

The first New Guinean records of the genus
Bryothinusa CASEY, 1904
with descriptions of three new species
(Coleoptera, Staphylinidae, Aleocharinae)*

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Abstract

Three new species of the halobiont genus Bryothinusa are described and illustrated: Bryothinusa grootaerti and Bryothinusa parvula both from Laing Island and Bryothinusa papuensis from the Cape Vogel Peninsula. Hitherto no Bryothinusa species have been reported from New Guinea.

Key words: Staphylinidae, Bryothinusa, Papua New Guinea, new species.

Résumé

Description illustrée de trois espèces nouvelles dans le genre halobionte Bryothinusa: Bryothinusa grootaerti et Bryothinusa parvula de Laing Island et Bryothinusa papuensis de Cape Vogel Peninsula. Jusqu'à présent, aucune espèce du genre Bryothinusa n'avait été signalée de Nouvelle Guinée.

Introduction

The genus *Bryothinusa* CASEY, 1904 comprises 23 species of small to very small yellow-brown beetles. The genus was once revised by MOORE *et al.* (1973). Since then five new species (MOORE & LEGNER, 1975; PACE, 1984, 1990; SAWADA, 1991) and six new combinations (PACE, 1986; HAGHEBAERT, 1990, 1991) have been recognized. The present-day knowledge of the genus seems to be quite insufficient and most of the species are only known from the type series.

* Received 8.VI.1994.

All known species occur exclusively on sandy beaches and are probably halobiont or at least halophilous. Except for one species, *Bryothinusa catalinae* CASEY, 1904, nothing is known about their ecology and their immature stages (MOORE & ORTH, 1978).

Bryothinusa is a genus with a discontinuous distribution. They appear to have their highest radiation in the Indo-Australian Region but hitherto no *Bryothinusa* species have been reported from New Guinea.

The genus belongs to the tribe Diglottini and can be separated from other members of that tribe by the following generic characters:

slender, parallel, rather depressed; coloration flavotestaceous to dark-brown; labial palpi 3 segmented; galea without pubescence on inner side; tibiae not spinose externally; tarsi 4-4-5 segmented.

Checklist by geographical distribution

Red Sea

<i>Bryothinusa cameroni</i> (FAUVEL, 1904)	Perim Island, Kamarin Island
<i>Bryothinusa peyerimhoffi</i> (FAUVEL, 1904)	Perim Island, Palestine (Mediterranean Sea)
<i>Bryothinusa subtilissima</i> (CAMERON, 1904)	Perim Island
<i>Bryothinusa testacea</i> (FAUVEL, 1904)	Perim Island

Pacific Ocean

<i>Bryothinusa catalinae</i> CASEY, 1904	Southern California
<i>Bryothinusa rothi</i> MOORE & LEGNER, 1975	Gulf of California: Sonora
<i>Bryothinusa samoensis</i> PACE, 1984	Samoa: Upolu Island

Bismarck Sea

<i>Bryothinusa grootaerti</i> sp.n.	Papua New Guinea: Laing Island
<i>Bryothinusa papuensis</i> sp.n.	Papua New Guinea: Cape Vogel Peninsula
<i>Bryothinusa parvula</i> sp.n.	Papua New Guinea: Laing Island

Philippine Sea

<i>Bryothinusa celebensis</i> (FAUVEL, 1878)	Sulawesi: Macassar
<i>Bryothinusa orousseti</i> PACE, 1990	Philippines: Mindoro Island

South China Sea

<i>Bryothinusa chani</i> MOORE & LEGNER, 1971	Hong Kong
<i>Bryothinusa fluenta</i> MOORE & LEGNER, 1975	Hong Kong
<i>Bryothinusa honkongensis</i> MOORE, LEGNER & CHAN, 1973	Hong Kong

<i>Bryothinusa sawadai</i> MOORE, LEGNER & CHAN, 1973	Hong Kong
<i>Bryothinusa sinensis</i> MOORE, LEGNER & CHAN, 1973	Hong Kong
<i>Bryothinusa testaceipennis</i> (CAMERON, 1918)	Singapore

Sea of Japan

<i>Bryothinusa algarum</i> (SAWADA, 1955)	Japan
<i>Bryothinusa minuta</i> (SAWADA, 1955)	Japan
<i>Bryothinusa nakanei</i> (SAWADA, 1955)	Japan: Tokara Island
<i>Bryothinusa sakishimana</i> SAWADA, 1991	Japan: Iriomote Island
<i>Bryothinusa tsutsuii</i> (SAWADA, 1955)	Japan

Key to the *Bryothinusa* species of Papua New Guinea

- 1 Larger species : ca. 2 mm; pronotum broader than head; eyes longer: at least as long as tempora; elytra without or with one macroseta behind humeri 2
- Small species : ca. 1 mm; pronotum as broad as head; eyes small: 1/3 as long as tempora; elytra with two macrosetae behind humeri 1. *B. parvula* sp.n.
- 2 Eyes about twice as long as tempora; elytra slightly longer than pronotum; elytra without macrosetae behind humeri . . . 2. *B. papuensis* sp.n.
- Eyes about as long as tempora; elytra much longer than pronotum; elytra with one macroseta behind humeri 3. *B. grootaerti* sp.n.

Description of the new species

Bryothinusa parvula sp.n. (Figs 1-6)

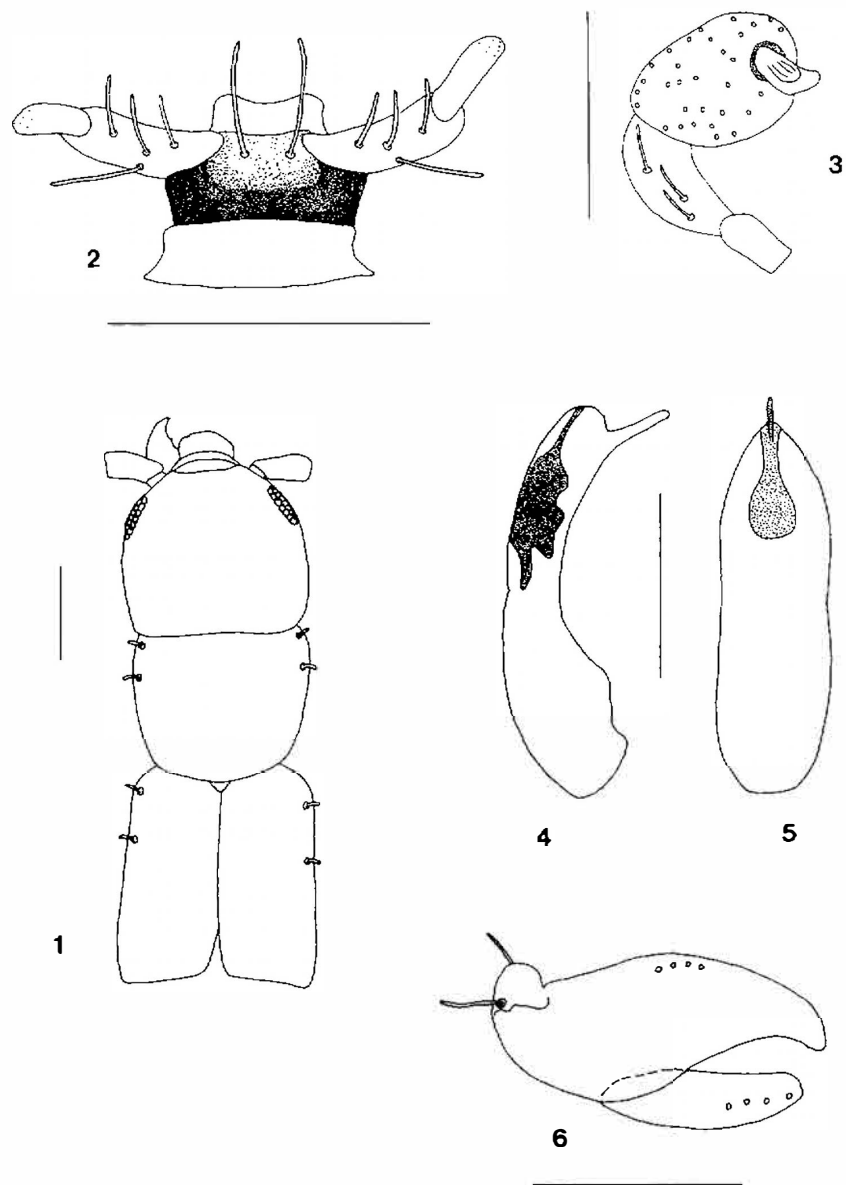
Diagnosis: this species is at once recognizable by the small size: 1.2 mm. It is the smallest known *Bryothinusa* species.

Description of ♂ holotype.

Length: 1.2 mm. Elongate, slender; rather parallel (Fig. 1); red-brown, antennae and legs yellow. Head red-brown, longer than broad (l. × w.: 0.17 × 0.15); eyes small, tempora almost three times as long as eyes; finely alutaceous; mouthparts and antennae yellow, the latter longer than head and pronotum together (0.48); antennal segments I and III about twice as long as broad, II twice as long as III and IV together, V to X equal in length: longer than broad, XI about as long as IX and X together, pointed at apex.

Pronotum yellow-red, as long as broad (0.15), almost parallel, base slightly narrower than apex; finely alutaceous, rather shining; disc slightly impressed; pubescence not visible; two macrosetae situated near apical area.

Scutellum hardly visible.



Figs 1-6. *Bryothinusa parvula* sp.n. 1: habitus; 2: labium, dorsally; 3: maxillary palpus; 4: aedeagus, laterally; 5: aedeagus, dorsally; 6: paramere, laterally. Scales: 1, 4-6: 0.1 mm; 2, 3: 0.05 mm.

Elytra yellowish; parallel; longer than broad (l. \times w.: 0.24 \times 0.17); humeri present; no microsculpture visible; pubescence dense, very short; two macrosetae situated near base and middle.

Hind wings well developed.

Abdomen slender, brownish, slightly broadened backwards; tergite V and terminalia paler brown; terga I to IV longitudinally impressed at base; densely alutaceous, rather shining; terminalia with numerous setae.

Legs completely yellow, no long setae visible on plantar surface of tarsi.

Aedeagus as in figs 4-5.

Female and larvae unknown.

Material examined: δ holotype, 1 δ paratype, labelled: Papua New Guinea, Laing Island, beach (white watertrap), 6-8.V.1993 (leg. P. GROO-TAERT). Deposited in the Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels.

Etymology: from the latin *parvula* referring to the minute size of the beetles.

Bryothinusa grootaerti sp.n. (Figs 7-12)

Diagnosis: The new species is very similar to *Bryothinusa papuensis* sp.n. but differs in the length of the eyes and elytra and the shape of the aedeagus.

Description of δ holotype

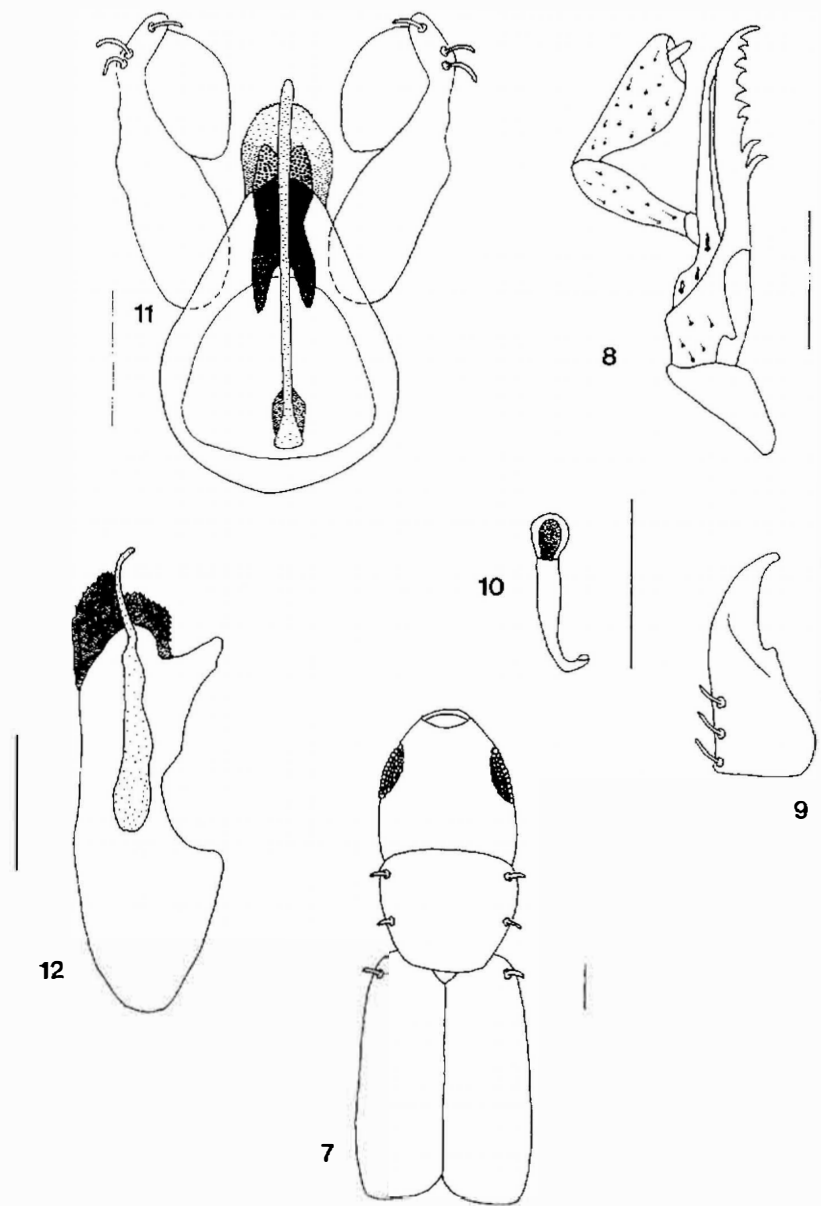
Length: 1.9 mm. Head dark brown, broader than long (l. \times w.: 0.26 \times 0.30), eyes about as long as tempora (Fig 7), slightly impressed between eyes, microsculpture fine and dense, rather shining; pubescence greyish, short and dense, mandibles reddish, hook-tipped at apex (Fig. 9); palpi yellow; antennae yellow, length: 0.84: segments I and II elongate, similarly formed, III 0.5 \times longer than broad, IV twice as long as broad, V to X similarly formed slightly increasing in width, XI about as long as IX and X together.

Pronotum reddish-brown, slightly broader than long (l. \times w.: 0.28 \times 0.33), widest behind apical angles, slightly narrowed backwards, weakly impressed in middle, microsculpture as on head, pubescence laterally directed; one macroseta situated in apical angle and one behind middle.

Elytra yellow-brown; length: 0.4; humeri present; microsculpture stronger than on pronotum; pubescence grey, short, dense; one macroseta situated behind humeri.

Hind wings well developed.

Abdomen parallel (slightly broadened at apex), terga I and II and terminalia red-brown, tergites III to V brownish, terga V more shining than fore parts; finely alutaceous; pubescence disorderly, long at pleuron and apex of terga; terminalia with numerous setae.



Figs 7-12. *Bryothinusa grootaerti* sp.n. 7: habitus; 8: maxilla, dorsally; 9: mandible; 10: spermatheca; 11: aedeagus, dorsally; 12: aedeagus, laterally. Scales 7-12: 0.1 mm.

Legs yellow, plantar surface of tarsi with long setae.

Aedeagus as in figs 11-12.

♀ allotype

Smaller, length: 1.8 mm; eyes more protruding than in male; antennae somewhat shorter; spermatheca as in fig 10.

Larvae unknown.

Material examined: ♂ holotype, ♀ allotype, 9 paratypes (3♂♂, 6♀♀), labelled: Papua New Guinea: Laing Island (Madang prov.) on sandy beach, white watertrap, 6-8.V.1993, leg. P. GROOTAERT. Deposited in the Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels.

Etymology: the new species is dedicated to my colleague Dr. Patrick GROOTAERT, specialist in seashore Diptera Empidoidea and collector of the type series.

Bryothinusa papuensis sp.n. (Figs 13-15)

Diagnosis: dark-brown, elytra pale brown, legs and antennae yellow-red, length: 1.9-2.3 mm. The new species is similar to *Bryothinusa grootaerti* sp.n. but differs in the length of the eyes and elytra and the shape of the aedeagus.

Description of ♂ holotype.

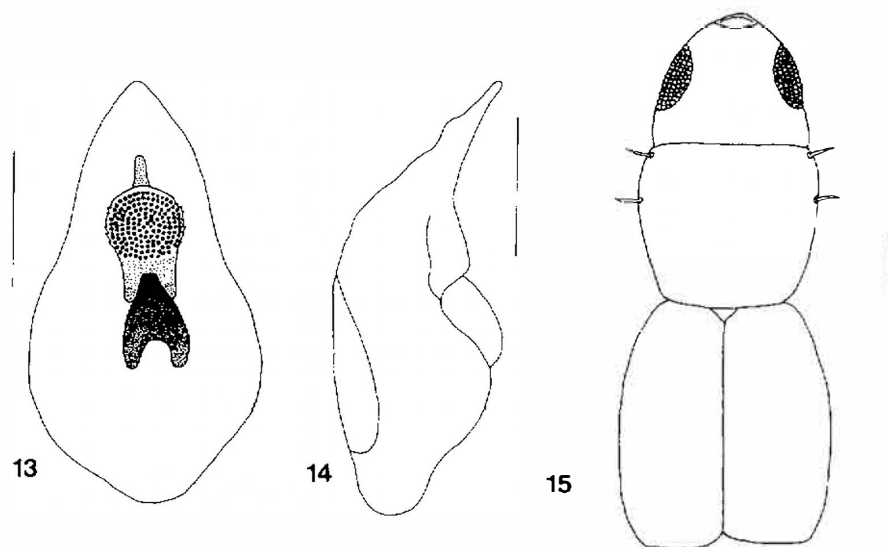
Length: 2 mm. Head dark brown; broader than long (l. × w.: 0.35 × 0.39); eyes large, about twice as long as tempora (Fig. 15), with large ommatidia; impressed between eyes; microsculpture strong and dense, rather shining, pubescence yellow-grey, very fine, extremely dense; mandibles reddish, hook-tipped at apex; palpi yellow-red; antennae reddish, paler at apex, length: 0.83, segments I and II elongate and each more than twice as long as III, III to VI as long as broad, VII to X slightly broader than long, XI pointed at apex, twice as long as X.

Pronotum brown, broader than long (l. × w.: 0.39 × 0.44); widest behind apical angles, slightly narrowed backwards, broad impressed in middle; strongly alutaceous, shining; pubescence dense, laterally directed; one macroseta situated in apical angle and one behind middle.

Elytra pale brown, slightly longer and broader than pronotum, slightly broadened backwards; humeri present, inner apical angles distinctly rounded; microsculpture denser than on pronotum; pubescence dense and short, directed backwards.

Hind wings well developed.

Abdomen parallel, dark-brown; terga I and II, hindparts of terga V and VI reddish; base of terga I to IV transversely impressed, more shining than fore parts; finely alutaceous and scarcely punctuated; pubescence much longer than on fore parts, particularly dense on terminalia and sternites.



Figs 13-15. *Bryothinusa papuensis* sp.n. 13: aedeagus, dorsally; 14: aedeagus, laterally; 15: habitus. Scales 13-15: 0.1 mm.

Legs completely yellow, plantar surface of tarsi with long setae.

Aedeagus as in figs 13 and 14.

Female and larvae unknown.

Material examined: ♂ holotype, 2 ♂♂ paratypes, labelled: New Guinea Papua, Cape Vogel Peninsula, Menapi (0-150 m alt.), camp 1, 28 March 1953, leg. G.M. TATE (4th Archbold Expedition). Deposited in the American Museum of Natural History, New York.

Etymology: *papuensis* is an adjective derived from Papua New Guinea, the country of origin of the type series.

Discussion

The relationships of the Papuan species to the other species of the genus remain unclear. The new species form probably a group of their own, which because of their similar habitus is most likely related to *Bryothinusa samoensis* PACE, 1984 from the Samoa Islands although the aedeagus and especially the spermatheca are from another type.

Much more material is needed to make a successful link between the species groups!

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