

**A contribution to the knowledge of genus *Trogoderma* from New Zealand
(Coleoptera: Dermestidae: Megatominae)**

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Abstract. The following three new species *Trogoderma newzealandicum* sp. nov., *Trogoderma sonjirii* sp. nov. and *Trogoderma zahradniki* sp. nov. all from New Zealand are described, illustrated and compared with related species. A revised checklist of *Trogoderma* species from New Zealand is provided.

INTRODUCTION

The genus *Trogoderma* Dejean, 1821 recently contains 161 species worldwide (Háva 2015, 2018). During the determination of some unidentified Dermestidae sent me for study by Richard Leschen from the New Zealand Arthropod Collection, Auckland (New Zealand), three new species from New Zealand belonging to the genus *Trogoderma* Dejean, 1821 were found and are described here. The present article follows author's published works about *Trogoderma* from the Australian Region (Háva 2014, Háva & Kadej 2015).

MATERIAL AND METHODS

Body measurements (in mm):

- TL total length, linear distance from anterior margin of head to apex of elytra;
PL pronotal length, maximal length measured from anterior margin to posterior margin;
PW pronotal width, maximal linear transverse distance;
EW elytral width, maximal linear transverse distance.

Abbreviations of collections:

- BMNH British Museum Natural History, London, United Kingdom;
JHAC Jiří Háva, Private Entomological Laboratory & Collection, Únětice u Prahy, Prague-West, Czech Republic;
NZAC New Zealand Arthropod Collection, Auckland, New Zealand.

The lectotype is designated in order to stabilize the nomenclature in the genus in accordance with Article 74.7.3. of the Code (ICZN, 1999).

Specimens of the species designated here as lectotypes or paralectotypes are provided with red printed labels with the text as follows: Lectotype [or Paralectotype, respectively], *name of taxon* J. Háva design. 2002.

Specimens of the species here designated as new species are provided with red printed labels with the text as follows: HOLOTYPE *name of taxon* J. Háva det. 2019.

RESULTS

Trogoderma granulatum Broun, 1886

Trogoderma granulatum Broun, 1886: 900.

Type material. 2 Syntypes „*Trogoderma granulata*“: „, New Zealand, Broun Coll., Brit. Mus., 1922-482 / Waitakerei “ (BMNH). Lectotype (♂) and Paralectotype (♀) Háva design. 2002.

Other material: New Zealand AK, Huia, jan.1981, B. M. May lgt., malaise trap in bush, 2 spec., (NZAC); New Zealand ND, Abbey Caves, 16 feb.2000, R. Leschen lgt. / Hall R. Hoare at large RL 545, 35°43'S 172°21'E, 1 spec., (NZAC); New Zealand AK, Wattle Bay, 14.jan.1978, G. Kuschel lgt. / Beating *Muehlenbeckia australis*, 1 spec., (JHAC).

Trogoderma maestum Broun, 1880

Trogoderma maestum Broun, 1880: 241.

Trogoderma suffusum Broun, 1886: 953; Háva 2003: 136.

Type material. Holotype *Trogoderma maestum* (♀): „, New Zealand, Broun Coll., Brit. Mus., 1922-482 / Paparoa “, (BMNH).

Holotype *Trogoderma suffusum* (♀): „, New Zealand, Broun Coll., Brit. Mus., 1922-482 / Howick “, (BMNH). [immature specimen]

Other material: New Zealand SD, Queen Charlotte Drive, Picton, 3. jan.1971, M. G. McPherson lgt., 3 spec., (NZAC, JHAC).

Trogoderma newzealandicum sp. nov.

(Figs. 1-3)

Type material. Holotype (♂): New Zealand SD, Momorangi Bay, Queen Charlotte Sound / 30 jan. 1981, R. H. Kleinpaste lgt., (NZAC).

Description. Male. Body long, narrow, parallel (Fig. 1). Measurements of the body (mm): TL 3.4, PL 0.55, PW 1.0, EW 1.35.

Head dark brown; pronotum dark brown, shiny, with sparse brown and grey setation; elytra brown with sparse brown and grey setation; antennae dark brown; legs brown. Head coarsely punctate, sparsely covered with short, grey setation. Palpi dark brown. Eyes very large, with yellow microsetae. Ocellus on front present. Antennae filiform, dark brown,

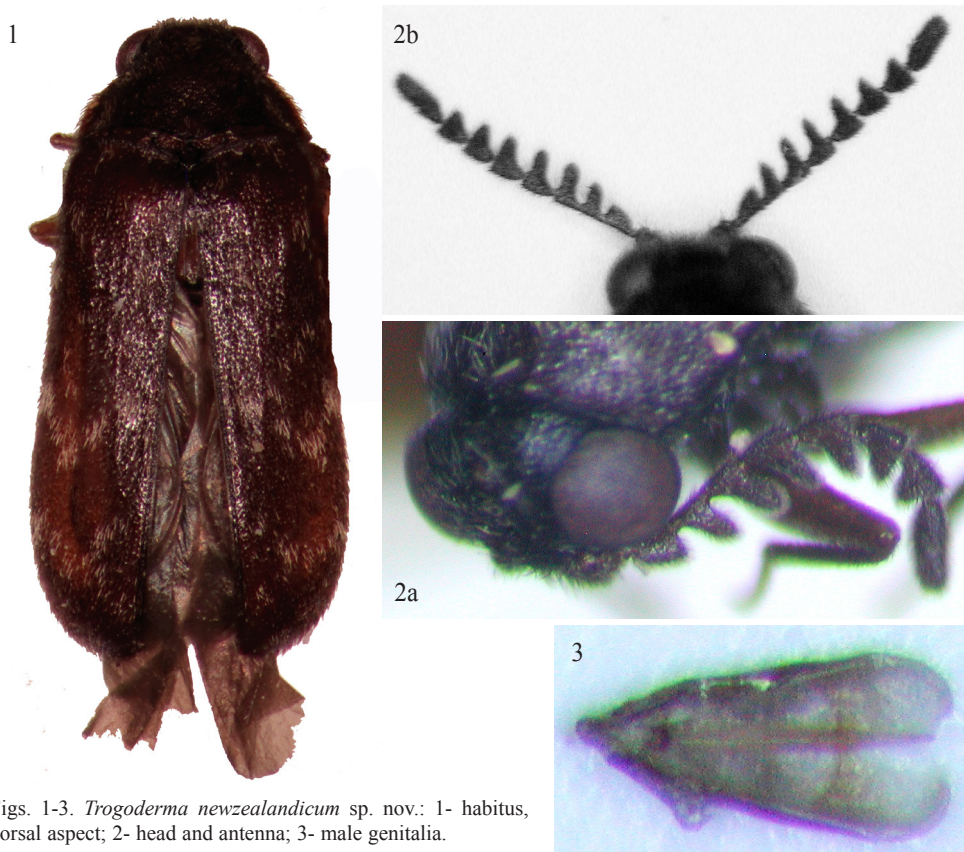
with short, yellow setation, composed of 11 antennomeres (Fig. 2). Pronotum shiny, coarsely punctate, dark brown, lateral margins of pronotum smooth. Scutellum dark brown, triangular, without setation. Elytra shiny, brown, with narrow, transverse fasciae of grey setation, other parts covered by sparse brown setation; each elytron with large bump on humerus. Epipleuron brown, covered by brown setation. Mesosternum and metasternum covered with grey setation, finely punctate. Legs dark brown, covered with recumbent, grey setation. Abdominal ventrites dark brown, finely punctate, sparsely covered with recumbent grey setation; ventrites II-IV with lateral, small depression.

Male genitalia as in Fig. 3.

Female. Unknown.

Differential diagnosis. The new species differs from other New Zealand species by the very long, narrow, parallel body form and filiform structure of antennae and structure of male genitalia.

Etymology. Toponymic, named after the country New Zealand.



Figs. 1-3. *Trogoderma newzealandicum* sp. nov.: 1- habitus, dorsal aspect; 2- head and antenna; 3- male genitalia.

***Trogoderma punctatum* Broun, 1886**

Trogoderma punctatum Broun, 1886: 953.

Type material. 2 Syntypes „*Trogoderma punctata*“: „, New Zealand, Broun Coll., Brit. Mus., 1922-482 / Paparoa “ (BMNH). Lectotype (♂) and Paralectotype (♂) Háva design. 2002.

Other material: New Zealand AK, Hunua Ra, 12 dec.1982, C. F. Butcher lgt., 10 spec., (NZAC, JHAC).

***Trogoderma quadrifasciatum* Broun, 1893**

Trogoderma quadrifasciatum Broun, 1893: 1105.

Type material. Holotype „*Trogoderma 4-fasciata*“ (♀): „, New Zealand, Broun Coll., Brit. Mus., 1922-482 “, (BMNH).

Other material: New Zealand AK, Waiheke I, Oneroa Bch, 14.dec.1981, M. F. Tocker lgt., 1 spec., (NZAC); New Zealand AK, East Tamaki, feb.1982, H. M. Raudon lgt., 1 spec., (NZAC); New Zealand AK, Lynfield, 20 sept.1987, R. C. Craw lgt., 1 spec., (JHAC).

***Trogoderma serrigerum* Sharp, 1877**

Trogoderma serrigerum Sharp, 1877: 270.

Trogoderma pictulum Broun, 1911: 100; Háva 2003: 139.

Type material. Holotype *Trogoderma serriger* (♀): „, Riccarton N. Zd., sep.22.1873 “ (BMNH). Holotype *Trogoderma pictulum* (♀): „, Chatham Is., Broun Coll., Brit. Mus., 1922-482 / Pittsland, I. Hall “ (BMNH).

***Trogoderma signatum* Sharp, 1877**

Trogoderma signatum Sharp, 1877: 271.

Type material. 4 Syntypes: „, Auckland, N. Zd. “, (BMNH). Lectotype (♀) and 3 paralectotypes (♀) J. Háva design. 2002.

Other material: New Zealand ND, Poor Knights Is., Aorangi, Puweto Valley, 16 nov. 1981, J. C. Watt lgt. / Sifted woodmould 81/138, 6 spec., (NZAC, JHAC).

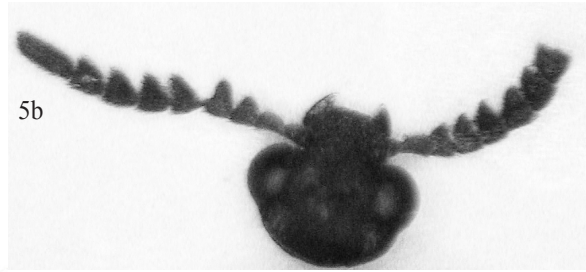
***Trogoderma sonjirii* sp. nov.**

(Figs. 4-6)

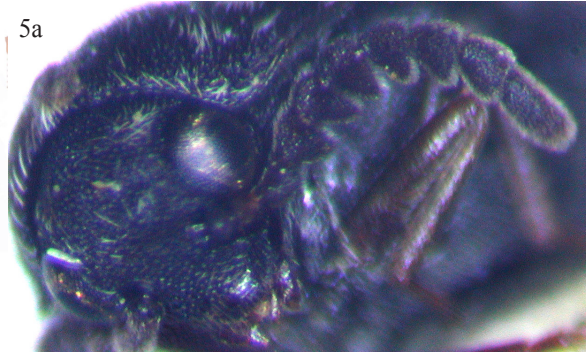
Type material. Holotype (♂): New Zealand ND, Waipoua SF, Waipoua R, 30 oct. 1985, R. C. Craw lgt., (NZAC). Paratypes (1 ♀): the same data as holotype (NZAC); (1 ♂): New Zealand TO, Kaimanawa North, Forest Park, 762 m, 20 feb. 1979, J. S. Dugdale lgt., (JHAC).

Description. Male. Body long, broad, parallel (Fig. 4). Measurements of the body (mm): TL 2.9, PL 0.65, PW 1.35, EW 1.45.

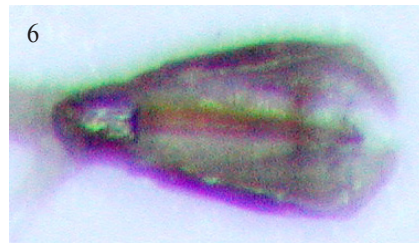
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Figs. 4-6. *Trogoderma sonjirii* sp. nov.: 4- habitus, dorsal aspect; 5- head and antenna; 6- male genitalia.

Head dark brown; pronotum dark brown, shiny, with long yellow setation; elytra brown with long yellow setation; antennae light brown; legs brown. Head finely punctate, sparsely covered with long, yellow setation. Palpi light brown. Eyes large, with yellow microsetae. Ocellus on front present. Antennae not filiform, dark brown, with short, yellow setation, composed of 11 antennomeres (Fig. 5). Pronotum shiny, coarsely punctate, dark brown, lateral margins of pronotum smooth. Scutellum dark brown, triangular, without setation. Elytra coarsely punctate, shiny, brown, without fasciae or spots, covered by long yellow setation; each elytron with large bump on humerus. Epipleuron brown, covered by yellow setation. Mesosternum and metasternum covered with yellow, long setation, finely punctate. Legs brown covered with recumbent, yellow setation. Abdominal ventrites brown, finely punctate, sparsely covered with recumbent yellow setation; ventrites II-IV with lateral, small depression.

Male genitalia as in Fig. 6.

Female. Externally similar to male. Antennomeres short and small.

Variability. Paratypes body measurements (mm): TL 2.5-3.1, PL 0.6-0.75, PW 1.25-1.8, EW 1.3-1.55.

Differential diagnosis. The new specie according to body form and colouration very similar to *T. maestum* Broun, 1880 but differs from it by the structure of antennae, colour elytral patterns and male genitalia.

Etymology. Patronymic, dedicated to my son Jiří Háva.

***Trogoderma zahradniki* sp. nov.**

(Figs. 7-9)

Type material. Holotype (♂): New Zealand CO, Canadian Stream, 8 nov. 1985, J. S. Dugdalle lgt., (NZAC).

Description. Male. Body long, narrow, parallel (Fig. 7). Measurements of the body (mm): TL 3.2, PL 0.5, PW 1.25, EW 1.3.

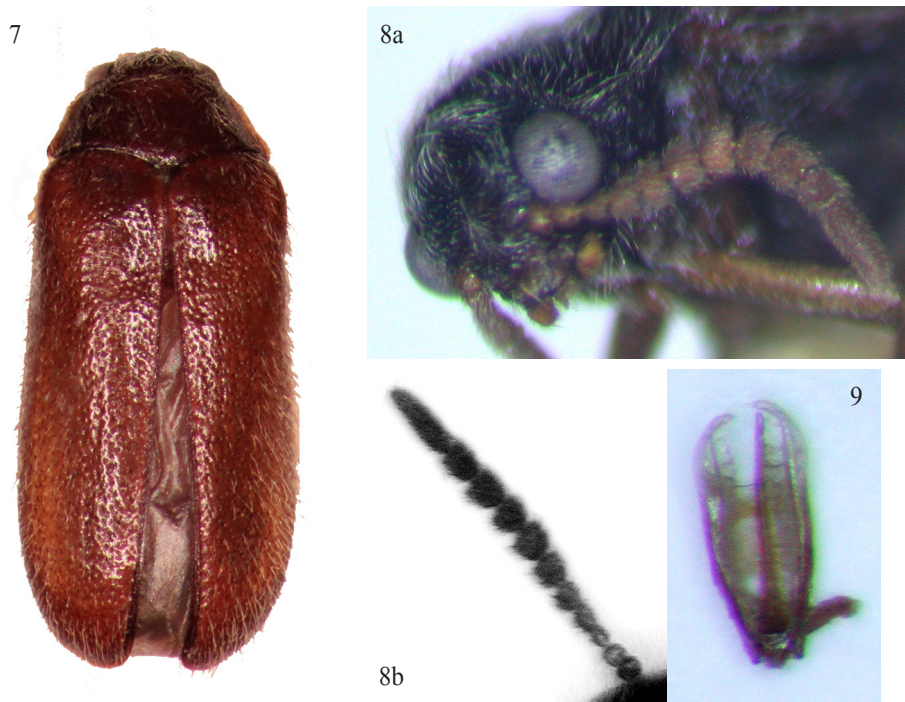
Head, pronotum and elytra black, matt, with sparse black and white setation; antennae brown to black; legs dark brown. Head coarsely punctate, sparsely covered with short, black and white setation. Palpi dark brown. Eyes large, with yellow microsetae. Ocellus on front present. Antennae not filiform, antennomeres II-VI dark brown, I, VII-XI black, with short, light brown setation, composed of 11 antennomeres (Fig. 8). Pronotum black, matt, coarsely punctate, lateral margins of pronotum not smooth, covered by black and white setation; white setation forming two large spots posteriorly and small individual six spots discally. Scutellum dark brown, triangular, without setation. Elytra matt, black, with very narrow, ill-defined fasciae or spots of white setation, other part covered by sparse black setation; each elytron with large bump on humerus. Epipleuron black, covered by black setation. Mesosternum and metasternum covered with grey setation coarsely punctate. Legs dark brown, covered with recumbent, grey setation. Abdominal ventrites black, finely punctate, sparsely covered with recumbent grey setation.

Male genitalia as in Fig. 9.

Female. Unknown.

Differential diagnosis. According to body form, the new species is very similar to *T. newzealandicum* sp. nov. but differs from it by the structure of antennae, colour elytral patterns and male genitalia.

Etymology. Patronymic, dedicated to my friend and colleague Petr Zahradník (Prague, Czech Republic), well known specialist in Ptinidae.



Figs. 7-9. *Trogoderma zahradniki* sp. nov.: 7- habitus, dorsal aspect; 8- head and antenna; 9- male genitalia.

LIST OF RECORDED SPECIES OF *TROGODERMA* FROM NEW ZEALAND

The species with * is introduced, synanthropic species according to Ward (1965), Archibald & Chalmers (1983), Archibald & Maddison (1988), Háva (2015).

- Trogoderma angustum* (Solier in Gay, 1849) *
- Trogoderma carteri* Armstrong, 1942 *
- Trogoderma granarium* Everts, 1898 *
- Trogoderma granulatum* Broun, 1886
- Trogoderma grassmani* Beal, 1954 *
- Trogoderma inclusum* LeConte, 1854 *
- Trogoderma maestum* Broun, 1880
- = *Trogoderma suffusum* Broun, 1886
- Trogoderma newzealandicum* sp. nov.
- Trogoderma ornatum* (Say, 1825) *
- Trogoderma punctatum* Broun, 1886
- Trogoderma quadrifasciatum* Broun, 1893
- Trogoderma serraticorne* (Fabricius, 1792) *
- = *Trogoderma anthrenoides* (Sharp, 1902)

Trogoderma serrigerum Sharp, 1877
= *Trogoderma pictulum* Broun, 1911
Trogoderma signatum Sharp, 1877
Trogoderma sonjirii sp. nov.
Trogoderma variabile Ballion, 1878 *
Trogoderma zahradniki sp. nov.

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