

Notes on the Subgenus *Cephalonthus* of the Genus *Philonthus*, with a Key to the Species-Group and a List of Species (Coleoptera, Staphylinidae)

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Abstract The subgenus *Cephalonthus* BLACKWELDER of the genus *Philonthus* STEPHENS is briefly reviewed with a redescription of the type species, *P. (Cephalonthus) caffer* BOHEMAN. A key to the species groups of the subgenus is given, and the species belonging to each group which were examined in the present study, are listed.

The genus *Philonthus* STEPHENS, belonging to the subtribe Philonthina of the tribe Staphylinini is a very large genus, of which more than 1,250 species (HERMAN, 2001) are separated into many species groups or subgenera (COIFFAIT, 1974; SMETANA, 1995; SCHILLHAMMER, 1998–2003). However, most of the subgenera distributed in the Palaearctic Region were synonymised with subgenus *Philonthus* (s. str.) by SMETANA (2004) except for *Onychophilonthus* NERESCHEIMER et WENGNER, and the subgenus *Cephalonthus* BLACKWELDER was also treated as a synonym of *Philonthus* (s. str.) like another subgenera.

The name “*Cephalonthus*” was first proposed by BERNHAUER (1940) as a subgenus of the genus *Philonthus* to include *Philonthus caffer* BOHEMAN, *P. lewisius* SHARP, *P. ustus* FAUVEL and *P. kochianus* BERNHAUER. However, he did not designate the type species of the subgenus, thus it was an unavailable name (ICZN 13.3). Later, BLACKWELDER (1952) designated *Philonthus caffer* BOHEMAN as the type species of *Cephalonthus*, thereby BLACKWELDER becomes the author of the name. Although, HERMAN (2001) ratified BLACKWELDER’s treatment, he did not refer to its validity. Therefore, it is indispensable to scrutinize each type species by morphological features for correct recognition of the subgenus, especially in basic structures of male genitalia.

HAYASHI (1994) once revised the Asian species of the genus *Philonthus* with redescription of *P. splendens* which is the type species of the genus. In that paper, he mentioned that *Philonthus* is roughly divided into two groups by characteristics of the male 9th abdominal sternite. One group including *P. splendens* bears a pair of remarkable erect long bristles near the apex, while the other group does not share this characteristic. Fortunately, I was able to examine many specimens of *Philonthus (Cephalonthus) caffer* BOHEMAN, and confirmed it to be a member of the other non-bristle-bearing group.

In this paper, I am going to review *Cephalonthus* with redescription of *P. (Cephalonthus) caffer*, and to list up the species belonging to this subgenus examined by myself.

Before going into further details, I wish to express my cordial thanks to Dr. A. SMETANA who kindly offered the specimens of *Philonthus vulgatus* CASEY, and to Dr. Nobuo OHBAYASHI for his critically reading of this manuscript.

Terminology. The main terminology and abbreviations used herein should be referred to HAYASHI (1994).

Subgenus *Cephalonthus* BLACKWELDER

Philonthus (*Cephalonthus*) BERNHAUER, 1940: 635 (unavailable name, see HERMAN, 2001 a).

Philonthus (*Cephalonthus*) BLACKWELDER, 1952: 96. Type species: *Philonthus caffer* BOHEMAN — HERMAN, 2001 a: 9; 2001 b: 2734.

Diagnosis. *Cephalonthus* is characterized by a combination of the following main characteristics and additional features. The main three are as the following: male 9th abdominal sternite without paired erect bristles; 4th protarsomere without modified hairs on under surface, and male genitalia with parameres distinctly bilobed.

Additional features are as follows: head more or less rounded-subquadrate, with anterior large seta (als) being more distant from each other than to lateral margins, and posterior large seta (pls) nearer to each other than to lateral margins; the anterior large seta (als) and the posterior one (pls) on head not specified in some species which are multi-punctate on the head; gular plate becoming into a deep and very fine sulcus in the posterior half; pronotum almost straight or slightly arcuate at sides, subparallel-sided or slightly convergent anteriorly, and with latero-basal macrosetae (lb) short, poorly developed; 3rd to 5th tergites each shallowly and transversely impressed in middle of the base; procoxae not spinous; male protarsi rather strongly dilated in basal three segments with modified hairs; male 9th tergite elongate; female gonocoxite without any long bristles at side; 1st segment of metatarsus as long as or slightly shorter than 2nd to 4th combined together and nearly equal or slightly longer than 5th.

Notes. Absence of paired bristles on 9th abdominal sternite are recognized also in the subgenus *Onychophilonthus* and the *prolatus*-group (HAYASHI, 1993) (its subgenus which should be placed in has been unclear), but in these two groups the 4th protarsomeres with dense modified setae on the under surface and the parameres of male genitalia unilobed. And, other many species in the subgenus *Philonthus* (s. str.) bears a pair of remarkable erect bristles on 9th abdominal sternite and modified hairs on under surface of 4th protarsomere like *P. longicornis* STEPHENS.

Philonthus (*Cephalonthus*) *caffer* BOHEMAN

(Figs. 1–11)

Philonthus caffer BOHEMAN, 1848: 280. — FAUVEL, 1907: 45. — BERNHAUER, 1908: 110. — BERNHAUER & SCHUBERT, 1914: 331. — BERNHAUER, 1915: 319. — BERNHAUER, 1942: 361. — TOTTENHAML, 1949: 333. — TOTTENHAM, 1962: 223, 225. — SCHEERPELTZ, 1974: 145. — HRAMÁDKA, 2009: 169.

Philonthus caffer SACHSE, 1852: 142.

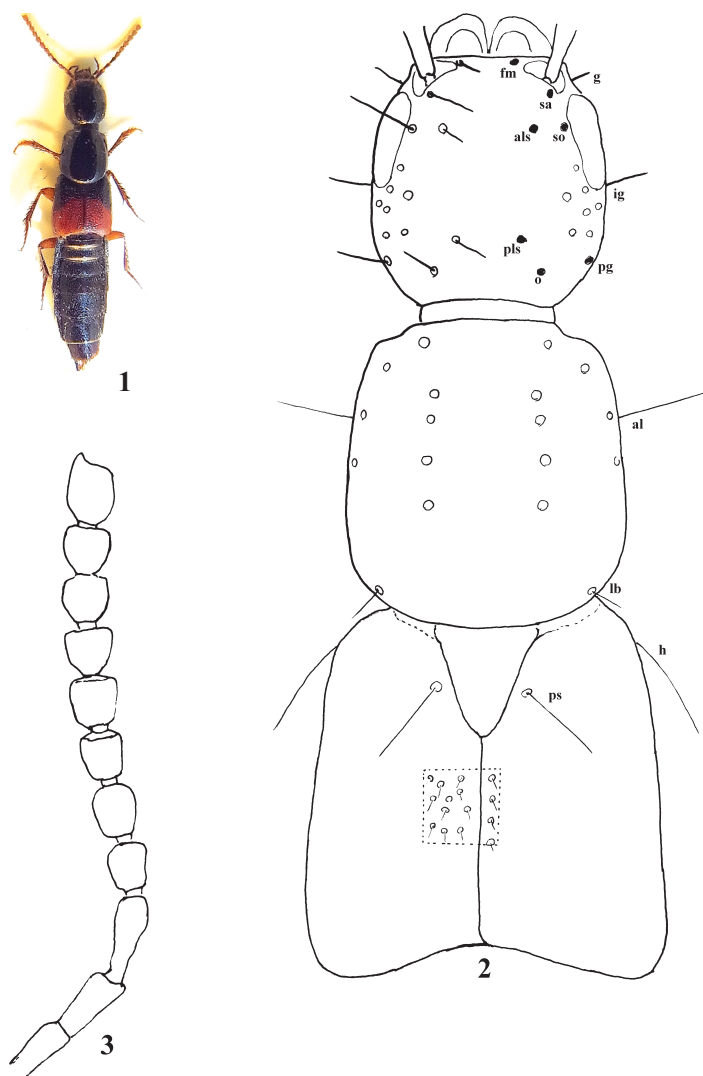
Philonthus (*Cephalonthus*) *caffer*: BERNHAUER, 1940: 635.

Philonthus capensis GEMINGER & HAROLD, 1868: 586. — FAUVEL, 1907: 45. — BERNHAUER & SCHUBERT, 1914: 331.

Specimens examined. 16♂♂, 11♀♀, 45 km NW of Bristown (WGS 84: 30°17'S, 23°09'E), Republic of South Africa, 4 to 5-II-2003, R. +H. Fouqué; 12♂♂, 7♀♀, 30 km South of Middelburg (WGS 84: 26°05' S, 24°58' E), 5 to 7-II-2003, R. +H. Fouqué.

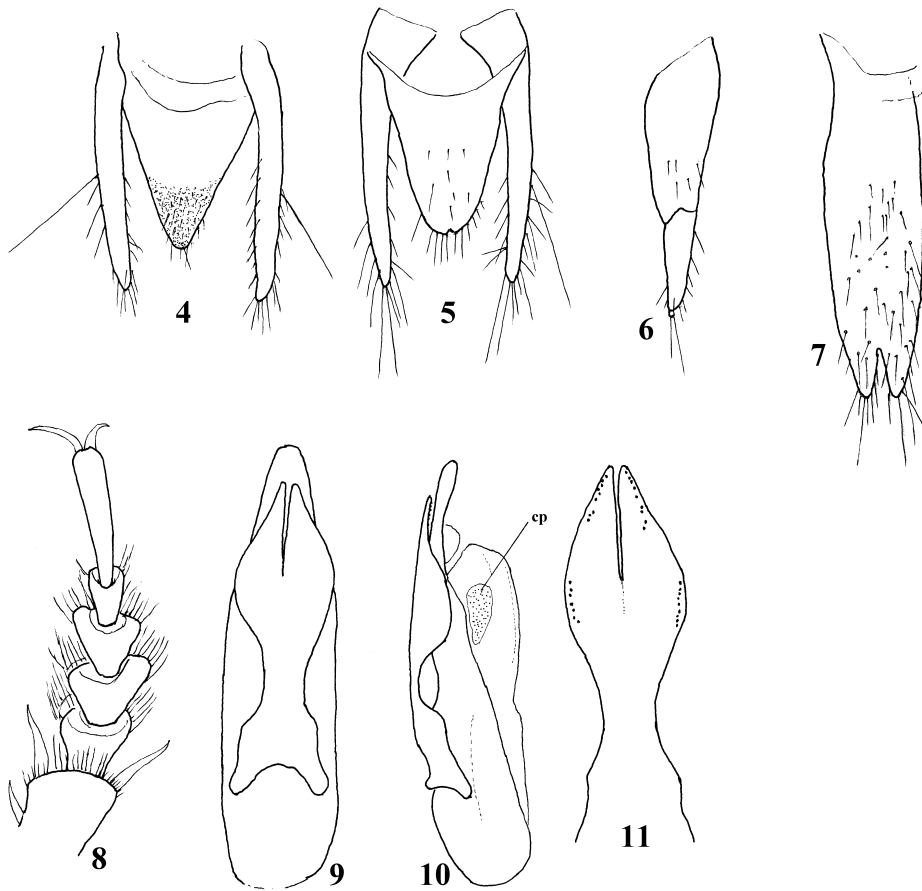
Redescription. Length 5.5 (a little shrunk)–8.0 mm. Elongate, parallel-sided; pitchy black; elytra light red except for basal third (in middle) to middle (at sides) and near humeri in epipleura; mouth organs dark brown; antennae dark brown, with each base of 2nd and 3rd segments narrowly reddish; 10th tergite pale; legs yellowish brown, with undersides of pro- and mesofemora pale yellow.

Head subelliptical, slightly narrowed posteriorly, nearly straight at sides, widely rounded at posterior angles and slightly emarginate at basal margin, slightly longer than wide, a little narrower and shorter than pronotum (17 : 20 and 9 : 12); disc strongly convex above, very sparingly punctured ex-



Figs. 1-3. *Philonthus (Cephalonthus) caffer* BOHEMAN. — 1, Habitus; 2, forebody with chaetotaxy of macrosetae and large setae; 3, antenna. (Macrosetae and large setae — Head: fm=front marginal, sa=supra-antennal, so=supra-orbital, g=genal, io=infra-genal, pg=post-genal, o=occipital, als=anterior large seta, and pls=posterior large seta. Pronotum: al=antero-lateral, and lb=latero-lasal. Elytra: h=humeral, and ps=parascuteller).

cept characteristic punctures (carrying macrosetae and large seta), viz. about three punctures situated along supraorbital margin, one before posterior large seta (pls), about four to five ones in postgena and about three to four inner side of occipital macroseta; anterior large setae (als) situated a little behind imarginal line delniatd between supra-orbital macrosetae (so) and more distant from each other than to lateral margins, and posterior ones (pls) nearer to each other than to lateral margins and equidistant with occipital macrosetae (o). Mandibles short, about 3/4 as long as head. Eyes comparatively small, not convex, longitudinal diameter a little shorter than postgenae (11 : 13). Antennae slender,



Figs. 4–11. *Philonthus (Cephalonthus) caffer* BOHEMAN. — 4, Male 10th tergite; 5, female 10th tergite; 6, female second gonocoxite; 7, male 9th sternite; 8, male protarsus; 9, male genitalia, in ventral view; 10, ditto, in left lateral view; 11, inner surface of paramerus, with peg setae.

rather long, reaching at about the middle of pronotum; 1st to 5th and 11th segments longer than wide, 6th and 7th as long as wide, 8th to 10th slightly transverse, and each segment with the following relative length from base to apex: 15 : 11 : 11 : 8 : 8 : 7 : 7 : 7 : 7 : 7 : 11.

Pronotum subelliptical, largely rounded posteriorly, somewhat narrowed anteriorly, nearly straight at sides and obtusely rounded at anterior angles, slightly longer than wide, a little narrower and shorter than elytra (10 : 13 and 22 : 27); disc strongly convex, without microsculpture, bearing paired median row of punctures each consisting of five setiferous large punctures and two setiferous punctures in lateral side of the median row, and sparingly punctured along margins.

Scutellum flat, rather densely and moderately coarsely punctured except for marginal area.

Elytra slightly dilated posteriorly, slightly longer than wide, weakly arcuate at sides, rather strongly emarginate at apical margin and obtusely rounded at latero-apical angles; disc gently convex, coarsely and sparsely punctured, without microsculpture.

Abdomen slightly widened in middle, rather sparsely punctured, the punctures becoming smaller and sparser posteriorly in each tergite and being a little larger on sternites; basal three tergites each

weakly and transversely depressed in middle of base; 7th tergite with fine whitish apical seam of palisade fringe; 9th tergite (Fig. 5) slender; 10th tergite (Fig. 5) widely rounded at apex, with a small notch at the middle of apex in male; male 8th sternite widely and deeply emarginate at apex, with narrow semitransparent rim along the emargination; male 9th sternite (Fig. 7) narrow, rather deeply excised at apex, lacking a pair of long erect setae; in female, 10th tergite (Fig. 4) subacute at apex and brownish pigmented in apical third, and gonocoxite (Fig. 6) short, 2nd gonocoxite brownish pigmented.

Legs slender, tibiae bearing stout, long and about eight spines: basal three protarsomeres (Fig. 8) strongly dilated in both sexes, less dilated in female, with dense modified hairs on underside, and 4th protarsomere glabrous on under surface, without modified hairs; 1st metatarsomere almost as long as the following three segments combined together and a little longer than 5th.

Male genitalia (Figs. 9–11) pudgy; penis, in ventral view, wide, parallel-sided in basal two-thirds, then gradually convergent towards obtuse to subtruncate apex, extending a little beyond parameres, weakly and partially sclerotized in lateral side, membranous in dorsal side, with a T-shaped sclerite before apex, and nearly straight in lateral view; parameres foliaceous, with a wide stem, strongly dilated in apical half, wrapping penis there, narrowly and deeply furcate in apical third, subacute at each apex, and inner face with a row of about nine peg-setae along each lateral sides of apex and widest points.

Remarks. This species is widely distributed in Africa, from Ethiopia to Republic of South Africa, but not recorded in other continent. HRAMÁDKA (2009) redescribed this species in detail, but he did not refer to *Cephalonthus*. Morphological tendency of male genitalia is markedly different between *P. caffer* subgroup (*P. caffer* and *P. numata*) and *P. lewisius* subgroup (*P. lewisius*, *P. turbidus*, *P. paederoides* and *P. aeneipennis*). In the former subgroup the lobes of the paramere are elongated wide and parallel to each other, while in the latter the parameres are short and markedly divergent apicad in X-shaped form.

Species-Groups of the Subgenus *Cephalonthus*

Specimens of the subgenus *Cephalonthus* examined by the author is possible to divide into species groups, and here propose three groups and two subgroups as in the following key with a list of species.

1. Head and pronotum sparsely and serially punctate. 2
- Head and pronotum numerous and irregularly punctate except for median impunctate area. The *daimio*-group
2. Head bearing temporal carina (sensu SMETANA, 1995) and with anterior large setae situated on or slightly before imarginal line traced between supraorbital macrosetae (socket); head and pronotum, nearly parallel-sided. The *rectangulus*-group
- Head without temporal carina and with anterior large setae situated slightly behind imarginal line traced between supraorbital macrosetae (socket); head somewhat ovate, and pronotum slightly narrowed in front. (The *caffer*-group) 3.
3. Lobes of parameres parallel to each other. The *caffer* (s. str.)-subgroup
- Lobes of parameres markedly divergent apicad. The *lewisius*-subgroup

List of *Philonthus* (*Cephalonthus*) Species Examined by the Author

The *caffer*-group

The *caffer* (s. str.)-subgroup

P. (C.) caffer BOHEMAN, 1848 (the *caffer*-group in HRAMÁDKA, 2009)

Distribution. Ethiopia, Kenya, Cameroon, Namibia, Lesotho and S. Africa.

P. (C.) numata DVORAK, 1958

Distribution. Japan and China.

The *lewisius*-subgroup

P. (C.) aeneipennis BOHEMAN, 1858

(Syn.: *P. cliens* EPPELSCHEIM, 1890; *P. punctatissimus* SCHUBERT, 1908; *P. lindemanni* SCHEERPELTZ, 1933)

Distribution. China, Japan, Taiwan, New Guinea, Indonesia, Andaman Isls., Bhutan, Nepal, India, Pakistan, Afghanistan, Iran, Yemen, Mauritius and Tanzania.

P. (C.) lewisius SHARP, 1874

(Syn.: *Philonthus havelkai* DVORAK, 1958. **syn. nov.**)

Distribution. Japan and Taiwan.

P. (C.) paederoides MOTSCHULSKY, 1858

(Syn.: *P. bellus* KRAATZ, 1958; *P. obscuricollis* BERNHAUER, 1922)

Distribution. Afghanistan, India, Sri Lanka, Nepal, Myanmar, Thailand, Cambodia, Vietnam, Indonesia and Phillipines.

P. (C.) turbidus ERICHSON, 1840 (the *turbidus*-group in COIFFAIT, 1967)

(Syn.: *P. pharaoh* SAULCY, 1864; *P. rubiginosus* SOLSKY, 1867)

Distribution. Reunion, Madagascar, Mozambique, South Africa, Namibia, Gabon, Tanzania, Somalia, Ethiopia, Eritrea, Sudan, Saudi Arabia, Egypt, Morocco, Senegal, Cape Verda Islands, Canary Islands, Madeira, Spain, Russia, Syria, India, Hawaii and USA.

The *daimio*-group

P. (C.) daimio SHARP, 1889

Distribution. Japan.

P. (C.) vulgatus CASEY, 1915 (the *punctus*-group in SMETANA, 1995)

Distribution. Canada and USA.

P. (C.) velatipennis SOLSKY, 1870 (the *punctus*-group in SMETANA, 1995)

(Syn.: *P. tectipennis* COIFFAIT, 1967; *P. extensus* KORGE, 1971)

Distribution. Russia, Turkey, Iran, Turkestan and Japan (New record).

Specimen examined. 1 ♀, Kan'nonsawa-Rindo, Sapporo C., Hokkaido, 24-V-2013, H. KOBAYASHI leg.

The *rectangulus*-group

P. (C.) rectangulus SHARP, 1874 (the *rectangulus*-group in COIFFAIT 1967)

(Syn.: *P. bernhaueri* CSIKI, 1901; *P. tetragonocephalus* NOTMAN, 1924; *P. rufipennis* WUSTHOFF, 1936; *P. mequignoni* JARRIGE, 1938; *P. peculiaris* LAST, 1974)

Distribution. Canary Isls., Madeira, Azores, Europe, Turkey, Kazakhstan, Afghanistan, Nepal, Bhutan, Thailand, Indonesia, New Guinea, Society Isls., China, Korea, Japan, Taiwan, Hawaii, New Zealand, Canada, USA and Chile.

P. (C.) depressipennis SHARP, 1889

Distribution. Japan.

P. (C.) discoideus GRAVENHORST, 1802

(Syn.: *P. suturalis* MARSHAM, 1802; *P. lepidulus* STEPHENS, 1832; *P. suturalis* STEPHENS, 1832; *P. conformis* LACORDAIRE, 1835; *P. ruficornis* MELSHEIMER, 1844; *P. rufipennis* GERHARDT, 1910; *P. gerhardtianus* SCHEERPELTZ, 1933)

Distribution. St. Helena, Cape Verda Islands, Canary Isls., Madeira, Azores, Zimbabwe, Mascare Islands, Tanzania, Congo, Cameroon, Nigeria, Senegal, Mauritania, Morocco, Libya, Sudan, Egypt, Saudi Arabia, Israel, Europe, Russia, Turkey, Iran, Uzbekistan, Japan, China, India, Indonesia, Australia, Society Isls., Hawaii, Canada, USA, West Indies, Guatemala, Costa Rioca and Venezuela.

P. (C.) discrepens SHARP, 1889

Distribution. Japan.

P. (C.) productus KRAATZ, 1859

(Syn.: *P. sulcipes* BERNHAUER, 1931)

Distribution. Sri Lanka, India, Malay Peninsula, Japan and China.

P. (C.) circumductus FAUVEL, 1895

Distribution. Myanmar, Singapore, Indonesia and Philippines.

要 約

林 靖彦：コガシラハネカクシ属の亜属，*Cephalonthus*について（鞘翅目ハネカクシ科）。——コガシラハネカクシ属は1,250種を超える膨大な種を含み，多くの亜属や種群に分けられている。しかし，SMETANA (2004) は旧北区のハネカクシ類のリストで，*Onychophilonthus* 亜属を除き，*Cephalonthus* も含む旧北区に分布する他のすべての亜属を *Philonthus* 亜属のシノニムとして扱った。*Cephalonthus* は最初，BERNHAUER (1940) により数種のコガシラハネカクシのグループに対して亜属として提唱されたが，属模式種の指定が行われなかったので無効名とされ，BLACKWELDER (1952) の処理により，彼が命名者となった。しかし，BERNHAUER の記載にも，それ以降にも亜属の特徴に関する再検討の記述がなく，実態が不明のまま今日に至っている。筆者は近年，*Cephalonthus* 亜属の模式種，*Philonthus caffer* を入手して精査した結果，*Philonthus* 亜属と明らかに区別される安定した特徴を認めたので，独立した亜属として扱うべきという結論に達した。また，所蔵標本を調べた結果，本亜属に属する種を見出したので，いくつかの種群を提起し整理するとともに，リストアップした。

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