



Species list and pictorial key to the dung beetles (Coleoptera, Scarabaeidae, Scarabaeinae) in the Chinnar Wildlife Sanctuary in the south Western Ghats, India

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ABSTRACT: Thirty five species comprising 13 genera were recorded from the thorny forests in Chinnar Wildlife Sanctuary, Kerala, India. Genera *Onthophagus* (14 species) and *Caccobius* (six species) were the most specious in the region. Pictorial key to the dung beetles in the thorny forest of Chinnar Wildlife Sanctuary collected during 2010-2015 is given. © 2023 Association for Advancement of Entomology

KEY WORDS: Coprinae, Onthophagus, Caccobius, dry forests, distribution records

INTRODUCTION

Scarabaeinae dung beetles are a globally distributed group of insects that are scavengers, which are predominantly coprophagous (faeces-eating), but may also feed on dung from other animals and decomposing animals, fungi and rotten fruits (Halffter and Mathews, 1966). Their feeding behaviour is important for the ecosystem services such as nutrient recycling, biological pest control and secondary seed dispersal (Hanski and Cambefort, 1991; Nichols *et al.*, 2008). Based on their feeding and nesting strategies dung beetles are classified into three functional guilds namely; rollers (telecoprid nesters), tunnelers (paracoprid nesters) and dwellers (endocoprid nesters) (Cambefort and Hanski, 1991). Aside from their functional importance in ecosystems, dung beetles have been proposed as a useful indicator group of habitat disturbance due to their fast response to environment modifications (Halffter and Favila, 1993, 1997; Davis *et al.*, 2001).

The Western Ghats in India is one of the biodiversity hotspots of the world. Species composition and community structure of dung beetle in the moist western slope of the south Western Ghats have been studied in detail (Sabu and Vinod, 2005; Anu, 2006; Sabu *et al.*, 2006, 2007; Vinod and Sabu, 2007; Vinod, 2009; Latha *et al.*, 2011; Sabu *et al.*, 2011; Mathews, 2013; Sathiandran *et al.*, 2015). However, limited data is available about the dung beetles in the dry eastern slopes of the south Western Ghats. In the present study an analysis of the taxonomic composition of dung beetles in the thorny forest belts in Chinnar Wildlife Sanctuary (WLS) in the Western Ghats, along with a species list and pictorial key is compiled.

MATERIALS AND METHODS

The study was carried out at a southern tropical thorny forest at Chinnar WLS in the eastern dry slope of south Western Ghats in Kerala, south India (Fig. 1). Chinnar WLS with an area of 90.422 km²

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is located 54 km south to Munnar and Marayoor, in Idukki district, Kerala.

Dung beetles were collected with dung-baited pitfall traps on a seasonal basis in the dry season and northeast monsoon seasons during the 2009–2012 period. The collected beetles were preserved in alcohol (70%) over night and later identified to species level using taxonomic keys available in Arrow (1931) and Balthasar (1963 a, b) and by comparing with the identified specimens available in the Zoological Survey of India, Western Ghats Regional Station, Kozhikode, Kerala. Verified specimens were deposited in the Zoological Survey of India museum, Western Ghats regional station, Kozhikode, Kerala, India.

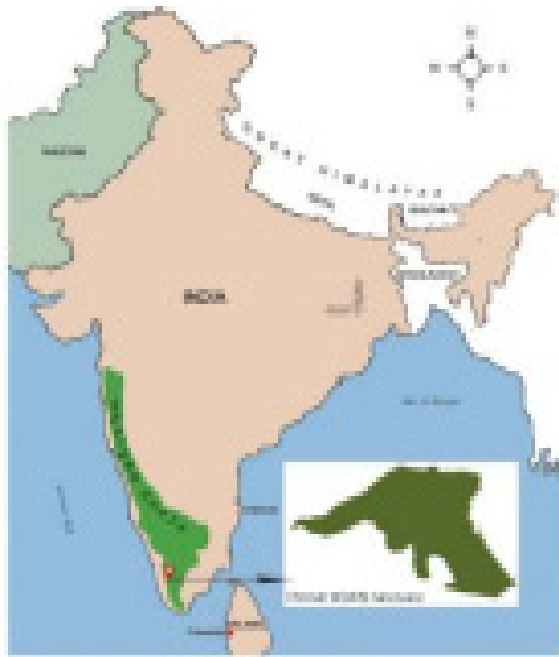


Fig. 1 Map showing the study region

RESULTS AND DISCUSSION

Thirty-five species comprising 13 genera (*Caccobius*, *Catharsius*, *Cleptocaccobius*, *Garreta*, *Gymnopleurus*, *Heliocopris*, *Onthophagus*, *Paracopris*, *Paragymnopleurus*, *Scarabaeus*, *Sisyphus*, *Tibiodrepanus* and *Tiniocellus*) and six tribes (Coprini, Gymnopleurini, Oniticellini, Onthophagini, Scarabaeini and Sisyphini) were recorded from the thorny forests in Chinnar Wildlife Sanctuary. *Onthophagus*, with 14 species and *Caccobius*, with six species, were the most specious genera in the study region. Two rare species, *Garreta smaragdifer* (earlier known from Sri Lanka and north eastern India) (Arrow, 1931; Sobhana *et al.*, 2017) and *Caccobius rufipennis* (earlier known from Sri Lanka and Eastern Ghats in India) (Arrow, 1931; Priyadarsanan, 2006), in addition to the female of the latter species is reported (Table 1).

Three species, *Caccobius rufipennis* (Motschulski, 1858), *Garreta smaragdifer* Walker, 1858 and *Scarabaeus sanctus* Fabricius, 1798 were rare species from the dry forest region of Chinnar (Fig. 3). Comparison of dung beetles collected in the present study with the earlier reports from the south western Ghats (Arrow, 1931; Balthasar, 1963, 1974; Paulian, 1980, 1983) and the checklist of dung beetles of the moist western slope of the South Western Ghats (Sabu *et al.*, 2011) revealed the presence of four species (*Gymnopleurus cyaneus*, *Onthophagus spinifex*, *Onthophagus ephippioderus* and *Onthophagus pardalis*) in Chinnar Wildlife Sanctuary which was mentioned as lost species from the south Western Ghats. These findings indicate that extensive studies in the eastern slope of the Western Ghat may lead to the unearthing of more rare species.

Key to the tribes of subfamily Scarabaeinae in the Chinnar Wildlife Sanctuary with images:

- 1. Middle coxae widely separated, parallel or only little converging (Fig. 4 A).....3
- Middle coxae not widely separated (Fig. 4 B)..... 2

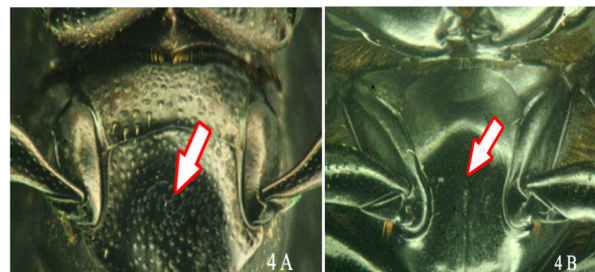




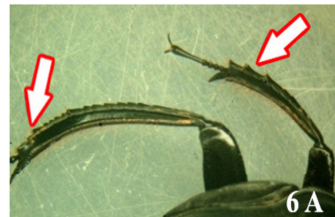
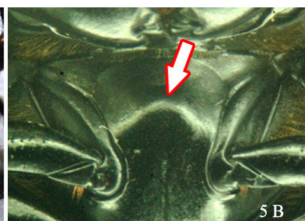
Fig. 2 (A) *Garreta smaragdife* - Male, (B) *Garreta smaragdifer* Female, (C) *Caccobius rufipennis*



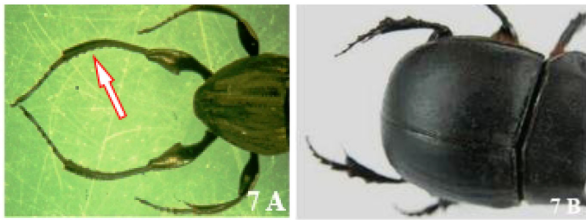
Fig. 3 Rare dung beetle species recorded from Chinnar WLS - (D) *Caccobius gallinus*, (E) *Paracopris davisoni* (F) *Scarabaeus sanctus*

2. Middle coxa converges strongly behind (Fig. 5 A)..... 3
 —Middle coxa diagonally placed (Fig. 5 B)..... Gymnopleurini

3. Middle and hind tibiae are slender and not dilated at end (Fig.6 A). 4
 —Middle and hind tibiae moderately broad at the extremity (Fig. 6 B). 5



4. Posterior legs extremely long, tarsi filiform (Fig. 7 A).
 Sisyphini
 —Posterior legs not extremely long, tarsi more or less flat and tapering (Fig. 7 B).....Coprini

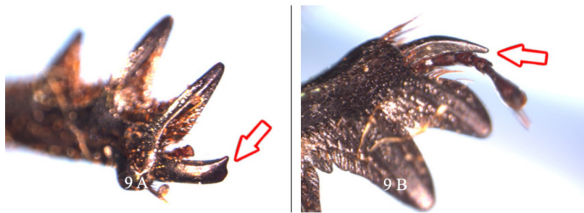


5. Antenna 8 segmented (Fig. 8 A).
 Oniticellini
 —Antenna 9 segmented (Fig. 8 B).
 Onthophagini



Key to the genera of the tribe Gymnopleurini

1. Terminal spur of front tibia bidentate (Fig. 9 A).
 *Paragymnopleurus* Shipp
 — Terminal spur of front tibia not bidentate (Fig. 9 B).
 2

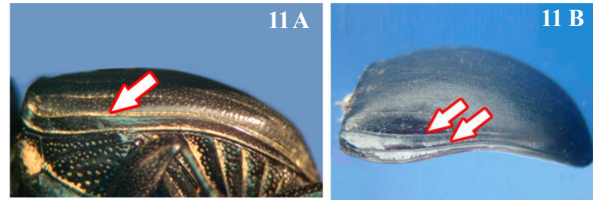


2. Clypeus bidentate(Fig. 10 A).....
*Gymnopleurus* Illiger
 —Clypeus with 4-6 anterior teeth (Fig. 10 B).
 *Garreta* Janssens

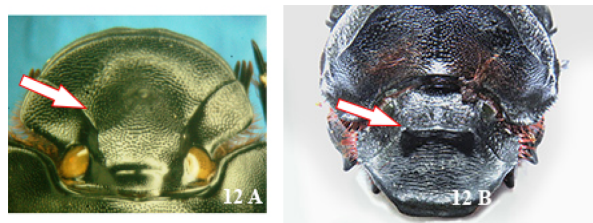


Key to genera of the tribe Coprini

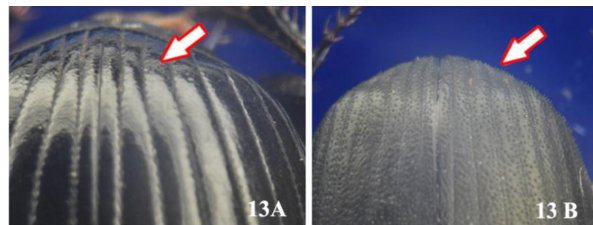
1. Elytra with one lateral carina (Fig. 11 A).....3
 —Elytra with two lateral carina (Fig. 11 B).....2



2. Ocular lobes separated by carinate sutures from clypeus (Fig. 12 A).....*Catharsius* Hope
 — Ocular lobes united by carinate suture with clypeus (Fig. 12 B).....*Heliocopriss* Hope

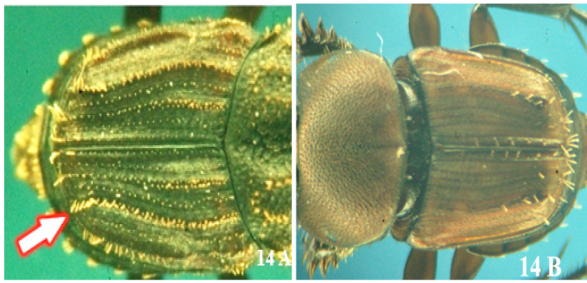


3. Punctures at apex and sides of elytra without hairs (Fig. 13 A).....*Copris* Geoffroy
 —Punctures at apex and sides of elytra bearing short stiff hairs (Fig. 13 B)..*Paracopris* Balthasar



Key to the genera of the tribe Oniticellini

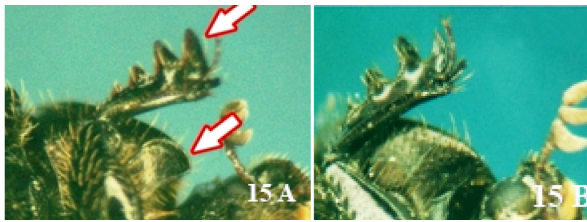
1. Elytra fringed before hind margin (Fig. 14 A).
 *Tibiodrepanus* Krikken
 —Elytra fringed only at hind margin (Fig. 14 B).
*Tiniocellus* Perringuey



Key to the genera of the tribe Onthophagini

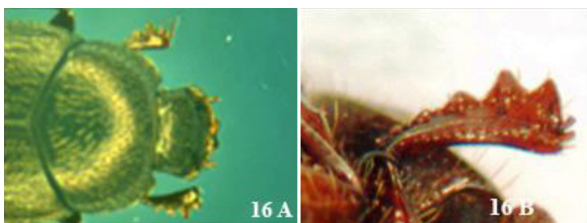
1. Apical margin of fore tibia at right angles to inner margin; anterior angles of prothorax hollowed beneath (Fig. 15 A).....2

— Either one or none of the above character presents (Fig. 15 B).....*Onthophagus* Latreille



2. Apical tooth of tibia thin and translucent; apical tooth in obtuse angle with tibia (Fig. 16 A).....*Cleptocaccobius* Cambefort

— Apical tooth of tibia not thin and translucent; apical tooth in right angle with tibia (Fig. 16 B).....*Caccobius* Thomson



Key to the species of genus *Scarabaeus*

1. Clypeal teeth separated by sharp notches (Fig. 17 A). *sanctus* Fabricius

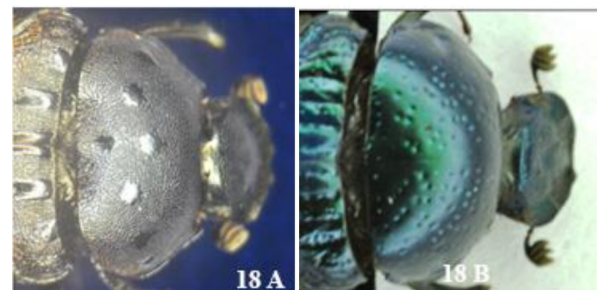
— Clypeal teeth separated by acute notches (Fig. 17 B). *erichsoni* Harold



Key to the species of genus *Gymnopleurus*

1. Pronotum with about six shining spots (Fig. 18 A). *parvus* Macleay

— Pronotum without spots (Fig. 18 B) *cyaneus* Fabricius



Key to the species of genus *Sisyphus*

1. Hind femur gradually dilated (Fig. 19 A). *longipes* Olivier

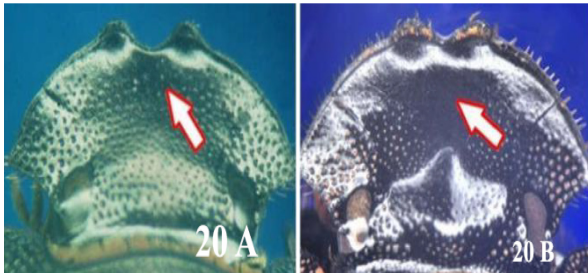
— Hind femur abruptly dilated (Fig. 19 B). *neglectus* Gory



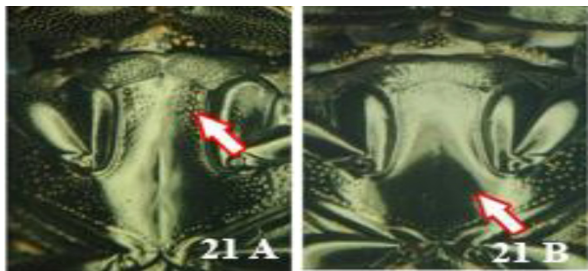
Key to the species of genus *Paracopris*

1. Clypeus strongly punctured (Fig. 20 A). *cribratus* Gillet

— Clypeus rather smooth (Fig. 20 B).....2

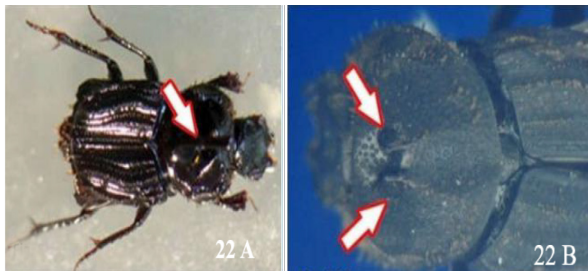


2. Metasternal shield punctured in front (Fig. 21 A). *davisoni* Waterhouse
 — Metasternal shield not punctured in front (Fig. 21 B). *signatus* Walker



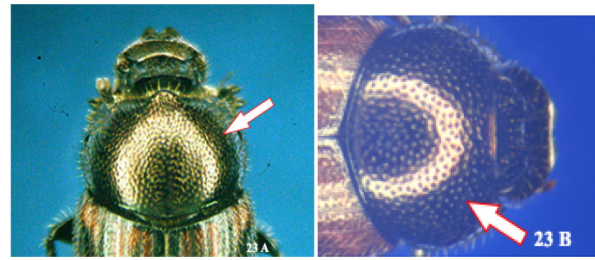
Key to the species of genus *Tibiodrepanus*

1. Male with single pronotal horn (Fig. 22 A). *setosus* Wiedemann
 — Male with two pronotal horn (Fig. 22 B). *sinicus* Harold

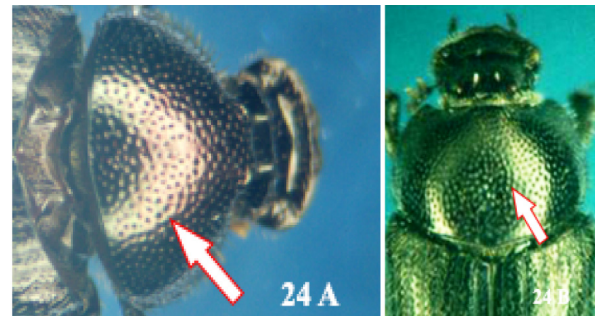


Key to the species of genus *Caccobius*

1. Pronotum granulate at sides (Fig. 23 A).....2
 —Pronotum punctured at sides (Fig. 23 B).....5



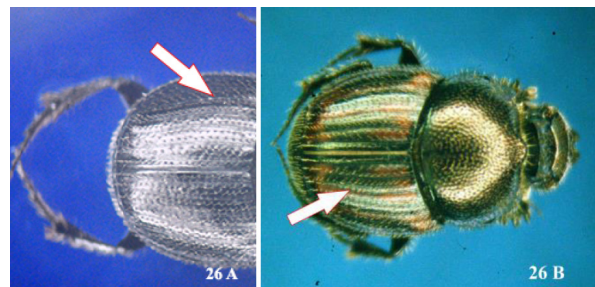
2. Pronotum not closely punctured (Fig. 24 A). *vulcanus* Fabricius
 —Pronotum closely punctured (Fig. 24 B).....3



3. Elytra very shining (Fig. 25 A)..... *gallinus* Arrow
 —Elytra not shining (Fig. 25 B).....4



4. Elytra entirely black (Fig. 26 A).....*ultor* Sharp
 —Elytra brown, variegated (Fig. 26 B). *meridionalis* Boucomont

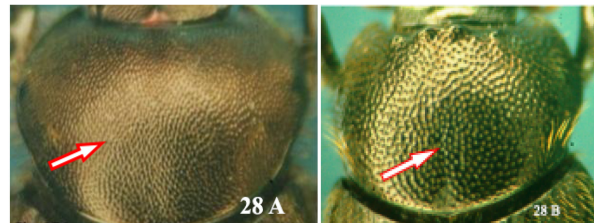


- 5 Upper surface clothed with minute setae (Fig. 27 A).*unicornis* Fabricius
 — Upper surface devoid of setae (Fig. 27 B). *rufipennis* Motschulsky

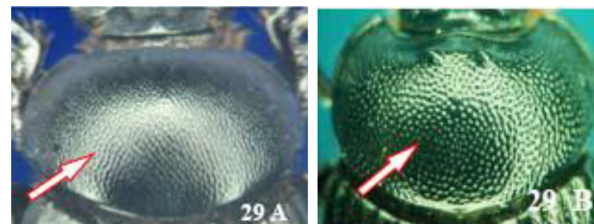


Key to the species of genus *Onthophagus*

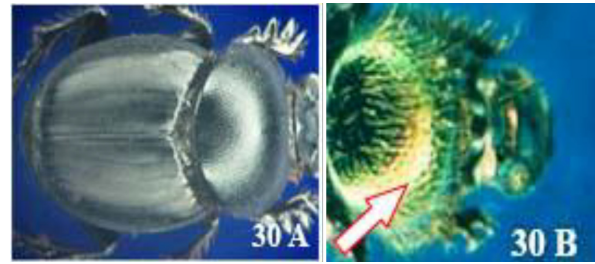
1. Pronotum wholly or partly or granular or rugose (Fig. 28 A) 2
 —Pronotum punctured without granules (Fig. 28 B). 7



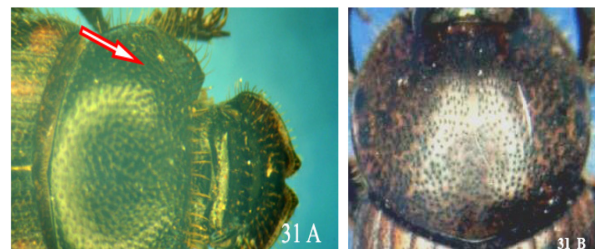
2. Pronotum entirely granular or rugose, without distinct punctures (Fig. 29 A).....3
 —Pronotum partly granular or rugose, with some punctures (Fig. 29 B).....4



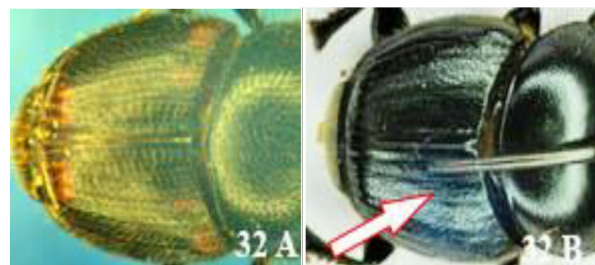
3. Upper surface not clothed with dense pile (Fig. 30 A).....*amphinasis* Arrow
 —Upper surface clothed with very dense pile (Fig. 30 B).....*tarandus* Fabricius



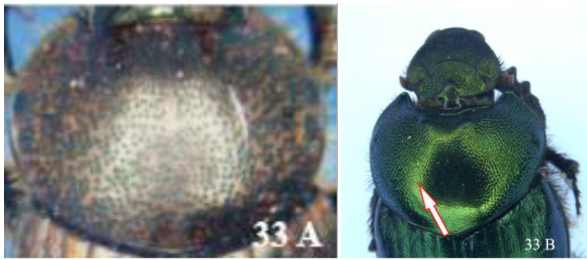
4. Pronotum with evenly distributed granules (Fig. 31 A).....7
 —Pronotum without evenly distributed granules (Fig. 31 B).....6



5. Elytra not very shining (Fig. 32 A)*furculus* Fabricius
 — Elytra very shining (Fig. 32 B)*spinifex* Fabricius

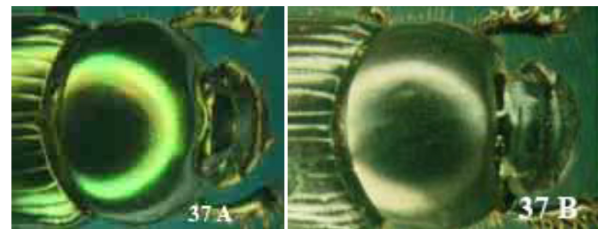


6. Pronotum not shining (Fig. 33 A)*reticornutus* Lansberg
 —Pronotum shining (Fig. 33 B).*vividus* Arrow



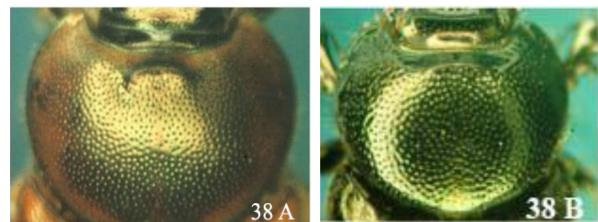
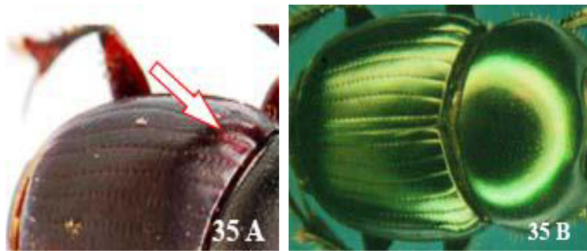
- 7. Upper surface without hairs (Fig. 34 A). 8
- Upper surface with distinct hairs or setose (Fig. 34 B). 11

- 10. Pronotum metallic green (Fig. 37 A). *dama* Fabricius
- Pronotum black (Fig. 37 B)*quadridentatus* Fabricius



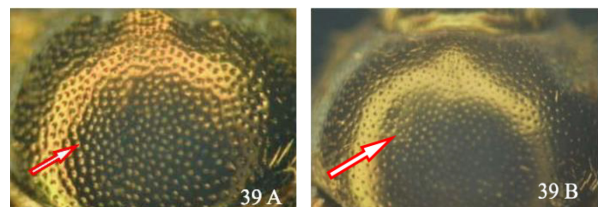
- 8. Elytral suture with a minute elevation (Fig. 35 A).....9
- Elytral suture without minute elevation (Fig. 35 B).....10

- 11. Pronotum pale at sides (Fig. 38 A).....12
- Pronotum uniformly coloured (Fig. 38 B).....14



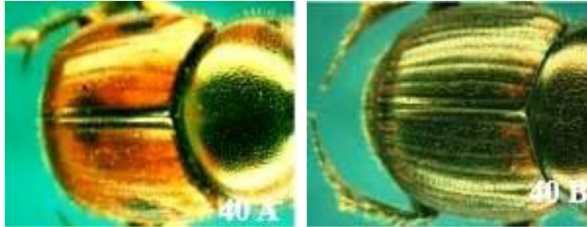
- 9. Head produced in front (Fig. 36 A). *ephippioderus* Arrow
- Head not produced in front (Fig. 36 B).....*pardalis* Fabricius

- 12. Punctures of pronotum large, close and umbilicate (Fig. 39 A).....*Furcillifer* Bates
- Punctures of pronotum not large, close and umbilicate (Fig. 39 B).....13



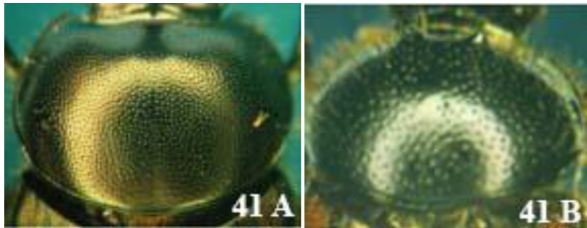
13. Base, apex and sides of the elytra pale (Fig. 40 A).....*fasciatus* Boucomont

— Base, apex and sides of the elytra not entirely pale (Fig. 40 B).....*favrei* Boucomont



14. Pronotum finely and closely punctured (Fig. 41A).....15

—Pronotum strongly punctured (Fig. 41 B).
.....16



17. Pronotum with blunt tubercles anteriorly (Fig. 44 A)..... *ludio* Boucomont

— Pronotum without blunt tubercles (Fig. 44 B).
.....19



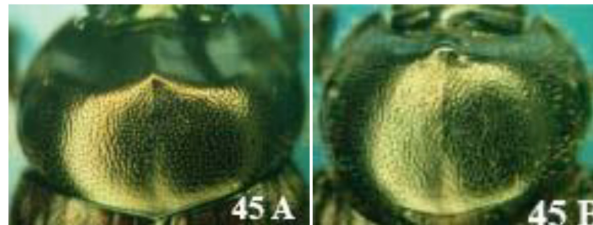
15. Pronotum with two thoracic prominences (Fig. 42 A).....*turbatus* Walker

— Pronotum with four thoracic prominence (Fig. 42 B)..... *ensifer* Boucomont



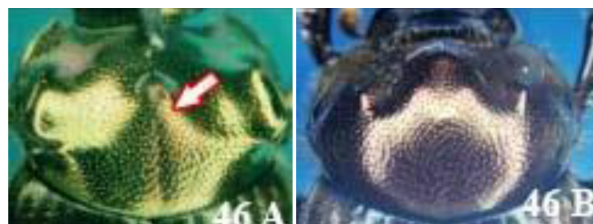
18. Front angles of the pronotum pointed (Fig.45 A).
..... *cervus* Fabricius

— Front angles of the pronotum not pointed (Fig. 45 B).
..... *falsus* Gillet



19. Pronotum with median longitudinal groove (Fig. 46 A).....*bifasciatus* Fabricius

— Pronotum without median longitudinal groove (Fig. 46 B)..... *unifasciatus* Schaller



16. Body short and broad (Fig. 43 A).....17

—Body rather elongate (Fig. 43 B).....18

Table 1. Dung beetle species collected from Thorny forest of Chinnar in south Western Ghats during 2010-2015 with distribution records

<i>Caccobius (Caccophilus) gallinus</i> Arrow, 1907	India (Kerala: Nelliampathi, Chinnar, Wayanad; Tamil Nadu: Nilgiri Hills) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Caccobius (Caccophilus) meridionalis</i> Boucomont, 1914	India (Karnataka; Kerala: Erumaiyoor, Mahe, Nelliampathi, Chinnar, Ranipuram, Shendurney, Silent valley, Thekkady, Wayanad; Gujarat; Maharashtra; Tamil Nadu: Anaimalai Hills, Nilgiri Hills), Sri Lanka (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Caccobius (Caccobius) rufipennis</i> (Motschulski, 1858)	India (Kerala: Chinnar), Sri Lanka (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Caccobius (Caccophilus) ultor</i> Sharp, 1875	India (Haryana: Kanneri; Karnataka, Budipadaga; Kerala: Nelliampathi, Chinnar, Ranipuram; Maharashtra: Bombay, Khandesh; Punjab; Rajasthan; Uttar Pradesh) (Arrow, 1931, Sobhana <i>et al.</i> , 2013).
<i>Caccobius (Caccophilus) unicornis</i> (Fabricius, 1798)	China, India (Assam; Kerala: Silent valley, Chinnar, Wayanad; Madhya Pradesh; Tripura; W. Bengal), Indonesia (Borneo, Java, Sumatra), Malay Peninsula, Myanmar, Philippines, Sri Lanka, Taiwan (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Caccobius (Caccophilus) vulcanus</i> (Fabricius, 1801)	India (Bihar; Karnataka, Bangalore; Kerala: Erumaiyoor, Chinnar, Ranipuram), Sri Lanka (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Catharsius (s. str.) molossus</i> (Linnaeus, 1758)	Afghanistan, Cambodia, China, India (Andaman; Arunachal Pradesh; Assam; Bihar; Gujarat; Haryana; Karnataka; Kerala: Kinavellore, Nelliampathi, Chinnar, Wayanad; Maharashtra: Mumbai; Meghalaya; Orissa; Rajasthan; Sikkim; Tamil Nadu; Uttaranchal; West Bengal), Laos, Malay (Sunda Island), Malaysia, Nepal, Sri Lanka, Taiwan, Thailand, Vietnam (Annam) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Cleptocaccobius arrowi</i> Cambefort, 1985	India (Karnataka, Bangalore; Kerala: Malabar, Ranipuram, Chinnar, Shendurney; Maharashtra: Mumbai; Nagpur) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Garreta smaragdifer</i> Walker, 1858	India (Kerala: Chinnar), Sri Lanka (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Gymnopleurus (s. str.) cyaneus</i> (Fabricius, 1798)	Bangladesh, India (Andhra Pradesh; Gujarat; Haryana; Karnataka: Anaimalaihills; Kerala: Chinnar, Malabar, N. Malabar; Maharashtra: Mumbai; Tamil Nadu: Coimbatore; W. Bengal: Dhoni forest, Kannirode), Sri Lanka (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Heliocopris bucephalus</i> (Fabricius, 1775)	Bangladesh, India (Bihar; East and Peninsular India; Kerala: Chinnar, Wayanad; Madhya Pradesh; Maharashtra; Tamil Nadu: Hassanur; Tripura; Uttar Pradesh; W. Bengal), Laos, Malay Peninsula, Myanmar, Thailand (Siam), Vietnam (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (Paraphanaeomorphus) bifasciatus</i> (Fabricius, 1781)	India (Assam; Bihar; Kerala: Nilgiri hills, Ranipuram, Chinnar, Thekkady, Wayanad; Sikkim; W. Bengal), Myanmar (Arrow, 1931; Sobhana <i>et al.</i> , 2013).

<i>Onthophagus (s. str.) cervus</i> (Fabricius, 1798)	India (Karnataka; Kerala: Calicut, Nilgiri hills, Ranipuram, Chinnar, Thekkady, Wayanad; Madhya Pradesh; Maharashtra; Tamil Nadu: Coimbatore, Puducherry; Uttaranchal; W. Bengal), Sri Lanka (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (s. str.) dama</i> (Fabricius, 1798)	Bhutan, India (Bihar; Karnataka; Kerala: Nilambur, Nilgiri hills, Ranipuram, Chinnar, Thekkady, Wayanad; Maharashtra; Sikkim; Tamil Nadu: Anaimalai hills; Uttaranchal; W. Bengal), Nepal, Sri Lanka (Arrow, 1931, Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (Colobonthophagus) ephippioderus</i> , Arrow, 1907	India (Kerala: Nilgiri hills; Karnataka: Belgaum (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (s. str.) falsus</i> , Gillet, 1925	Afghanistan, Bangladesh, India (Assam; Kashmir; Kerala: Ranipuram, Chinnar, Thekkady, Wayanad; W. Bengal) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (s. str.) fasciatus</i> Boucomont, 1914	India (Karnataka; Kerala: Nilgiri hills, Ranipuram, Thekkady, Chinnar, Wayanad; Madhya Pradesh; Maharashtra: Mumbai; Uttaranchal; W. Bengal; Tamil Nadu: Anaimalai hills, Madhura) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (s. str.) furcillifer</i> Bates, 1891	India (Assam; Kashmir; Kerala: Ranipuram, Chinnar, Thekkady, Wayanad; Punjab; Uttaranchal) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (s. str.) furculus</i> (Fabricius, 1798)	India (Tamil Nadu: Puthuchery) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (s. str.) ludio</i> Boucomont, 1914	India (Kerala: Nilgiri hills; Maharashtra: Belgaum, Bombay, Nagpur), Sri Lanka (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (Colobonthophagus) pardalis</i> (Fabricius, 1798)	India (Kerala: Chinnar, Nilgiri hills; Maharashtra: Bombay; Kanara) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (s. str.) quadridentatus</i> (Fabricius, 1798)	India (Assam; Karnataka: Bangalore, Belgaum; Kerala: Chinnar, Mahe, Malabar, Chinnar, Nilgiri hills, Palakkad; Maharashtra: Bombay, Pune; Tamil Nadu: Coimbatore; W. Bengal: Calcutta), Sri Lanka (Colombo) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (s. str.) spinifex</i> (Fabricius, 1781)	India (Bengal; Bihar; Kerala: Chinnar, Nilgiri Hills; Maharashtra: Bombay; Tamil Nadu: Madurai), Sri Lanka (Colombo) (Arrow, 1931; Sobhana <i>et al.</i> , 2013)
<i>Onthophagus (s. str.) turbatus</i> Walker, 1858	India (Karnataka; Kerala: Chinnar, Mahe, Malabar, Nelliampathi, Chinnar, Nilgiri hills; Maharashtra; Tamil Nadu: Puducherry), Sri Lanka (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Onthophagus (s. str.) unifasciatus</i> Schaller, 1783	India (Bengal; Bihar; Kerala: Nilgiri hills; Chinnar, Maharashtra: Bombay; Tamil Nadu: Coimbatore, Madras), Sri Lanka (Colombo, Kandy) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Paracoprisdavisoni</i> (Waterhouse, 1891)	India (Karnataka; Kerala: Nelliampathi, Chinnar, Nilgiri hills, Peerumade, Ranipuram, Thekkady, Travancore, Wayanad; Maharashtra: Mumbai; Tamil Nadu: Palni hills) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).

<i>Paracoprissignatus</i> (Walker, 1858)	India (Karnataka; Kerala: Mahe, Malabar, Thekkady, Chinnar, Travancore, Sendurney, Wayanad; Maharashtra; Tamil Nadu: Coimbatore), Laos, Sri Lanka, Vietnam (Annam) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Paragymnopleurussinuatus</i> Olivier, 1789	India (Arunachal Pradesh; Karnataka; Kerala: Nelliampathi, Chinnar, Nilambur, Palghat, Ranipuram, Shendurney; Maharashtra: Kanara, S. Bombay; Sikkim; W. Bengal), Myanmar, Nepal (Arrow, 1931; Sobhana <i>et al.</i> , 2013)
<i>Scarabaeus</i> (Kheper) <i>erichsoni</i> Harold, 1867	India (Karnataka: Bangalore; Tamil Nadu: Madras; Kodaikanal; Podanur), Kerala: Chinnar, Sri Lanka (Colombo, Kandy) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Scarabaeus</i> (Kheper) <i>sanctus</i> Fabricius, 1798	India (Bihar; Karnataka: Bangalore, Belgaum; Kerala: Chinnar, Nilgiri hills; Maharashtra: Mumbai; Orissa: Sholapur), Sri Lanka (Kinavallore) (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Sisyphus</i> (s. str.) <i>longipes</i> (Olivier, 1789)	India (Karnataka; Kerala: Nilgiri hills; Maharashtra; Orissa; Tamil Nadu: Ooty; W. Bengal), Myanmar, Sri Lanka, Thailand (Arrow, 1931; Sobhana <i>et al.</i> , 2013).3
<i>Sisyphus</i> (s. str.) <i>neglectus</i> Gory, 1833	China, India (Karnataka; Kerala: Nelliampathi, Chinnar, Wayanad; Uttaranchal), Myanmar, Thailand (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Tibiodrepanus setosus</i> (Wiedemann, 1823)	India (Kerala: Nelliampathi, Nilgiri hills, Chinnar, Wayanad; TamilNadu: Anamalai hills) (Arrow, 1931; Sobhana <i>et al.</i> , 2013)
<i>Tibiodrepanus sinicus</i> (Harold, 1868)	India (Central and Northern India; Kerala: Nelliampathi), Laos, Myanmar, North Vietnam, Southern China (Arrow, 1931; Sobhana <i>et al.</i> , 2013).
<i>Tiniocellus spinipes</i> (Roth, 1851)	Angola, Brazil (Natal), Congo, Ethiopia, Guinea, India (Karnataka; Kerala: Calicut, Nilambur, Wayanad; Chinnar, Madhya Pradesh; Maharashtra; Punjab: Chari; Uttaranchal), Malawi, Somalia, SouthAfrica (Transvaal), Tanzania, Uganda, Zimbabwe (Arrow, 1931; Sobhana <i>et al.</i> , 2013).

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