominae Leconte, 1853

Genus 16. *Apotomus* Illiger, 1807

1807. *Apotomus* Illiger, *Mag. Ins.* 6: 348.

**26. *Apotomus hirsutulus* Bates, 1892**

1892. *Apotomus hirsutulus* Bates, *Ann. Mus. Civ. Sto. Nat. Gen.* 32: 287.

Material examined: Not seen.

Distribution: India (Throughout India including Uttar Pradesh, Kheri) and Myanmar.

Subfamily 10. Melaeninae Csiki, 1933

Tribe 10. Cymbionotini Andrewes, 1933

Genus 17. *Cymbionotum* Baudi Di Selve, 1864 1864. *Cymbionotum* Baudi De Selve, *Berl. Ent. Zeit.* : 212.

**27. *Cymbionotum fascigerum* (Chaudoir, 1852)**

1852. *Coscinia fasciger* Chaudoir, *Bull. De la soc. Imp. Des nat. Mosc.* 1: 92.

Material examined: Not seen.

Distribution: India (Odisha; Tamil Nadu; Uttar Pradesh, Kheri Forest Division and Faizabad; and West Bengal), Sri Lanka and Vietnam.

Earlier studies report five Carabid species from Kheri Forest division, Dudhwa National Park (DNP). In this study we were able to identify 22 species. As a result, this paper reports a total of 27 species and 17 genera under 10 tribes and 10 subfamilies of Family Carabidae. From which 06 species viz. *Tachys opalescens* Andrewes, *Bembidion xanthacrum* Chaudoir, *Siagona pumila* Andrewes, *Siagona baconi* Chaudoir, *Siagona atrata* Dejean and *Distichus puncticollis* (Chaudoir) were reported from Uttar Pradesh excluding DNP, are now to be present in DNP.

Eleven species viz. *Tetragonoderus arcuatus* Dejean, *Tetragonoderus taeniatus* (Wiedeman), *Asaphidion indicum* (Chaudoir), *Elaphropus ceylanicus* (Nietner), *Elaphropus latissimus gracilis* Motchulsky, *Dyschirius mahratta* Andrewes, *Distichus striaticeps* (Chaudoir), *Scarites sulcatus* Olivier, *Hexagonia uninotata* Andrewes, *Chlaenius trinotatus* Laferte-Senectere and *Lachnoderma biguttatum* Bates are new records for Uttar Pradesh including DNP.

The species *Tetragonoderus rhombophorus* Schmidt-Goebel is first time recorded from India, of which diagnostic characters have also been provided. This species was earlier reported from Bangladesh, Laos and Myanmar, which are close to eastern part of the India but this time record of the species from Terai region of Northern India is an important finding in the view of its distribution range area.





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