

# Three new species of *Medome* Cameron (Coleoptera: Staphylinidae: Paederinae)

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## Abstract

*Medome nigra* **n. sp.** from Burma and Thailand, *M. schawalleri* **n. sp.** from Nepal and *M. siamensis* **n. sp.** from Thailand are described and compared with *M. bicolor* Cameron. All four species are illustrated by photographs.

**Key words:** *Medome*, new species, India, Nepal, Burma, Thailand.

## Zusammenfassung

*Medome nigra* **n. sp.** aus Burma und Thailand, *M. schawalleri* **n. sp.** aus Nepal und *M. siamensis* **n. sp.** aus Thailand werden beschrieben und mit *M. bicolor* Cameron verglichen. Alle vier Arten werden mit Fotografien dargestellt.

## Contents

1	Introduction .....	131
2	Material and methods.....	132
3	Descriptions and redescription of <i>Medome</i> spp.....	132
4	Key for identification of the known species of <i>Medome</i> .....	135
5	Reference .....	135

## 1 Introduction

In 1931 MALCOLM CAMERON described the monobasic genus and species *Medome bicolor* from two localities in NW India, in what is now Uttarakhand State, where so many of the species of Staphylinidae he described in “Fauna of British India” were first found. No other occurrence of the genus or species has been recorded, but in 1981 I took a specimen of *M. bicolor* in the neighbouring State of Himachal Pradesh, and two new species in Thailand and Burma. More recently another new species was collected by Wolfgang Schawaller in Nepal.

CAMERON gave a description of the generic characters, to which the following details may be added: both meso- and metatibia with a dense apical fringe, or ctenidium, of long pale setae; sculpture of pronotum entirely densely and deeply longitudinally strigose (with only one available species CAMERON was uncertain whether this was a generic or specific character; the three new species described below show that it is indeed a generic character); both male sternites VII and VIII modified; sternite IX apically emarginate; aedoeagus without parameres, but with a prominent sessile ventral blade not freely articulated against the median lobe like a paramere, and devoid of setae.

The conformation of the male primary and secondary sexual characters differs greatly from one species to another. The male 8<sup>th</sup> sternites have a simple emargina-

tion of differing size and depth; the male 7<sup>th</sup> sternites are variously modified; the apex of the male 9<sup>th</sup> sternites also differs according to species; the ventral blade of the aedoeagus is very differently shaped in each species.

Several difficulties arose during the present study of *M. bicolor* Cameron. I dissected a male which I had collected in the Kullu Valley and compared the sexual characters with a single specimen of CAMERON’s series (from Mossy Falls, Mussoorie) and found them to be identical (aedoeagus see Figs. 1c, d); I therefore illustrated them as being the characters of *M. bicolor* in the first draft of this article. Fortunately VOLKER ASSING, who reviewed the article, pointed out that the aedoeagus was quite different from one he had examined and photographed, so I asked to examine CAMERON’s entire series. ROGER BOOTH, the curator, told me that CAMERON’s designated types had been misplaced in or removed from the main (general) collection of the BMNH, and sent me the 16 remaining specimens (all from several localities in Mussoorie district) which had been in CAMERON’s duplicates collection. Three of these specimens proved to be males identical to the one examined by ASSING (Fig. 1f). For more details of data and results of the study see redescription of *M. bicolor* below.

CAMERON compared *Medome* to *Domene* and *Scoepaeus*. *Medome* does resemble *Domene*, especially in the structure of the aedoeagi, and is not closely related to *Scoepaeus*.

### Acknowledgements

I am grateful to ROGER BOOTH, curator of Coleoptera at the BMNH, for the loan of the series of *M. bicolor* Cameron, to WOLFGANG SCHAWALLER (SMNS), for the opportunity of describing *Medome schawalleri* n. sp., and to VOLKER ASSING (Hannover) for saving me from making a mistake with potentially annoying consequences in my interpretation of *M. bicolor*.

### 2 Material and methods

With the exception of *Medome schawalleri*, the type of which is deposited in SMNS, one specimen of *M. siamensis* in coll. ASSING, and CAMERON's series of *M. bicolor* in BMNH, the material studied in this paper was gathered in the field by the author and is housed in his collection in OUMNH. Two paratypes of *M. siamensis* n. sp. have also been deposited in SMNS.

Photographs were taken at OUMNH using a Leica DFC 490 digital camera linked to a Leica M165C microscope and Helicon Focus software. Figs. 2c and 2d were photographed imbedded in DMHF (dimethyl hydantoin formaldehyde); all other figures were photographed dry.

The term "fore-body" is used to include the head, pronotum and elytra, omitting the abdomen. Measurements other than those given in mm (total body length) given in the descriptions were made using a VMZ 1×4× binocular microscope with eyepiece micrometer at ×80 magnification, so the units are equal to 12.5 μ. The length of the head does not include the labrum; the breadth of head is measured at the widest point, just behind the posterior margins of the eyes and does not include the eyes.

### Acronyms

BMNH	The Natural History Museum [formerly British Museum (Natural History)], London, United Kingdom
CRO	Collection GUILLAUME DE ROUGEMONT (currently housed in the OUMNH)
CVA	Collection VOLKER ASSING, Hannover, Germany
OUMNH	University Museum of Natural History, Oxford, United Kingdom
SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany

### 3 Descriptions and redescription of *Medome* spp.

#### *Medome bicolor* Cameron

*Medome bicolor* CAMERON 1931: 189. – Types: [India], "Mussoorie district: Arni Gad", "Chakrata district: Mohan".

"Syntype" series, 5 ♂♂, 11 ♀♀, Mussoorie [various localities: Mossy Falls (3 ♂♂, 3 ♀♀), Aglar River (1 ♂, 1 ♀), Arni Gad (1 ♂, 7 ♀♀)] (BMNH); 6 exx., Haldwani Dist., Kumaon, India, H. G. C. / G. C. CHAMPION coll. BM 1927-409 (BMNH); 1 ex., Ret. unnamed by M. B. / W. Almora, Kumaon, India, H. G. C. / *Domene* n. sp. [handwritten] / G. C. CHAMPION coll., BM 1927-409 (BMNH); 1 ♂, India, H. P., Katrain VI.1981, DE ROUGEMONT (CRO).

#### Redescription

Fore-body see Fig. 1. Body length 4.0–4.3 mm. Proportions (of a male syntype): length of head: 50; breadth

of head: 48; length of antenna: 93; length of pronotum: 49; breadth of pronotum: 46; length of elytron: 60; breadth of elytra: 55; length of metatarsus: 34.

Head reddish brown; colouration of pronotum and elytra variable: pronotum either uniformly reddish brown like the head, or infusate in parts or entirely pitchy (Fig. 1); elytra (rarely) entirely pitchy black, or pitchy with the anterior and posterior margins narrowly rufescent (bicolorous exx.), the reddish colour sometimes extending along suture, or pitchy with the anterior margin rufescent, the same colour as head and pronotum and the posterior margin more broadly yellowish testaceous (tricolorous exx.) (Fig. 1); abdomen pitchy black; labrum concolorous with head; antennae pale reddish brown; palpi and legs testaceous.

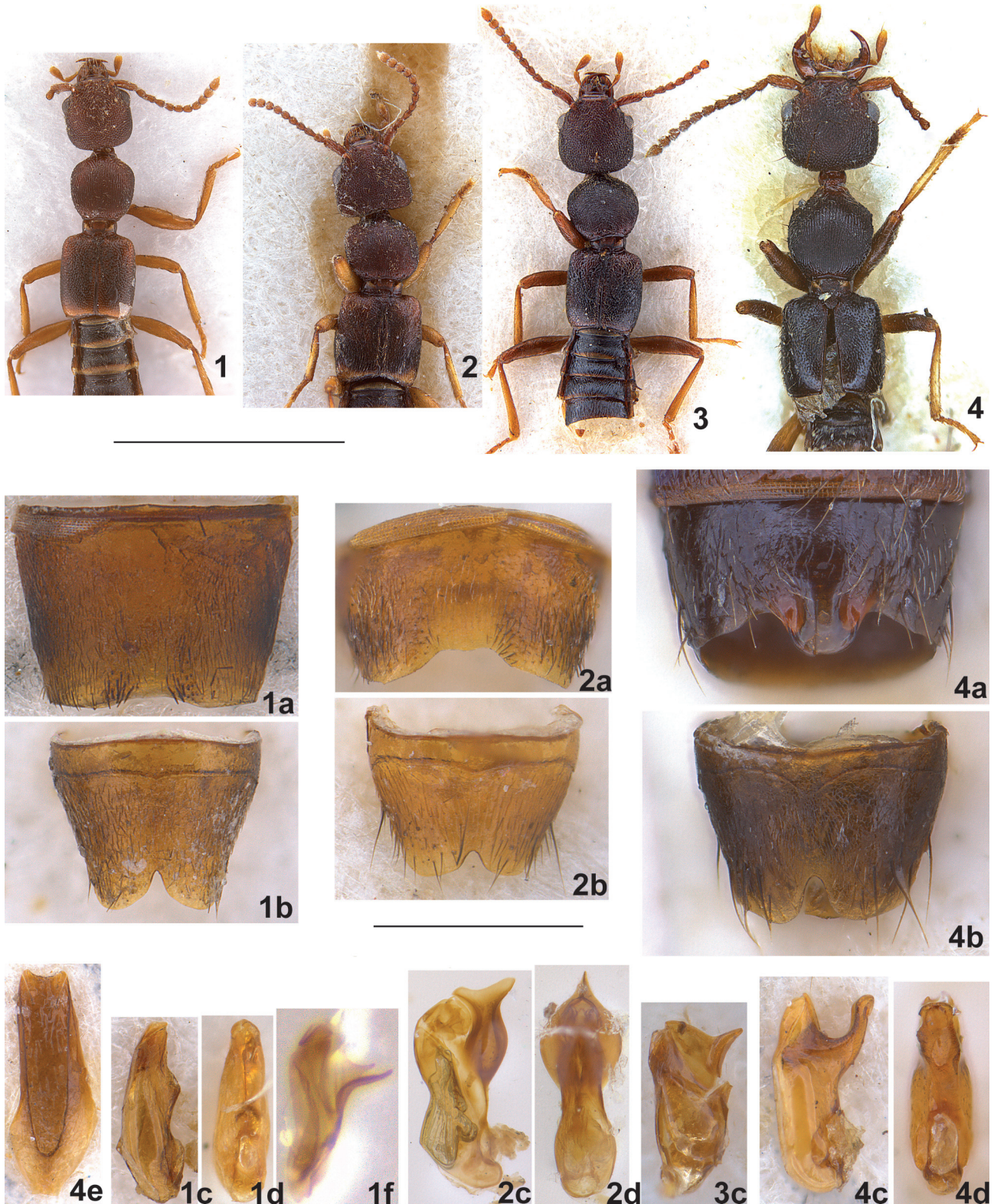
Surface of head dull, the sculpture sub-rugose, composed of small contiguous umbilicate punctures. Sculpture of pronotum as in the other species of the genus, strigose, i. e. the entire surface covered in contiguous deep longitudinal striae separated by sharp narrow keels, and without any trace of punctures. Surface of elytra slightly shiny posteriorly, the sculpture consisting of dense small simple punctures, sub-rugose in front but sparser posteriorly, with shiny interstices as, or almost as wide as diameter of punctures in posterior third; in addition to this ground sculpture each elytron bears three not very evident longitudinal series of larger shallower punctures. Abdomen slightly shiny, covered in very small punctures becoming finer and sparser on tergites VI and VII.

Male: abdominal sternite VII (Fig. 1a) with a small, shallow arcuate apico-median emargination preceded by a slight longitudinal impression, the postero-lateral areas of sternite each with a cluster of black bristles; sternite VIII emarginate as in Fig. 1b (the drawing of the sternites given by CAMERON is somewhat misleading: the emargination of sternite VIII appears too large); sternite X with a small apical emargination. Aedoeagus very small (Figs. 1c, d); aedoeagus of aberrant (?) specimens see Fig. 1f (aedoeagus in lateral view of "typical" form from Arni Gad, Mussoorie).

#### Remarks

The specimen examined by ASSING and illustrated here in Fig. 1f, bears the following labels: "E.1.35 / Arni Gad, Mussoorie, Dr. CAMERON 12.VI.21 / *Medome bicolor* [in CAMERON's hand] / SYNTYPE [round BMNH label with light blue border]". It had been previously dismembered by CAMERON for examination of the ventral sclerites, the parts glued to the mounting card ventral sides up. Two other specimens in the series were likewise dissected by CAMERON and glued to the card on their backs, minus antennae and legs. BMNH type labels (TYPE, HOLO-, PARA-, SYN- etc.), small round labels with coloured borders, were not usually affixed by the author, but later, by museum staff. CAMERON usually affixed only a single, handwritten type label worded "Genus species TYPE Cam."





**Figs. 1–4.** *Medome* spp., fore-bodies (1, 2, 3, 4), male sternite VII (1a, 2a, 4a), male sternite VIII (1b, 2b, 4b), male sternite IX (4e), and aedeagus in lateral (1c, 1f, 2c, 3c, 4c), ventral (1d, 4d), and dorsal (2d) views. – 1. *M. bicolor*, aberrant (?) ex. from Katrain (1, 1a, 1b, 1c, 1d), ex. from Arni Gad, Mussoorie (1f). 2. *M. siamensis* n. sp. 3. *M. schawalleri* n. sp. 4. *M. nigra* n. sp. – Scales: 2 mm (1–4), 0.5 mm (a–f).



The two specimens with aedoeagi as in Figs. 1c and d are otherwise identical to the others, including the male secondary characters. I can only conclude provisionally that they are aberrant or deformed. A lectotype cannot be designated in case, as one hopes, CAMERON's designated type is recovered.

Katrain is in the Kullu Valley at ca. 1300 m altitude. The beetle was sifted from litter by a stream. The specimens from Uttarakhand were collected at around 2000 m altitude.

*Medome siamensis* n. sp.

**Holotype** (♂): Thailand, Doi Inthanon 15.III.1982, G. DE ROUGEMONT (CRO).

**Paratypes**: 7 exx., same data as holotype; 1 ♀, Thailand, Doi Pui 14.III.1982, G. DE ROUGEMONT (6 exx. CRO, 2 exx. SMNS).

**Additional material**: 1 ♂, N-Thailand, Chiang Mai, Doi Suthep 1580 m NN, 13.XI.1995, P. WUNDERLE (CVA).

**Description**

Fore-body see Fig. 2. Body length 3.5–4.0 mm. Proportions of holotype: length of head: 50; breadth of head: 50; length of antenna: 69; length of pronotum: 47; breadth of pronotum: 47; length of elytron: 72; breadth of elytra: 65; length of metatarsus: 34.

On average slightly smaller and broader than *M. bicolor*, and the base of head is concave, not rectilinear. Colouration as in *M. bicolor*, but less variable; head and pronotum always dark reddish brown; elytra clearly tricolourous, fuscous, the anterior margin dark reddish, concolorous with pronotum, the posterior margin yellowish testaceous. Sculpture of fore-body as in *M. bicolor*.

Male: sternite VII (Fig. 2a), apical emargination of characteristic shape, the deepest part of emargination slightly produced in the centre; with a broad shallow impression in front of this, anteriorly with sparse recumbent very pale pubescence, posteriorly impunctate and devoid of pubescence or setae; on either side of the impression with a number of dark spicules obliquely directed inwardly, on either side of this area with a dense mass of stout dark setae; many of the spicules and setae have been rubbed off, especially on the left side in the specimen illustrated, but the insertion points are still clearly visible; sternite VIII (Fig. 2b), with a small sub-triangular emargination with rounded fundus, a little broader than in *M. bicolor*, the sides of sternite with fairly sparse black setae of varying length. Aedoeagus (Figs. 2c, d) with a very large and salient ventral blade, bi-furcate in lateral view, greatly expanded in ventral and dorsal views [the aedoeagus, Fig. 2d, was photographed in dorsal view because the shape of the apical half of the dorsal part of the blade is completely hidden in ventral view], and narrowed to a very acute apex; apex of sternite IX evenly rounded, without an emargination.

**Differential diagnosis**

This species is very similar to *M. bicolor* in outer appearance, only differing noticeably in its broader body; the aedoeagus is however quite different and of remarkable shape.

**Remark**

Doi Inthanon, the highest peak in Thailand, is about 70 km W of the city of Chiang Mai and Doi Pui as the horn-bill flies. This species and other staphylinids were collected from litter in a stream gully at ca. 2200 m altitude. The collecting site on Doi Pui is at about 1400 m altitude.

*Medome schawalleri* n. sp.

**Holotype** (♂): [562] Nepal, Dailekh Distr., N. Dailekh, 1600 m, 1.–2.VI.1998, leg. W. SCHAWALLER (SMNS).

**Description**

Fore-body see Fig. 3. Body length ca. 3.8 mm. Proportions of holotype: length of head: 55; breadth of head: 55; length of antenna: 90; length of pronotum: 54; breadth of pronotum: 60; length of elytron: 58; breadth of elytra: 50; length of metatarsus: 36.

Head and pronotum black; elytra black, very obscurely rufescent on the anterior, and more narrowly on the posterior margins; abdomen black; antennae rufo-testaceous, palpi and legs testaceous, the femora uniformly darker. Sculpture of fore-body comparable to that of the two preceding species; puncturation of abdominal tergites sparser, with longer, dark recumbent pubescence (pale in the preceding species).

Male: sternite VII with a small, rounded, shallow emargination with a few short dark setae on either side; sternite VIII with a small sub-triangular emargination with rounded fundus; sternites VII and VIII were lost (detached from mounting card), so cannot be illustrated; sternite IX with a large sub-triangular emargination. Aedoeagus see Fig. 3c, very large, with a salient preapical process.

**Differential diagnosis**

*M. schawalleri* n. sp. is the smallest member of the genus. It is easily distinguished from all the other species of *Medome* by the slightly shiny elytra with much finer and sparser puncturation and the male secondary and very distinctive primary sexual characters.

*Medome nigra* n. sp.

**Holotype** (♂): Burma, Anisakan 16.I.1981, G. DE ROUGEMONT (CRO).

**Paratype**: 1 ♀, Thailand, Doi Pui 14.III.1982, G. DE ROUGEMONT (CRO).

### Description

Fore-body see Fig. 4. Body length 4.0–4.2 mm. Proportions of holotype: length of head: 70; breadth of head: 69; length of antenna: 130; length of pronotum: 65; breadth of pronotum: 64; length of elytron: 72; breadth of elytra: 65; length of metatarsus: 44.

Fore-body entirely black; abdominal tergites fuscous; palpi testaceous; mandibles and antennae rufo-testaceous; legs testaceous, the distal half of femora infusate. Sculpture of head comparable to that of the other species but somewhat coarser. Sculpture of pronotum strigose, as in the other species, but the carinae thicker and more salient, perfectly smooth (catenulate, i. e. the carinae indented at short intervals) in *M. schawalleri*. Punctuation of elytra much sparser than in other species, the interstices at least as wide as diameter of punctures, the surface therefore distinctly shiny. This is the largest species of the genus.

Male: apical margin of sternite VII (Fig. 4a) entirely emarginated in characteristic way, the sides of emargination slightly asymmetrical, the median portion produced into a large salient lobe apparently consisting of two or more layers of chitin, translucent at apex, with a thick additional layer under the surface, appearing as two elongate reddish lobes; surface of sternite with sparse pale pubescence. The postero-lateral areas with a few large stout setae; emargination of sternite VIII (Fig. 4b) larger and deeper than in other species, the postero-lateral areas of sternite with a few very large stout setae; apical emargination of sternite IX (Fig. 4e) broad, shallow, the apico-lateral angles rounded. Ventral blade of aedeagus (Figs. 4c, d) with a very salient preapical process in lateral view (Fig. 4c), but not visible in ventral view (Fig. 4d), which also shows that the lateral faces of the process are curved upwards so that the process is U-shaped in cross section, like a scoop or trough.

### Differential diagnosis

This new species is readily distinguishable from other *Medome*, even by its external characters: it is the largest

member of the genus, and the combination of dark colour and very thick and salient carinae of the pronotum also differs from other species.

### Remark

Anisakan is the site of waterfalls in a lushly forested valley at ca. 1000 m altitude near the hill town of Maymyo, about 65 km NE of Mandalay. The type was sifted from moist litter by the falls.

### 4 Key for identification of the known species of *Medome*

- 1 Head, and pronotum usually reddish-brown, elytra usually clearly bi- or tricolorous. – Species from India or Thailand. .... **2**
- Fore-body predominantly black; elytra obscurely bicolorous in one species. – Species from Nepal, Burma or Thailand. ... **3**
- 2 Narrower species, pronotum about as long as broad; base of head rectilinear; fore-body see Fig. 1; male sexual characters see Figs. 1a–f. – NW India. .... **bicolor** Cameron
- Broader species, pronotum distinctly transverse; base of head broadly excavate, the rounded postero-lateral angles therefore salient; fore-body see Fig. 2; male sexual characters see Figs. 2a–d. – Thailand. .... **siamensis** n. sp.
- 3 Head and pronotum black, elytra black, the latter with obscurely dark reddish anterior and posterior margins; elytra dull, their punctuation coarse and close, sub-rugose; fore-body see Fig. 3; aedeagus see Fig. 3c. – Nepal. .... **schawalleri** n. sp.
- Fore-body entirely black; elytra shiny, their punctuation fine and sparser, the interstices equal to or larger than diameter of punctures; fore-body see Fig. 4; male sexual characters see Figs. 4a–e. – Burma, Thailand. .... **nigra** n. sp.

### 5 Reference

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Artikel/Article: [Three new species of Medome Cameron \(Coleoptera: Staphylinidae: Paederinae\) 131-135](#)