Taxonomic notes on Palaearctic and Oriental species of Neomida Latreille, 1829 (Coleoptera, Tenebrionidae), with description of a new species from southern India

Autor(en): **Schawaller, Wolfgang**

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Taxonomic notes on Palaearctic and Oriental species of *Neomida* LATREILLE, 1829 (Coleoptera, Tenebrionidae), with description of a new species from southern India

by **Wolfgang Schawaller**[*)]

Abstract. *Neomida shiva* sp.nov. from southern India is described and compared with *Neomida tricornis* (GEBIEN, 1925) from Sumatra (type locality), Sulawesi and Borneo (new records). *Neomida asiatica* (LEWIS, 1894), described from northern Japan (Hokkaido), is a new synonym of *Neomida haemorrhoidalis* (FABRICIUS, 1787), distributed in Europe, all of Siberia including Sakhalin, and in the northern Japanese island Hokkaido. *Neomida quadricornis* (MOTSCHULSKY, 1873), occurring in the Caucasus and northern Iran, is revalidated and compared with *Neomida haemorrhoidalis* (FABRICIUS, 1787).

Key words. Tenebrionidae – *Neomida* – new species – taxonomy – Palaearctic – Oriental

Introduction

The tenebrionid genus *Neomida* LATREILLE, 1829 (Diaperinae: Diaperni) contains about 50 species being distributed world-wide, mostly in the tropics. The present scope of the genus probably does not reflect a phylogenetic unit and the "weak" separation from other genera, particularly from *Platydema* LAPORTE DE CASTELNAU & BRULLÉ, 1831, was already discussed by GEBIEN (1925) and TRIPLEHORN (1965). The last author also enlightened the complicated synonymy: *Neomida* LATREILLE, 1829, not MOTSCHULSKY, 1873 [syn. *Oplocephala* (not *Hoplocephala*) LAPORTE DE CASTELNAU & BRULLÉ, 1831].

Abbreviations

CCWH ..... Collection Claus Wurst, Heilbronn/Germany
CSBC ..... Collection Stanislav Bečvář, České Budějovice/Czech Republic
HNHM ..... Hungarian Natural History Museum Budapest (Dr. Ottó Merkl)
NHMB ..... Naturhistorisches Museum Basel (Dr. Daniel Burckhardt)
SMNS ..... Staatliches Museum für Naturkunde Stuttgart (author)
ZMMU .... Zoological Museum of Moscow University (Tatjana Kompantzeva)

Neomida LATREILLE, 1829

In: CUVIER G. (1829): Le règne animal... **5:** 29.

Type species: *Ips haemorrhoidalis* FABRICIUS, 1787

Remarks. The males of nearly all species of *Neomida* possess species-specific cephalic horns differing in form widely between the species. The frontal pair may be thin,

*) Contributions to Tenebrionidae no. 38. – For no. 37 see: *Stuttgarter Beitr. Naturk.* **(A)641** (2002).

cylindrical and straight, or thick, flattened and blunt, or long and curved. Additionally, the clypeus may be armed with 2 longer horns, or with 2 small tubercles, or with 1 median tubercle or horn. The herein newly described species from southern India can be identified by a single character, namely by the striking size and shape of these cephalic horns, and the herein established revalidation of *Neomida quadricornis* (MOTSCHULSKY, 1873) from the Caucasus is also mainly based on the structure of the cephalic horns.

The species of *Neomida* have a mycetophagous mode of life, the Palaearctic species *Neomida haemorrhoidalis* and *N. quadricornis* live together with their larvae in *Fomes*. The hosts of the herein treated Oriental species are unknown.

***Neomida shiva* sp.nov.** (Figs 1, 5–7)

Material examined. Holotype ♂: S India, Kerala, 15 km SW Munnar, Kallar valley, 176°58' E, 10°02' N, 1250 m, 1.–9.V.1997 leg. Dembický & Pacholátko, NHMB. Paratypes: Same data as holotype, 5♂, 1♀ NHMB, 2♂ SMNS, 1♂ HNHM. – S India, Kerala, Cardamon Hills, 15 km SW of Munnar, Kallar valley, 76°58' E, 10°02' N, 1000 m, 6.–18.XII.1993 leg. Boukal & Kejval, 3♂, 1♀ CSBC, 1♂, 1♀ HNHM. – S India, Kerala, Cardamon Hills, 10 km SW of Munnar, Vattiar, 77°01'E, 10°02'N, 1000 m, 5.–17.XII.1993, leg. Boukal & Kejval, 1♂, 2♀ CSBC.

Description. Body length 6.2–6.8 mm. Head, pronotum and elytra dark ferrugineous and shining; antenna and legs somewhat lighter.

Head in males with distinct cephalic horns (Fig. 1): frontal pair long and finger-like with blunt tip, somewhat bent backwards, without setation; head between these frontal horns deeply excavated and surface here unpunctured and shining; clypeus with a median small tubercle; clypeus with distinct punctation, not confluent, punctures distincly bigger than those on the pronotum. Head in female unarmed and with regular distinct punctation, not confluent, punctures distinctly bigger than those on the pronotum. Shape of the antennomeres see Fig. 5, antennomere 3 is 1.25 times longer than antennomere 4.

Pronotum 2.0 times wider than long, widest shortly before base; with fine and regular punctation, without setation, surface between the punctures even and shining; lateral and distal margin finely bordered, basal margin unbordered; propleures with fine punctation and short setation. Elytron with 9 regular rows of fine punctures in striae, third row with about 55 punctures; intervals nearly flat, with similar fine punctation as on pronotum; lateral margin completely to be seen from dorsal; epipleura not abruptly narrowed before apex. Wings fully developed. Prosternal process triangular, fitting in the V-shaped mesosternal excavation. Legs without peculiarities; metatarsus relatively long, shape of its segments see Fig. 7.

Abdominal ventrites with distinct punctation and short setation, last visible ventrite unbordered. Aedeagus see Fig. 6, with short basal piece, joint parameres spade-like.

Distribution. Southern India.

Differential diagnosis. *Neomida shiva* sp.nov. shares with *N. tricornis* (GEBIEN, 1925) from Sumatra, Borneo and Sulawesi the structure of the male head with a pair of long frontal horns with a blunt tip and an additional horn/tubercle medially on the clypeus. But in *N. shiva* sp.nov. the frontal horns are longer and bent backwards and the clypeus

bears only a short median tubercle, whereas in *N. tricornis* the frontal horns are shorter and bent outwards and the clypeus bears a longer median horn (Figs 1–2). In *N. shiva* sp.nov., the aedeagus is of normal size in comparison with the body size and the joint parameres have a somewhat acute tip, in *N. tricornis*, the aedeagus is extremely small and the joint parameres have a rounded tip (Figs 6, 9). In dorsal view, *N. shiva* sp.nov. is broader and of ovoid shape, and the lateral margin of the elytra is completely and clearly to be seen, whereas *N. tricornis* is narrower and parallel, and the lateral margin of the elytra is covered by the elytral vault.

Remarks. In the Palaearctic pair of the *Neomida* species (probably sister species in a phylogenetical sense) *haemorrhoidalis* - *quadricornis*, the antennomeres 3 are only feebly longer than the antennomeres 4 (Figs 11, 14), the metatarsi and particularly their basal segments are short (Figs 13, 16), and the aedeagi possess a long, tube-like basal piece (Figs 12, 15). In contrary, in the Oriental pair *shiva* - *tricornis*, the antennomeres 3 are distinctly longer than the antennomeres 4 (Figs 5, 8), the metatarsi and particularly their basal segments are longer (Figs 7, 10), and the aedeagus posses a quite short, and partly open basal piece (Figs 6, 9). At least these characters should be checked in all the other species of the genus, probably they are hints to a paraphyletic grouping within *Neomida*.

Etymology. Named after the Hindu God Shiva.

Neomida tricornis (GEBIEN, 1925) (Figs 2, 8–10)

Material examined. Borneo, Kalimantan, Gunung Palung NP, Cabang Panti research site, lowland rainforest, 18.–26.VII.1993 leg. O. Merkl, 1♂, 1♀ HNHM. – Borneo, Sabah, Crocker Range, Tenom, Kalang waterfall, 17.VI.1998 leg. J. Kodada & F. Ciampor, 1♀ SMNS. – S Sulawesi, 20 km NE Sabbang, 5.–7.VII.2001, leg. L. Bolm, 2♂, 1♀ SMNS.

Remarks. Structure of the male head see Fig. 2, aedeagus see Fig. 9.

Distribution. Sumatra (locus typicus: Serdang, Tandjong Morawa), Borneo (new record), Sulawesi (new record).

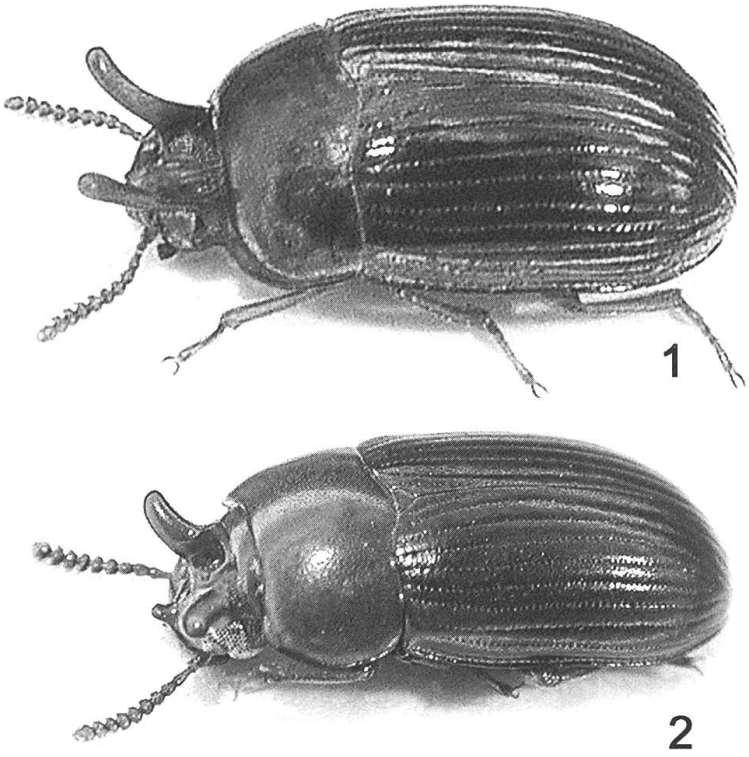
Neomida haemorrhoidalis (FABRICIUS, 1787) (Figs 4, 14–16)

Neomida asiatica (LEWIS, 1894): Ann. Mag. nat. Hist. **(6)13:** 392, **syn.nov.**

Material examined. Germany, Hessen, Groß-Gerau, 1980–1983 leg. J. Scheuern, 20 ex. SMNS. – Greece, Thrakia, Nomós Évros, 5 km S Mikró Dhério, 100 m, 23.IV.1994 leg. W. Schawaller, 7 ex. SMNS. – Cyprus, Paphos, Livadhi valley, 19.VII.1977 leg. S. Vit, 1 ex. SMNS. – Turkey, Tokat, Erbaa, Kale above Karayaka, 27.VIII.1991 leg. C. Wurst, 10 ex. CCWH, 2 ex. SMNS. – E Iran, 20 km NW Zahedan, 3.VI.1977 Expedition Museum Prague, 1 ex. HNHM. – E Afghanistan, Nuristan, Mangul, Bashgul valley, 1250 m, 18.VII.1952 leg. J. Klapperich, 1 ex. HNHM (KASZAB 1960). – Japan, Hokkaido, Notsukezaki, Nemuro, 1.VIII.1972 leg. K. Hirai, 2 ex. SMNS.

Remarks. Structure of the male head see Fig. 4, aedeagus see Fig. 15.

Distribution. Europe, Cyprus, Turkey, Crimea, Russia (southward up to Samara and Voronezh) including all of Siberia (Altai, Krasnojarsk, Far East and Sakhalin) (KOMPANTZEVA *in litt.*), E Iran, Afghanistan (KASZAB 1960, 1 male re-examined), and



Figs 1–2. Dorsal view of the males of *Neomida* species: 1, *N. shiva* sp.nov.; 2, *N. tricornis* (GEBIEN, 1925).

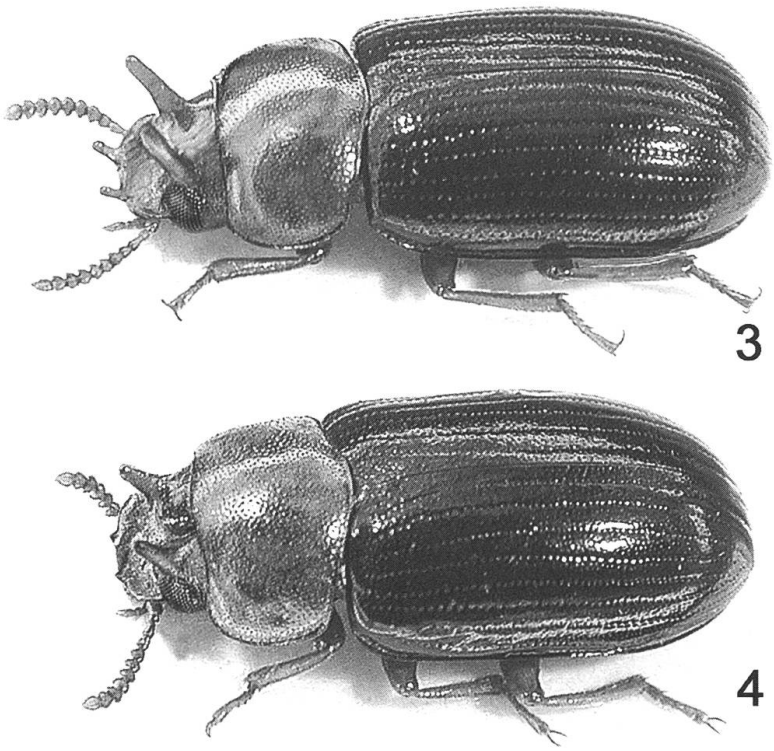
also northern Japan (Hokkaido); also at least partly in the Caucasus, but the records are probably mixed with *N. quadricornis*.

Synonymy. The studied non-type males from Hokkaido (type locality of *N. asiatica* LEWIS, 1894) show no specific differences (cephalic horns, aedeagus, body shape and size, antenna, legs) with material from Europe and Siberia, thus I consider the population from Hokkaido as conspecific with the widespread Palaearctic species *N. haemorrhoidalis* FABRICIUS, 1787.

Neomida quadricornis (MOTSCHULSKY, 1873) (Figs 3, 11–13)

Material examined. "Georgia", type (ZMMU) (examined by KOMPANTZEVA *in litt.*). – Azerbaijan, Istisu W Astara, 100 m, 2.–6.VI.1996 leg. M. Hauser & W. Schawaller, 6 ex. SMNS. – Azerbaijan, Lenkoran, Apo below Bilasar, 350 m, 8.–9.VI.1996 leg. W. Schawaller, 2 ex. SMNS. – N Iran, 30 km E Minudasht, Gole Loveh, 750 m, 21.–27.IV.1974 leg. C. Holzschuh & F. Ressl, 1 ex. SMNS. – N Iran, 20 km NW Dasht, Golestan forest, 530 m, 19.–21.VI.1977, Expedition Museum Prague, 3 ex. HNHM.

Remarks. This taxon was hitherto considered as a junior synonym of *N. haemorrhoidalis* FABRICIUS, 1787 (GEBIEN 1936), but can be separated by distinct cephalic horns (frontal horns as in *N. haemorrhoidalis*, clypeal horns cylindrical and



Figs 3–4. Dorsal view of the males of *Neomida* species: 3, *N. quadricornis* (MOTSCHULSKY, 1873); 4, *N. haemorrhoidalis* (FABRICIUS, 1787).

long and not tubercle-like as in *N. haemorrhoidalis*) as well as by a different aedeagus with narrower joint parameres. These differences are not gradual, they exist in bigger as well as in smaller males of both *N. haemorrhoidalis* and *N. quadricornis*. Structure of the male head see Fig. 3, aedeagus see Fig. 12. Thus, *N. quadricornis* MOTSCHULSKY, 1873 is herewith formally revalidated. An additional argument for the validity of both species is the morphology of the corresponding larvae, KOMPANTZEVA (1987) published differences in the length of the first antennal segment and in the setation of the apex of the caudal segment.

Distribution. Caucasus (type locality "Georgia", also Krasnodar area, Azerbaijan: Major Caucasus and Talysh Mts.) (KOMPANTZEVA *in litt.*) and adjacent northern Iran.

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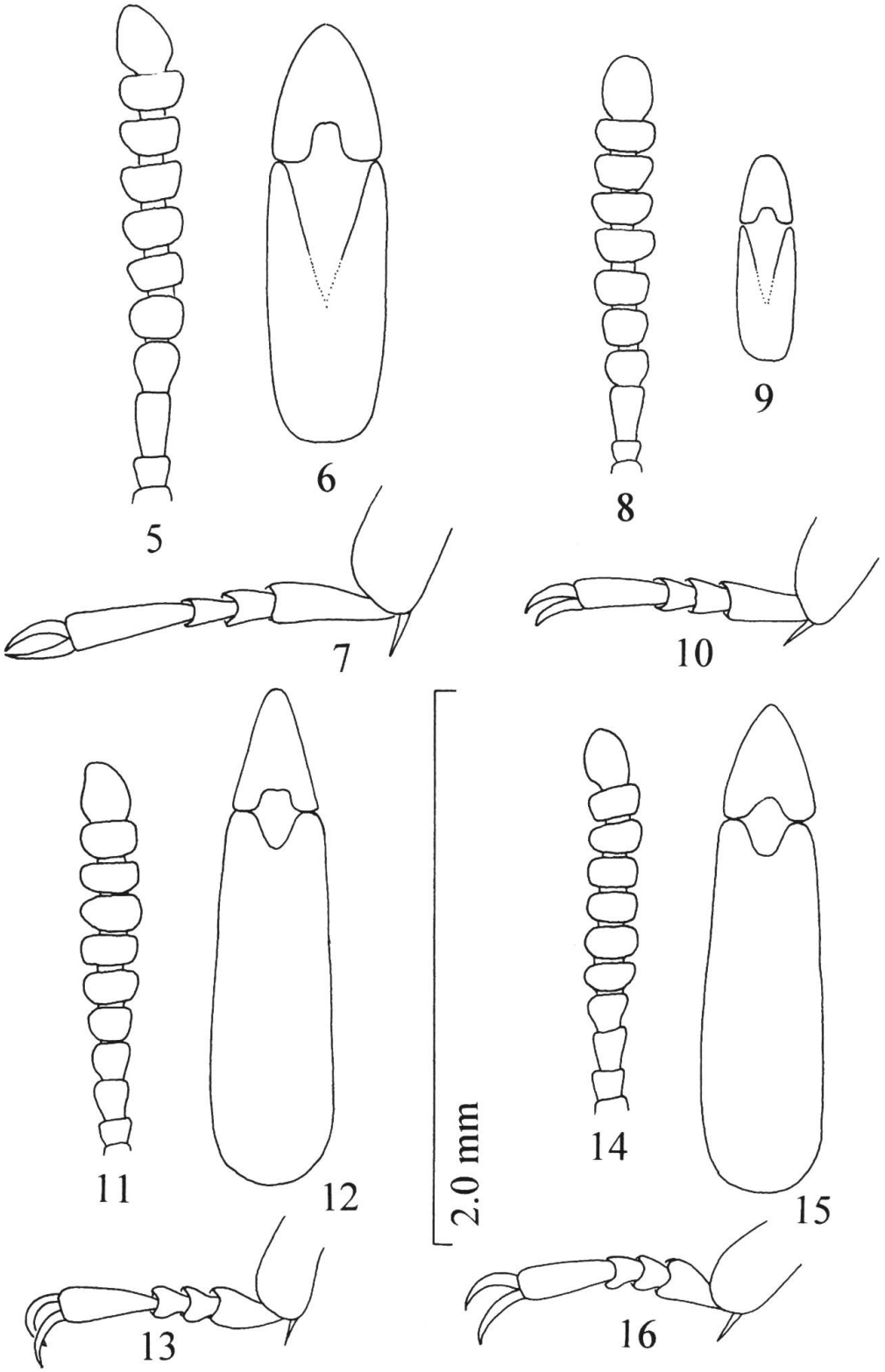

Figs 5–16. Antenna, aedeagus and metatarsus of *Neomida* species: 5–7, *N. shiva* sp.nov.; 8–10, *N. tricornis* (GEBIEN, 1925); 11–13, *N. quadricornis* (MOTSCHULSKY, 1873); 14–16, *N. haemorrhoidalis* (FABRICIUS, 1787).

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Address of author:

Dr. Wolfgang Schawaller
Staatliches Museum für Naturkunde
Rosenstein 1
D-70191 Stuttgart
GERMANY
E-mail: schawaller.smns@naturkundemuseum-bw.de