Review of the South African species of *Pegylis* Erichson, 1847 (Coleoptera: Scarabaeidae: Melolonthinae) commonly known as large wattle chafers

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A review of the three known species of *Pegylis* occurring in South Africa is provided, including a dichotomous key, illustrations of diagnostic features, distribution maps and notes on natural history. Lectotypes are designated for *Hypopholis sommeri* Burmeister, 1855, and *Pegylis pondoensis* Arrow, 1943. *Pegylis vittata atrata* Machatschke, 1955 syn. nov. is regarded here as conspecific with *Pegylis vittata*.

**Key words:** Adoretopsis, Hypopholis, Pegylis, Pegylidius, taxonomy, southern Africa, white grubs, chafers, sporadic pests.

**INTRODUCTION**

*Pegylis* species, colloquially referred to as ‘large wattle chafers’ (after Prins 1965), are often among batches of scarab beetle pests requiring identification. Once identified to species, further questions on their diversity, distribution, biology and control are often requested.

The phylogenetic relationship between *Adoretopsis* Fairmaire, 1887, *Hypopholis* Erichson, 1847, *Pegylidius* Périnquey, 1904 and *Pegylis* Erichson, 1847, is provided in Harrison (2014, this volume). This resulted in the confirmation of Arrow’s (1943) synonymy of *Pegylidius* with *Pegylis*, Lacroix’s (2010) synonymy of *Adoretopsis* with *Pegylis* and the recent (Harrison 2014) synonymy of *Hypopholis* with *Pegylis*. Presently, *Pegylis* includes 35 species, of which three species are known from South Africa, with two of these species occurring into South Africa’s neighbouring countries. The remaining 32 species of *Pegylis* occur further north up into tropical Africa (Lacroix 2010). Here all available information on the South African species of *Pegylis* is compiled with coverage of their identification, distribution, biology, pest status and known host plant range.

**Taxonomy**

Erichson’s ‘Naturgeschichte der Insekten Deutschlands’ was published in six parts: I, II, pp. 1–320 in 1847; VI, pp. 800–968 in 1848. His descriptions of *Coniopholis*, *Empecta*, *Hypopholis* and *Pegylis* are found on page 657, and is thus dated Erichson, 1847. Lacroix (2008a,b) erroneously attributed *Pegylis* to Erichson (1848), which is amended here to *Pegylis* Erichson, 1847 with the above publication dates as rationale for this action.

In two of his three ‘Catalogue des Coléoptères de la Collection de M. le Comte Dejean’, Dejean (1833) listed *Leucopholis sommeri* Dejean from ‘N…’ (Natal), and updated this species occurrence to ‘Cap. Bon. Sp’ in Dejean (1837). However, as no description accompanied his collection list, *Leucopholis sommeri* Dejean, 1833 and later *Leucopholis sommeri* Dejean, 1837 is an invalid authorship indication. Erichson (1847) described the genera *Hypopholis* and *Pegylis*, and transferred the species *Leucopholis sommeri* Dejean to *Hypopholis*; and *Melolontha morio* Koller in litt. to *Pegylis* (*Pegylis morio* was formally described by Blanchard in 1851).

Burmeister (1855) reviewed *Pegylis* and *Hypopholis*, but incorrectly attributed these species *Hypopholis sommeri* Erichson and *H. vittata* Boheman & Erichson, as indicated here. Lacordaire (1856) divided the Melolonthinae into tribes and sub-tribes and included *Hypopholis sommeri* in his group ‘Melolonthides’. Fåhraeus in Boheman (1857) provided the first description for *Hypopholis vittata* based on specimens from KwaZulu-Natal.
South Africa, followed by Boheman’s (1857) description of Hypopholis sulcicollis from the Limpopo River. Gerstaecker (1867) synonymized H. sulcicollis with H. sommeri and noted the difference in tarsal claw morphology between H. sommeri and H. vittata as ‘the shape of the tarsal claws in ... H. sommeri are in the middle very strongly dentate, [while] in H. vittata the posterior tibial claws are simple; the protibial claws with a simple inner [claw] and split external [claw].’ Harold (1869) catalogued the described species of Pegylidius and Hypopholis; including H. sommeri and H. vittata (with H. sulcicollis listed as a synonym of H. sommeri). Gerstaecker (1873) mentioned the differing tarsal claw morphology between H. sommeri and H. vittata. ‘It is intriguing that [of] the three species that are known to date, all show distinctly / unusually shaped claws: (i) all claws apically deeply split: H. conspurcata; (ii) all claws medially strongly dentate [toothed]: H. sommeri; (iii) meso- and metatarsal claws simple [unmodified]; protarsal inner claw simple, outer claw split: H. vittata …’. Péringuey (1904) grouped six genera (Astheno-pholis, Brachylepis, Eulepida, Hypopholis, Pegylidius and Pegylis) into his group ‘Leucopholides’ and provided a generic key. Hypopholis sommeri is regarded as common in the eastern parts of South Africa, and H. sulcicollis and H. vittata are synonymous with it. Péringuey (1904) noted that ‘In Natal it causes serious damage to plantations of wattle trees (Acacia mollissima W.)’. Dalla Torre (1912) provided a catalogue of the known species of Hypopholis (one species; two synonyms herein); Pegylidius (one species) and Pegylis (14 species, including two species transferred from Hypopholis). Moser (1915) correctly removed Hypopholis vittata from synonymy with H. sommeri. Arrow (1943) described a new South African species (P. pondoensis) and synonymized Pegylidius with Pegylis. Arrow (1943) mentioned that neither the form of the tarsal claws, nor the number of antennal segments were valid generic characters in this particular instance. Ferreira (1963 [1966]) in her ‘Catalogue of the beetles of Mozambique’ included Hypopholis sommeri. Lacroix (2010) summarized the taxonomic history of H. sommeri and H. vittata including a key and diagrams of the male genitalia. Harrison (2013, 2014), based on a morphologically based phylogeny, synonymized Hypopholis with Pegylis.

Currently there are about 35 species names within the four genera reviewed for this study, and although a revision of Pegylis is in progress, this review includes only the three South African species of Pegylis. It is the first step towards a complete revision of the genus Pegylis.

An abbreviated taxonomic history for the genera Adoretopsis, Hypopholis, Pegylidius and Pegylis is provided below. Apart from the generic type species only the three South African species (or their synonyms) covered in each paper are listed. Within the cited sources original species descriptions are indicated in bold, synonyms are underlined, and italics indicate valid species.

Genus Pegylis Erichson, 1847


Hypopholis Erichson, 1847: 657. Type species: Hypopholis sommeri Burmeister, 1855. Erichson 1847: 657 (sommeri Dejean [sic] & vittata Boheman [sic]); Burmeister 1855: 282–283 (sommeri and vittata Boheman [sic]); Lacordaire 1856: 299 (sommeri); Boheman 1857: 91–93 (sommeri, sulcicollis and vittata Fähraeus in Boheman 1857); Gerstaecker 1867: 42 (sommeri, sulcicollis and vittata); Harold 1869: 1161 (catalogue: sommeri, sulcicollis and vittata); Gerstaecker 1873: 112–113 (sommeri, sulcicollis and vittata); Péringuey 1904: 277 (key to genera), 278–280 (sommeri, sulcicollis and vittata); Dalla Torre 1912: 167 (catalogue: sommeri, sulcicollis and vittata); Moser 1915: 132 (correction to previous synonymy of vittata with sommeri); Burgeon 1946: 344–345 (sommeri); Machatschke 1955: 91–96 (sommeri, sulcicollis, vittata and vittata atrata); vittata atrata syn. nov. Ferreira 1963: 798 (catalogue: sommeri, sulcicollis and vittata); Lacroix 2010: 85–89 (sommeri, sulcicollis, uelensis and vittata); Harrison 2014: 738 (synonymized).


780–783 (discussion: *pontoensis*); 773, 781 (syonymy of *Pegylidius* with *Pegylis*); Lacroix 2010: 90–T22, T14–T15 (*pontoensis*).

**Generic diagnosis**

Size 14–24 mm. Head. Antennae 10-segmented, antennal club three-segmented, as long as funiculus. Clypeus slightly elongated, anterior margin rounded, clypeo-frontal sulcus marked; penultimate segment of maxillary palps fusiform; labrum bilobed, elongate. Protibia bi- to tridentate; apical tooth short, slightly curved; protibial spur absent; tarsal claws variable between sexes intraspecifically and species interspecifically. Pronotum transverse, sides rounded or slightly curved apically; anterior angles prominent; anterior pronotal edge with distinct membrane; pronotal disc with median longitudinal groove (present or absent); prontal punctation present and variable to species. Elytra with rounded sides, expanded before apex, raised upwards laterally; elytral costa absent; median punctation moderate, finely setose; humeral callus distinct; elytral apex rounded. Propygidium without a median longitudinal groove; pygidium wider than long with apex rounded or truncated; metepisternum wide, setose; metasternum moderately setose; mesosternal process varying from prominent to absent; sternites finely setose.

**Type species.** *Pegylis morio* Blanchard, 1851.

**Sexual dimorphism**

Males and females are easily differentiated based on the shape of the antennal club (rounded in females; elongate in males); protarsal claw form; and presence of a median groove on the abdominal sternites in males (viewed ventrally), versus evenly rounded abdominal sternites in females.

**Natural history and pest status**

Adults and larvae of *Pegylis* species are sporadic pests in agricultural crops as defoliators (adults) and root feeders (larvae). Adults have been observed feeding and mating during the day, but have also been collected from light traps at night. What is known about their biology and pest status is covered within the species sections below.

Oberholzer (1959a,b) described the third instar larvae of *P. sommeri*. In a paper where he described the first and second instars of *P. sommeri*, Prins (1965) coined the common name ‘wattle chafers’. Smith *et al.* (1995) redescribed the third instar (incorrectly identified as *Macrophylla citiata* (Herbst, 1790)) as a pest of pineapple. Sweeney (1967) provided a description of the larvae of *P. vittata*, but confirmation of the species is confounded by lack of a voucher. These are the only species of *Pegylis* known to me that have larval descriptions.

**Parasites**

In a study of sugarcane chafer beetles in Tanzania, Jepson (1956) recommended two flies, *Adapsilia latipennis* (Walker, 1849) (Pyrgotidae) and *Pexopsis pyrrhaspis* Villeneuve, 1916 (Tachinidae), as known parasites of adult *P. sommeri* and as potential control agents for the Tanzanian chafer *Cochliiotis melolonthoides* (Gerstaecker, 1867).

Prins (1965) provided an interesting overview of the natural enemies of chafers in general, and for *P. sommeri* mentioned flies from the families Bombylidae, Pyrgotidae, Dexiidae and Tachinidae and wasps from the families Tippiidae and Scoliidae. Prins’ (1965) experimental results showed that species of Pyrgotidae (*Adapsilia* sp.) and Tachinidae (*Pexopsis pyrrhaspis*) caused the highest mortalities of *P. sommeri*. Following Korneyev (2006), *Adapsilia latipennis* (Walker, 1849) is now regarded as *Eupyrgota latipennis* (Walker, 1849).

**Chemical control**

Carnegie (1974) conducted *in situ* insecticide trails in sugarcane and wattle plantations in KwaZulu-Natal against *P. sommeri* and *Schizonycha affinis* Boheman, 1857 (see Pope (1960) for more information on *S. affinis*) using the following chemicals: BHC; chlordane; chlorfenvinfos; DDT; dieldrin; *m*-(1-methylbutyl) phenyl methylcarbamate and *m*-(1-ethylpropyl) phenyl methylcarbamate (Bux); O-ethyl-S-phenyl-ethylphosphonodithioate (Dyfonate); and pirimiphos-ethyl. Dieldrin applied at planting provided the most satisfactory and lasting control measure against white grubs.

Following the ban of aldrin and dieldrin, Carnegie & Hardy (1986) investigated the use of the following chemicals against both larvae and adult chafers: aminofurocarb; azinphos methyl; carbofuran; carbosulfan; chlorpyrifos; dichlorvos; dieldrin; ethoprofos; ethylene dibromide (EDB); fenamiphos; fenitrothion; fensulfothion; γ-BHC; isazofos; isofenphos; methomyl; oxamyl; phorate; and terbufos. Soil-surface applications did not result in any viable pest reductions. Subsoil application of EDB did reduce the numbers of *P. sommeri*. However, Carnegie &
Hardy (1986) did not recommend EDB to growers at that time, but suggested Telone II as a possible substitute (for dieldrin). Carnegie (1988) reviewed the history of white grub damage (including *P. sommeri*) to sugarcane in South Africa and Swaziland and reported on trials involving the chemicals aldicarb (granular = GR); carbofuran (GR); carbosulfan (controlled release = CR); chlorpyrifos (CR); ethoprophos (GR); isazofos (emulsifiable concentrate = EC); and oxamyl (EC and CR).

**MATERIAL AND METHODS**

*Material examined* is in the following depositories; codens follow Evenhuis (2012); South Africa is abbreviated to SA; collection managers and curators are included in brackets. Student specimens are denoted as follows; UPSA and UNSA to TMSA, RUDZ to AMGS.

(AMGS) Albany Museum, Grahamstown, SA (F.W. Gess, A.H. Kirk-Spriggs); (BMNH) The Natural History Museum, London, United Kingdom (M. Kerley); (BMSA) Nasionale Museum, Bloemfontein, SA (L.N. Lotz, R. Scholtz); (DEIG) Deutsches Entomologisches Institut, Eberswalde, Germany (L. Zerche, D. Ahrens); (DMSA) Durban Natural Science Museum, Durban, SA (T. Crouch); (FABI) Forestry and Agricultural Biotechnology Institute, University of Pretoria, Pretoria; (ICFR) Institute for Commercial Forestry Research (housed at FABI); (ISNB) Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium (M. Cludts, M. Peeters, D. Drugmand); (MKCP) Martin Krüger Collection, Pretoria, SA; (MMKZ) Alexander McGregor Memorial Museum, Kimberley, SA (housed at BMSA); (MNCN) Spain, Madrid, Museo Nacional de Ciencias Naturales; (MNHN) Muséum National d’Histoire Naturelle de Belgique, Brussels, Belgium (M. Cludts, M. Peeters, D. Drugmand); (MRAC) Musée Royal de l’Afrique Centrale, Tervuren, Belgium (M. De Meyer); (NHRS) Naturhistoriska Riksmuseet Stockholm, Sweden; (NMBZ) Natural History Museum of Zimbabwe, Bulawayo, Zimbabwe; (RUDZ) Rhodes University, Department of Zoology and Entomology, Grahamstown, SA (M. Villet); (SAMC) South African Museum, Cape Town, SA (M. Cochrane, S. van Noort); (SANC) South African National Collection of Insects, Pretoria, SA (R. Stals); (SASRI) South African Sugar Research Institute, Mount Edgecombe, SA (D. Conlong, M. Way); (TMSA) Transvaal Museum, Pretoria, SA (R. Müller); (UCT) University of Cape Town, Department of Zoology, Cape Town, SA (M. Picker); (UPSA) University of Pretoria, Department of Zoology and Entomology, Pretoria, SA; (USNM) National Museum of Natural History, Smithsonian Institution, Washington DC, USA (N.E. Adams (deceased), D.G. Furth); (USSA) University of Stellenbosch, Department of Entomology, Stellenbosch, SA; (ZMHB) Museum für Naturkunde der Humboldt-Universität, Berlin, Germany (M. Uhlig, J. Frisch); (ZSMG) Zoologische Staatsammlung München, Germany (D. Ahrens).


*Species accounts and figure sequence.* The three South African species are treated in the figures and text in this non-alphabetical order: *P. sommeri*, *P. pondoensis* and *P. vittata*, as *P. pondoensis* has characters intermediate between *P. sommeri* and *P. vittata*, thus facilitating their comparison in the figures.

**KEY TO THE SOUTH AFRICAN SPECIES OF *PEGYLIS ERICHSON, 1847***

For information on differentiating males and females prior to using the key refer to the earlier subsection ‘sexual dimorphism’.

1. Habitus illustrated in Figs 1, 2, 69. Prominent mesosternal process present (Fig. 7); male genitalia as illustrated in Figs 56–59; distribution in Fig. 16, known localities in gazetteer = *

   ................. *P. sommeri* (Burmeister, 1855)

   — Mesosternal process absent ................. 2

2. Black macula near lateral edge of pronotum usually present (Figs 5, 70, 71); male genitalia as illustrated in Figs 64–67; distribution in Figs 20, 22, *

   ................. *P. vittata* (Fåhraeus in Boheman, 1857)

   — Black macula near lateral edge of pronotum absent (Figs 3, 4); male genitalia illustrated in Figs 60–63; distribution in Fig. 18, *

   ................. *P. pondoensis* Arrow, 1943

**Pegylis sommeri** (Burmeister, 1855), Figs 1–2, 7, 10, 13, 16–17, 23–27, 38–39, 44–45, 50–51, 56–59

*Leucopholis sommeri* Dejean, 1833: 160; Dejean 1837: 177 (invalid description).
**Hypopholis sommeri** Burmeister, 1855: 283; Erichson 1847: 657; Gerstaecker 1867: 42 (sommeri = sulcicollis); Harold 1869: 1161; Gerstaecker 1873: 112–113; Péringuey 1904: 278 (length 17–22; width 9.5 mm); Oberholtzer 1959a,b (larval description); Ferreira 1963: 798; Prins 1965: (larval description); Smith et al. 1995: 165–166 (larval description, but as *Macrophylla ciliata* Herbst); Lacroix 2010: 87–88.

**Hypopholis sulcicollis** Boheman, 1857: 92; Harold 1869: 1161 (synonym); Gerstaecker 1867: 42 (synonym); Gerstaecker 1873: 112–113; Péringuey 1904: 278 (synonym).

**Diagnosis.** The most commonly encountered South African species (Figs 1–2). Prominent mesosternal protuberance in both sexes (Fig. 7). Posterior pronotal edge without a grooved rim (Figs 1–2, 23, 26–27). Laterally posterior pronotal edge smoothly pointed (Figs 38–39). Scutellum and setae as indicated in Figs 44–45. Elytra and microsculpture as indicated in Figs 50–51. Colour variable (see below).

**Brief description.** Size. Length: males ($n = 5$), mean
17.8 mm, (range 17.0–19.0 mm), females \(n = 5\) 18.6 mm, (range 18.0–19.0 mm). Width: males \(n = 5\), 9.8 mm, (range 9.0–11.0 mm), females \(n = 5\) 10.6 mm, (range 10.0–11.0 mm). Pronotum. Ratio, greatest width: greatest mid length 2.16:1 \(n = 5\); 2.22:1 \(n = 5\). Colour. Head, pronotum and scutellum brown (to almost metallic black), elytra lighter in colour, but with a dark brown or black band above outer lateral edge of each elytron. Morphological variability. Degree of melanization (entire cuticle) may vary within and between localities. Male genitalia illustrated in Figs 56–59. Parameres wide at base, moving to narrow apex (Fig. 57). Adeagus stouter, shorter (note 2.5 mm scale bar) than \(P.\ pondoensis\) and \(P.\ vittata\) (see Figs 58, 62, 66).

Distribution. Occurring on the eastern part of South Africa (Fig. 16), with two records from Mozambique. The Cape Town records are due to an accidental introduction from elsewhere in South Africa. Prins (1965) mentions that, ‘...A recent outbreak of \(Hypopholis sommeri\) was reported from Newlands in the Cape, in January, 1961. It probably reached the Cape in turf transported from the Northern Transvaal as the beetles [are] in association with a fungus (\(Rhizoctonia\ sp.), concentrated on a cricket pitch, causing large bare areas.’ The earliest records based on material examined here of \(P.\ sommeri\) in the Western Cape, are from Bellville (October 1948) and Stellenbosch (September 1949), 13 years prior to the outbreak mentioned by Prins (1965) above. All known Western Cape records are provided in the material examined. Molecular analysis of the Cape Town population and the South African/southern African populations would confirm the origin of the introduced Cape Town population.

Additional outlier records from Kimberley, Johannesburg and Pretoria (Fig. 16) may have resulted from similar accidental introductions or labelling errors. However, of the introduced populations, only the Cape Town introduction seems to have persisted (especially within the Kirstenbosch Botanic Gardens, pers. obs.). The three records from the Gauteng Province also require confirmation (or additional explanation). I have lived in the Johannesburg and Pretoria area most of my life and I have never observed the species there, but have easily seen them in KwaZulu-Natal. I communicated directly with the collector (S. van Noort of the SAMC) of the Gauteng specimens and include his response on the records. ‘Yes, I do recall...’
collecting the *P. sommeri* specimens at outside house lights. They were from two localities in different years Bryanston: 26°3.271’S 28°2.727’E, 1486 m; Paulshof: 26°2.028’S 28°2.633’E, 1474 m’ (S. van Noort, pers. comm. 2012).

**Conservation status.** A southern African species (note records from Mozambique) that appears to be well adapted and takes advantage of agricultural systems (especially sugarcane and wattle in the KwaZulu-Natal Midlands). It is presently not of Conservation Concern. However, because the species is a southern African endemic, control measures must ensure that the species is protected. Recent developments (Goble *et al*. 2012) using *Beauveria brongniartii* (Saccardo) Petch fungi to control specifically *P. sommeri* in the Natal Midlands are a concern, especially with respect to the more restricted Karkloof population of *P. pondoensis*.

**Biology and pest status.** *Pegylis sommeri* has been collected by the following methods: UV light traps (15 records); beating in forest (eight records); hanging fruit traps (two records), and single collecting records from Malaise traps, under stones, dung baited pitfall traps and humus. I have collected feeding and mating adults hanging underneath *Acacia mearnsi* leaves in the lower forest canopy during the day. *Pegylis sommeri* has been collected from numerous plant species including *Acacia* spp., *Eucalyptus* spp. and sugarcane (Table 1).

**Remarks.** E.K. Hartwig of the South African National Collection of Insects (SANC) identified the adults of the pineapple white grub species submitted by G. Petty for identification (G.D. Petty, pers. comm. 2007). Representatives of this species from both those deposited in the SANC, and new material provided by Petty confirm that the species referred to by Petty (1976, 1978, 1990, 2001) and Petty *et al*. (2002) as *Macrophylla ciliata* Herbst was incorrectly identified, and is actually *P. sommeri*. Considering that Hartwig worked on Thysanoptera (Hartwig 1967) and not Coleoptera this is an understandable misidentification to have made. Consequently, where Petty refers to *M. ciliata* in the above-mentioned literature, he actually means *P. sommeri*. This identification error also resulted in Smith *et al*. (1995) describing the larvae of *P. sommeri*, but unknowingly calling it *M. ciliata*.


**Type material examined (Hypopholis sulcicollis Boheman, 1857).** Photographs (Figs 68–71) of the syntypes provided by Dirk Ahrens.

**Additional material examined (812: 328§; 426§).**

**SOUTH AFRICA, Eastern Cape, Alexandria, Woody Cape, 10–13.xii.1997, Ivo Jenis, (1§ ZMHB); Alexandria For[est]. St[ation]., 4.xii.1987, Endrödy-Younga, E-Y: 2551, beating indig. forest, (7§, 4§ TMSA); Alexandria Forest, 27.xi.1988, R.G. Oberprieler, (3§, 2§ SANC); Alice, i.[19]49, R. Koch, 9 / Hypopholis vittata Fahr. [misidentification and male], (1§ DEIG); Alice, ‘Nutwoods’, 12.i.1948, (1§ TMSA); Alice, ‘Nutwoods’, i.1948, J.J. Steyn, (3§, 1§)...
TMSA); Amatole, Pirie Forest, 8.xii.1887, Endrödy-Younga, E-Y: 2564, beating indig. forest, (2δ, 2α TMSA); Bizana, i.1932, K.H.L. Key, (1δ, 1β SAMC-A035893); Bizana, i.1920, G. Kobrow, (1δ TMSA); Cradock, viii.1948, L. Moolman, (2δ USSA); East London [hereafter abbreviated to E. Ldn], 21.x.39, A.H. Newton, Brit. Mus. 1948-322, (1δ, 1β BMNH); E. Ldn., Dr. Martin, (1β SANC); E. Ldn. x.1973, G.J. Petty, light trap, #20, (2α SANC); E. Ldn, 15.xi.1921, Ac.E.L.20, (1δ, 2α SANC); E. Ldn, Dr. Martin, (1α SAMC-A035893); E. Ldn, x.1912, Lightfoot, (1δ SAMC-A035894); E. Ldn, 1915, Lightfoot, (1δ, 1β SAMC-A035895); E. Ldn, xii.[18]96, (1δ, 2α TMSA); E. Ldn, xii.1916, Dr. Brauns, (4δ, 6α TMSA); E. Ldn, ix.1915, R. Ellenberger, (2α MRAC); E. Ldn, Dr. Martin, (2α ISNB); E. Ldn, ix.1915, R. Ellenberger, (2α MRAC); E. Ldn, xii.1916, Dr. Brauns, (2α USSA); E. Ldn, 27.vii.1911, Mr F. Wood, 1286, (1δ AMGS); Emagushene [Emagusheni], i.1920, G. Kobrow, (1α TMSA); Faraway Farm, nr. Grahamstown, 23.xi.1988, N.C. Grobbelaar, (1δ SAMC-A035897); Grahamstown [hereafter abbreviated to Ght.], 28/10, C. LeDoux acc 67769, (2δ USNM); Ght., 10.ii.[18]98, C. LeDoux acc 67769, (1δ USNM); Ght., 20.xi.[19]00, C. LeDoux acc 67769, (1δ USNM); Ght., xi.[18]94, A.M. 7784, (1δ AMGS); Ght., Mr Wilde, 48 / 253 / Coll. Alluauad / Moser det. / 9 / Hypopholis sommeri Burm., det. Machatschke, 1954, (1α DEIG); Ght., 1870, E.Y. Western Coll., B.M. 1924-176, (1δ, 1β BMNH); Ght., October, K. Sturgeon, (1α SAMC-A035891); Ght., [18]85, Purch, (1δ SAMC-A035892); Ght., [18]85, Purch, (1α SAMC-A035896); Ght., i.1979, V.C. Moran & T.R.E. Southwood, from Erythrina caffra, (1δ SANC); Ght., C. LeDoux acc 67769, (1δ USNM); Ght., C. LeDoux acc 67769, Hypopholis sommeri Burm., (2δ USNM); Ght., 4.iv.1981, (1δ USNA); Ght., [18]96, C. LeDoux, SAfrica, C. LeDoux acc 67769, (1δ USNM); Ght., 28.x.[19]00, C. LeDoux, SAfrica, C. LeDoux acc 67769, (2α USNM); Ght., 1890, M. Wilde, H. sommeri Burm., det. Machatschke, 1954 / 253 / Coll. Alluauad / Moser det., (1α DEIG); Ght., 10.ii.[18]98, C. LeDoux, SAfrica, C. LeDoux acc 67769, (1δ USNM); Ght., 20.x.[19]00, C. LeDoux, SAfrica, C. LeDoux acc 67769, (1δ USNM); Ght., 9.x.1963, C.B. Anderson [of RUDZ], (1δ AMGS); Ght., 7.xi.1944 [of RUDZ], (3δ AMGS); Ght., 20.i.1992, J.R. Baars [of RUDZ], (1δ AMGS); Ght., 3.xii.1990, S. Oosthuizen [of RUDZ], (1δ AMGS); Ght., 10.i.1990, J. Chan [of RUDZ], (2δ AMGS); Ght., 31.vii.1983, C.A. Kleinjan [of RUDZ], (1δ AMGS); Ght., 22.x.1969, F.W. Gess, (1δ AMGS); Ght., 6.i.1990, F.W. Gess, in garden, (1δ AMGS); Ght., x.1941, O. Ortlepp, (1α AMGS); Ght., xi.[18]90, (1δ, 2α AMGS); Ght., xi.[18]91, A.M. 7784, (1δ AMGS); Ght., xi.[18]91, (1δ AMGS); Ght., 11.iii.1943, M.F. Todd, H. sommeri Burm., (1α AMGS); Ght., 12.xii.[18]96, Dr. Penther, A.M. 7784, (1δ, 1β AMGS); Ght., 21.x.1941, F.B. Avmitage, H. sommeri Burm., (1δ AMGS); Ght, i.1966, C. Jacot-Guillarmod, (1δ AMGS); Ght, 12.1.2004, C. Hemburn, altitude 629 m, (1δ AMGS); Ght., African Street, 10.xii.1970, F.W. Gess, (1δ, 1β AMGS); Ght., Howison’s Poort, 22–24.xi.1971, F.W. Gess, Malaise trap, (1δ AMGS); Howison’s Poort, 4.xi.1989, C. Zachariades, / F.sur 16, eating mature leaf // CZ95, (1δ SANC). Griqualand, Coll. Ertl / R. Det. S 635 / Hypopholis sommeri, (1α MRAC); Hogsback, ii.1979, T.R.E. Southwood & V.C. Moran, 37, from Betula pendula, (2δ, 5α SANC); Hogsback, ii.1979, G.L. Prinsloo, light trap, (1δ SANC); Hogsback, ii.1942, M. Roden [of RUDZ], H. sulcicollis Boh. [= synonym of H. sommeri], (1δ AMGS); Hogsback, 4.i.1970, J.G.H. Londt, H. sommeri Burm., det. A.V. Evans, 1985, (1δ AMGS); Hogsback, nr Hobbiton, 6.iii.1983, D.C. Weeks [of RUDZ], (1δ AMGS); Humansdorp, 27.xi.1983, G.L. Prinsloo & N.C. Grobbelaar, (1δ, 3β SANC); Katberg, xii.1932, 4000 ft. / R.E. Turner, Brit. Mus. 1933–69, (2δ BMNH); Katberg, 24.i.1928, J. Hewitt, no. 5577, (1β AMGS); Kimberley, (1δ mmKZ); Kimberley, x.1958, A. Snyman, SN 4611, (2α, 2α SANC); Kleinemonde, i.1944, J.O[mer].C[ooper]., (1δ AMGS); Lusikisiki, i.1920, G. Kobrow, (1δ, 2β TMSA); Nkambati [Nkambati Stream], 26.x.1996, R. Perissinotto & L. Clennell, (1δ TMSA); nr East London, ‘The Hill’, 23.x.1985, A.B. Ware [of RUDZ], (1δ AMGS); Nthloyane, 6.xi.1971, (1δ TMSA); Oudtshoorn, xii.1943, J.J. du Toit [of RUDZ], (1δ AMGS); Port Elizabeth, 6.i.1977, Duke, (1δ, 1β TMSA); Port Elizabeth, 4.ii.1990, M. Crampton [of RUDZ], (1δ AMGS); Port St Johns, 24–30.xi.1956, R.M. Martin, (2δ TMSA); Port St Johns, Pondoland, x.1923, R.E. Turner, Brit. Mus. 1923-547, (1δ BMNH); Port St Johns, Silaka, 29.xi.1987, Endrödy-Younga, E-Y: 2540, flowering Acacia, (1δ TMSA); Port St Johns, Silaka, 23.xi.1987, Endrödy-Younga, E-Y: 2532, UV light collection, 6δ TMSA); Port St Johns, Silaka, 29.xi.1987, Endrödy-Younga, E-Y: 2542,
UV light collection, (7° TMSA); Queenstown, 3126Dd, 1.i.1990, S.A. Prior [of RUDZ], (1° AMGS); Silaka For. Reserve, 2.xii.1988, Endrödy-Younga, E-Y: 2597, beating mesic forest, (1° TMSA); Silaka For. Reserve, 28.x.1987, Endrödy-Younga, E-Y: 2539, beating indig. forest, (3° TMSA); Stutterheim, i.1959, J.A. Nagle, (1° TMSA); Stutterheim, xii.1958, J.A. Nagle, (3° TMSA); Tarkastad, 17.i.1934, (1° USA); Truppen Valley, Bathurst Dist., 1925, H. Cartwright, (1° TMSA); Umtata, 2.i.1989, N. Duke, (1° TMSA); Umtiza, East London Coast Reserves, 25.xi.1988, B. Grobbelaar, (1°, 1° TMSA); Waterlo, x.1943, J. O[mer]-Coooper [of RUDZ], H. sommeri Burm., (2° AMGS).

**Gauteng**, Johannesburg, 28.xi.1897, under a stone, (1° TMSA); Johannesburg, Bryanston, 14.xii.1987, S. van Noort, (1° SANC); Johannesburg, Bryanston, xii.1986, S. van Noort, (1° SANC); Pretoria, 25.xi.1913, Ac.P 1049, (1°, 1° TMSA); Rustenburg, 17.xi.1964, P. Paliatseas, (1°, 1° SANC).

**KwaZulu-Natal**, Amanzimtoti, 16.x.1931, Prof. T.D.A. Cockerell, Pres. By Imp. Inst. Ent. B.M. 1933–363, (1° BMNH); Balgowan, 3.xii.1941, G. van Son (85, 7° TMSA); Balgowan, ii.1970, C. Bensard II–70, (3°, 8° MRAC); Balgowan, xii.1970. C. Bensard, (3°, 5° MRAC); Bellair N[orth], 10.x.[19]43, Marley, (1°, 1° DMSA); Bulwer, 19.i.1955, A.W.P. Coleby [of UNSA], / A82, A83, (2° TMSA); Cathedral Peak, 24.xii.2003, M. Burger & R. Muller, E-Y: 3570; light trap, (1°, 3° TMSA); Cathedral Peak, i.1964, A.L. Capener, (2° SANC); Cathedral Peak, Drakensberg, 19.1990, S. Vokes [of RUDZ], (1° AMGS); Cedara, IB14 Entomologist Ac.S., (1° SANC); Cedara (Agricultural College), 24.xi.1926, F.G.C. Tooke, AcP.3581, (1° SANC); Cedara College, 24.i.1957, A.J. Prins, Ac Ca 448, (1°, 1° SANC); Chaka’s Kraal, x.1983, P. Atkinson, 28 m a.s.l., at light, (1° SANC); Clan Synd., 25.i.1913, C.B. Hardenberg, (1°, 2° TMSA); Clan Synd., 25.i.1913, C.B. Hardenberg, (1°, 1° SANC); Clan Synd., x.1913, C.B. Hardenberg, on wattle, (1° USA); Clanstal, 10.x.1979, (1° DMSA); Cobham Nat. Res., 14.xii.1998, R. Perissinotto & L. Clennell, (1°, 1° TMSA); Cramond, 12.i.1943, Ac. US., (1° USA); Cramond, 1.xii.1913, Hardenberg, W278 on/over wattle, (2°, 2° SANC); Cramond [Plantation], 18.xi.1914, Hardenberg, (3° SANC); D’ Urban, i.[19]88, Bowker, (1° SANC); D’ Urban, (1°, 2° SAMC-A035840); D’ Urban, i.[19]88, Bowker, (1° SAMC-A035841); D’ Urban, i.[19]88, Bowker, (1° SAMC-A035886); D’ Urban, 1893, C.N. Barker, #39 (1° SAMC-A035887); D’ Urban, 1893, C.N. Barker, (2°, 1° SAMC-A035888); Dalton, 16.i.1971, H.D. Catling, AcP.7622, (1°, 3° SANC); Doreen Clark Nat. Res., 8.xii.1989, Endrödy & Klimaszew, E-Y: 2752, hanging fruit traps, (1° TMSA); Doreen Clark Nat. Res., 11.xii.1989, Endrödy & Klimaszew, E-Y: 2760, beating in forest, (7°, 10° TMSA); Drakensberg Garden, 10.iv.1990, R. Stals, (1° SANC); Drummond, 16.xi.[19]14, C.B. Hardenberg, W.531 / on wattle, (1° SANC); Drummond, 16.xi.[19]14, C.B. Hardenberg, W.531 / on wattle, (1° TMSA); Drummond, xii.1921, C.C. Kent, SN. 2833 / on wattle / AcN.1036 / Imp. Inst. Ent. Coll. No. 10690, (1° SANC); Dukuduku, 18.i.1963, H. Geertesema, (1° TMSA); Durban, (2° USNM); Durban, R. Ley coll. / et det. Le Moult vendit, (1° ISNB); Durban, H.W. Bell-Marley, 1903–108, (1° BMNH); Durban, 1953, (1° TMSA); Durban, i.1954, (1° TMSA); Durban, xii.1907, G.F. Leigh, (1° TMSA); Durban, xii.[19]97, (1° DMSA); East London, ‘The Hill’ near to, 22.xi.1985, A.B. Ware, (1° AMGS); Empangeni, 9.xi.1980, R.G. Oberprieler, (3°, 1° SANC); Empangeni Univ., 15.xi.1975, P.E. Reavell, (1° SANC); Eshowe, i.1957, N. Krauss, B.M. 1957-4, (2° BMNH); Eshowe, xii.[19]43, Marley, ex. PMB Mus. Coll., (1° DMSA); Eshowe, i.[19]18, Hogarth, (1° DMSA); Eshowe, 6.xi.1983, P. Reavell, 470m, (1° SANC); Eshowe, 12.[19]16, Marley, ex. PMB Mus. Coll., (1° TMSA); Eshowe, Dlinza Forest, xii.[19]43, Marley, (1° DMSA); Frere, / 1892, A. Marshall, det. L. Per., (1° SAMC-A035889); Glennifer, Kei Road St., Ranger, H. sommeri Burm., det G. van Son, (1°, 3° TMSA); Greymont, 17.xii.2000, B.H. Catherine [of UPSA], (1° SANC); Greymont, 12.xii.1981, Endrödy-Younga, at light, (1° TMSA); Greymont, 21.xi.1953, Natal A.R.I., ex UNSA, (1°, 2° TMSA); Harden Heights, 1.xi.1953, (2° TMSA); Harding, 12.xii.2000, J. du G. Harrison, (1° TMSA); Hermannsburg, 9.i.[19]13, C.B. Hardenberg, (1° TMSA); Highmoor Forest, 15.i.2006, MDTP 8562, 1795m, site F58, active ground searching, quad 2 × 8m, (1° TMSA); Highmoor Forest, 15.i.2006, MDTP 8966, 1697m, site F59, general collecting, (1° TMSA); Hill Crest, 12.xi.[19]13, C.B. Hardenberg, W238, (1°, 2° SANC); Hillcrest, 12.xi.1913, C.B. Hardenberg, on wattle / W238, (1° USA); Hillcrest, 12.i.1912, A.J.T. Janse, (2°, 3° TMSA); Hillcrest, Durban County Wattle Co., 7.xi.1968, G.A. Hepburn, (2° ICFR); Hilton nr. Pietermaritzburg, 1962, O. Bourquin, (2° DMSA); Hilton Road, 17.xi.year, damaging fruit trees, (1°, 1° TMSA); Hilton Road, 20–22.xii.[19]99, G. Heigh,
(2° TMSA); Himeville, Farm Meander [Brookland], xii.1988, S. McLean, (1° TMSA); Hluhluwe Game Res., 20.xi.1992, Endrödy-Younga, E-Y: 2841, light coll. at camp, (2°, 2° TMSA); Indaleni, Rev. W. Hunt, Coll. Mus. Congo, ex coll. Breuning / Hypopholis sommeri Burm., det. J. Decelle, 1961, (1°, 1° MRAC); Indaleni, Dist. Richmond, x–xii.[19]54, Coll. Mus. Congo, ex coll. Breuning / Hypopholis sommeri Burm., det. J. Decelle, 1961, (1°, 1° MRAC); Indaleni, Dist. Richmond, 7.xii.1989, Endrödy & Klimaszew, E-Y: 2758, grassland with river, (1° TMSA); Karkloof grassland, 10.xii.1989, Endrödy & Klimaszew, E-Y: 2758, grassland with river, (1° TMSA); Karkloof grassland, 4.xii.1989, Endrödy & Klimaszew, E-Y: 2726, general collecting, (3° TMSA); Karkloof forest, 13.xii.1989, Endrödy & Klimaszew, E-Y: 2726, groundtraps, (3° TMSA); Karkloof forest, 1420m, general collecting, (8° TMSA); Karkloof forest, 2.xii.1989, Endrödy & Klimaszew, E-Y: 2731, 1300m, general collecting, (1° TMSA); Karkloof forest, 1989, Endrödy & Klimaszew, E-Y: 2733, beating in forest, (2° TMSA); Karkloof forest, 2.xii.1989, Endrödy & Klimaszew, E-Y: 2738, UV light collection, (1° TMSA); Karkloof forest, 4.xii.1989, Endrödy & Klimaszew, E-Y: 2739, beating in forest, (1° TMSA); Karkloof forest, 11.xii.1989, Endrödy & Klimaszew, E-Y: 2763, 1300 m, UV light in forest, (1° TMSA); Karkloof forest, 13.xii.1989, Endrödy & Klimaszew, E-Y: 2772, 1300m, UV light in forest, (1°, 1° TMSA); Karkloof grassland, 2.xii.1989, Endrödy & Klimaszew, E-Y: 2735, groundtraps with faeces bait, 10 days, (1° TMSA); Karkloof grassland, 4.xii.1989, Endrödy & Klimaszew, E-Y: 2740, grassland with river, (1° TMSA); Karkloof grassland, 7.xii.1989, Endrödy & Klimaszew, E-Y: 2747, grassland with river, (1° TMSA); Karkloof grassland, 7.xii.1989, Endrödy & Klimaszew, E-Y: 2748, grassland bushes, (8°, 12° TMSA); Karkloof grassland, 10.xii.1989, Endrödy & Klimaszew, E-Y: 2758, grassland with river, 14(3, 15° TMSA); Kiff’s Farm [not traced], 27.xi.1953, A.J. Prins, Ac Ca 448, (2° SANC); Lidgetton, 2930Ac, 2.xii.1979, Miller & Stabbins [of UNSA], 1 (8° TMSA); Loteni Valley, xii.1976, P.E. Reavell, (3°, 3° TMSA); Malvern, 9.x.[18]97, 10, (1° TMSA); Malvern, (3° DMSA); Malvern, J.P. Cregoe, BMNH 1904–46, (1°, 3° BMNH); Malvern, Durban, x.1897, G.A.K. Marshall, 700–800 ft, Marshall Coll. 1912–95, (2°, 3° BMNH); Mapelane dune forest, 30.xi.1976, P.E. Reavell, (1° TMSA); Mapumulo, 2–3.xi.1989, R. Oberprieler, collected at light, (1° SANC); Pietermaritzburg, (1° SANC); Pietermaritzburg, [19]08, J.B. Paulus, (1° SANC); Pietermaritzburg, xi.1909, C.I. Fuller Coll. (Dec.1912), on wattle, (3°, 1° TMSA); Pietermaritzburg, 12.xi.[19]08, (1° TMSA); Pietermaritzburg, 5.xi.[19]03, E. Waner [?], ex. PMB Mus. Coll., (1° TMSA); Pietermaritzburg, 12.xi.1908, Paulus, (1° TMSA); Pietermaritzburg, [19]00, C. Fuller, (1°, 1° SANC-A035842/3); Pietermaritzburg, 3.xii.1908, (2° TMSA); Mooi River, 21.9.1922, Ento. Dept. Pretoria, (1°, 1° TMSA); Mooi River, 26.xi.1990, P.S. Carr [of RUDZ], (1° AMGS); Mpunjati, 18.x.1998, R. Perissinotto & L. Clennell, (1° TMSA); Mtnuzini, 20.xi.1980, R. Oberprieler, (1° SANC); New Hanover, 6.xi.[19]54, C.N. Smithers, Wattle Res. Inst. Natal, Coll. No. 5, (2° ICFR); New Hanover, xii.1954, Natal A.R.I., ex UNSA, (1° TMSA); New Hanover, 16.xi.1974, C.B. Hardenberg, (3°, 1° ISNB); Ngome Forest Station, nr Louwsburg, 20–24.i.1983, D.H. Jacobs, (1° TMSA); Ngome State Forest, 12–17.xi.1995, Krüger & Dombrowsky, inland tropical forest, to UV light, (1°, 4° MKCP); Ngome State Forest, 5–8.i.1996, M. Stiller, 1100m, (1° SANC); Ngome State Forest, 5–8.i.1996, R. Stals, 1100m, (1°, 1° SANC); Ngome State Forest, 12–17.xi.1995, Dombrowsky & Krüger, 1150m, UV light, (7°, 3° TMSA); Ngoye, xi.1965, W.J. Lawson, (1° DMSA); Nkandhla Forest, 8.xii.1963, A.H. Newton, Brit. Mus. 1984–169, (2° BMNH); Nkandhla Forest, 1937, R.F. Lawrence, (1° SANC-A035860); Noodsberg, 4.ii.1913, C.B. Hardenberg, (1° USSA); Noodsberg, 4.ii.1913, C.B. Hardenberg, ex UNSA, (1° TMSA); Noodsberg, 4.ii.[19]13, C.B. Hardenberg, (1° SANC); Northington, 12.xii.1989, Endrödy & Klimaszew, E-Y: 2765, 1420m, general collecting, (8°, 5° TMSA); Nottingham Road, 17.xii.[19]51, A.H. Newton, (1°, 1° DMSA); nr Maphelana [Mapelane], 10.xii.1980, D.H. Jacobs, (1° TMSA); Nyalazi [State Forest], 24.xi.[19]26, H.W. B-M., (1° TMSA); Oribi, x.1961, A. Holden, Natal, A.R.I., ex UNSA, (1° TMSA); Oribi Gorge, 25.x.1998, R. Perissinotto & L. Clennell, (1°, 1° TMSA); Oribi Gorge, x.1961, N. Leleup, humus, Z.A. 79, (1°, 1° TMSA); Oribi Gorge, 28.xi.1989, Endrödy & Klimaszew, E-Y: 2726, general collecting, (3° TMSA); Oudeni [Qudeni], 18.x.[19]55, ex coll. Breuning / H. sommeri


PEGYLIS PONDENSIS Arrow, 1943, Figs 3–4, 8, 11, 14, 18–19, 28–32, 40–41, 46–47, 52–53, 60–63


**Diagnosis.** Laterally, black band running from the junction of eye and pronotum and to the posterior humeral callus (Figs 3–4). Posterior pronotal marginal bead, absent (Figs 28, 31–32). Posterior pronotal edge rounded laterally (Figs 40–41). Scutellum and setae as indicated in Figs 46–47. Elytra and microsculpture as indicated in Figs 52–53. Overall body colouration lighter than *P. sommeri* and *P. vittata*. Known mainly from indigenous forest in South Africa (Fig. 18; Gazetteer), and thus uncommon in collections.

**Brief description.** **Size.** Length: males (*n* = 5), mean 18.0 mm, (range 17.0–19.0 mm), females (*n* = 5) 18.8 mm, (range 18.0–19.0 mm). Width: males (*n* = 5), 10.6 mm, (range 10.0–11.0 mm), females (*n* = 5) 11.4 mm, (range 11.0–12.0 mm). **Pronotum.** Ratio, greatest width: greatest mid length 2.18:1 (*n* = 50); 2.24:1 (*n* = 50). **Colour.** Generally light brown (darker brown and slightly mottled individuals can occur within populations). **Morphological variability.** Light brown, to slightly mottled to dark brown (perhaps even black, but unlike *P. vittata* no black specimens have been examined).

**Male genitalia** illustrated in Figs 60–63, parameres slender, long and simple.

**Distribution.** Isolated South African endemic. Specimens known from near Haenertsburg in the Limpopo Province to Port St. John’s in the Eastern Cape, but as three definable indigenous forest centred populations: i.e. (i) Limpopo and Mpumalanga, (ii) Drakensberg, and (iii) the coastal Eastern Cape (Fig. 18).

**Conservation status.** Conserved within the Mariepskop, Karkloof and Umntamvuma Nature Reserves. Potentially threatened by biological control methods implemented against *P. sommeri* (see Goble et al. 2012).

**Biology and pest status.** Here follows a unique observation by D. Williams and P. Hardy (of Nelspruit) on the aggregation and feeding of *P. pondensis* at the Mashonamin Campsite (25°32”323’S 30°29”579’E) in Mpumalanga SAPPI forests from 27 October to 5 November 2008. Between the 27th to the 29th of October 2008, D. Williams went to ring birds (class Aves); this was his fifth annual visit to the area that always takes place in late October or early November. The weather was cool with light showers and mist the previous days with the soil being damp. On the evening of 27 October, from 18:30 onwards (just before dark) he heard an unusual sound and realized that it was thousands of beetles flying into specific trees at the campsite, by 19:15 the noise had stopped. On closing his nets that evening he found many beetles stuck in the nets and collected some for identification. Early the next morning the ground under the trees in which the beetles had fed were covered with beetle frass. SAPPI staff members visited him that morning and identified the trees in which the beetles were feeding as *Celtis africana* Burm. f. (white stinkwood). That evening, from 18:30 the beetles again started flying towards the *C. africana* trees, and from 18:35 they could be audibly heard. They settled on both sides of the trees in their thousands. He was not aware of them feeding in any other species of tree; by 19:00 it was silent again (it was a misty/rainy/cold evening). That evening he took his white mattress bag and, with the return to Nelspruit and having received a reply from myself (J.duG.H.) he returned late on Tuesday night (4 November), now a
week later and discovered the beetles were still in the *C. africana* trees but in much lower numbers than before. By 05:15 the next morning they had flown from their feeding site. On looking up at the trees he noticed how heavily *P. pondoensis* had fed on the crowns of the *C. africana* trees. The sparse crown leaves were quite visible from the ground, indicating that these leaves had been a source of food for the beetles. In the dark and using a torch, he noticed other trees that had leaves that looked as if something had been feeding on the edges of the leaves or forming holes through the leaves, and then he realized that these other trees were all in close proximity to the *C. africana*, but this was not the case with the same tree species further from the *C. africana* trees. Using Schmidt et al. (2002), J. Onderstall identified the second tree as *Brachylaena transvaalensis* E. Philips & Schweick (forest silver-oak). What struck D. Williams was that only *B. transvaalensis* trees adjacent to the *C. africana* seemed to have been utilized as a food source, but he could not confirm this as the beetles had moved off (condensed by J.duG.H. from a report written by D. Williams for SAPPI).

Larvae are undescribed; they have not been recorded as pests. The seasonal activity of the species is provided in Fig. 19.


**Additional material examined** (69: 46δ, 23♀).

**SOUTH AFRICA, Eastern Cape;** Port St. John, Silaka, 19.xi.1987, Endrödy-Younga, E-Y:2540,

*Pegylis vittata* (Fåhraeus in Boheman, 1857), Figs 5–6, 9, 12, 15, 20–22, 33–37, 42–43, 48–49, 54–55, 64–67, 70–71


**Diagnosis.** Posterior pronotal margin unpigmented rim (Figs 33, 36). Lateral pronotal margin weakly acute, intermediate between *P. sommeri* and *P. pondoensis* (compare Figs 38–43). Mesosternal protuberance not produced beyond mesocoxae. Body more rounded in shape than *P. sommeri*. 

Fig. 19. Estimate of the seasonal activity of *Pegylis pondoensis* based on museum records listed here for 67 specimens (44 males and 23 females).
Brief description. Size. Length: males (n = 5), mean 16.4 mm, (range 16.0–18.0 mm), females (n = 5) 16.4 mm, (range 16.0–17.0 mm). Width: males (n = 5), 9.6 mm, (range 9.0–10.0 mm), females (n = 5) 10.4 mm, (range 10.0–11.0 mm). Pronotum. Ratio, greatest width: greatest mid length 1.99:1 (n = 5); 2.03:1 (n = 5). Colour. Pronotum with four black bands, two broad medially, one narrower laterally on each side. Elytra pale brown to striped with three black bands per elytron, merging to completely black in dark individuals (Fig. 6). Male genitalia illustrated in Figs 64–67. Parameres long and slender, more curved laterally than P. pondensis (compare Fig. 62 with 66) with apex narrowing near the base (Fig. 65). Morphological variability. Pigmentation of pronotum and elytra varying from pale brown to black (see colour above for markings).

Distribution. Recorded on the eastern side of the continent from Bulawayo in Zimbabwe to Hluleka...
in the Eastern Cape of South Africa (Figs 20, 22). The Namibian Gobabis locality record, based on a single pair, are probably incorrectly labelled.

**Conservation status.** Widely distributed in southern Africa and known from these Nature Reserves: Lagalameetse, Pullen, Sodwana, Mkuzi, Hluhluwe and Vernon Crookes (refer to the Gazetteer for a complete list of known localities).

**Biology and pest status.** *Pegylis vittata* is primarily diurnal (of the 292 specimens examined, three are labelled as being collected at light traps). Their known phenology is indicated in Fig. 21, and host records summarized in Table 1.

**Remarks.** Based on the examination of 74 males and 71 females of *H. vittata* from ‘Rhodesia, Bulawayo’, Machatschke (1955) selected dark black specimens (13 males and 23 females) from the series and described these as *Hypopholis vittata atrata*. He deposited the holotype and allotype in the Frey Collection, München. I examined the holotype, five male and three female paratypes of the type series, and 26 non-types (but from the same locality and collecting series) from the DEIG Collection. I regard *P. vittata atrata* as synonymous with *P. vittata*, because specimens attributed to *P. vittata atrata* only represent the black form of a species that varies in colour from light brown to completely black.

*Type material examined* Hypopholis vittata Boheman, 1857. Photographs (Figs 68–71) of the syntypes (NHRS) provided by D. Ahrens.

*Type material examined* Hypopholis vittata atrata Machatschke, 1955. ZIMBABWE, Bulawayo, (64, 3⁹ DEIG).


![Fig. 22. Known distribution of Pegylis vittata in Africa, with records from South Africa, Swaziland, Mozambique, Zimbabwe, Zambia and Tanzania.](image)
Figs 38–43. Lateral pronota (38, 40, 42) and elytra (39, 41, 43) of Pegylis species. 38–39, *P. sommeri*; 40–41, *P. pondoensis*; 42–43, *P. vittata*. Scale bars (38, 40, 42) = 1 mm; (39, 41, 43) = 100 µm. 1st column ×37, 2nd ×50.
Figs 50–55. Elytra of *Pegylis* species. **50–51.** *P. sommeri*; **52–53.** *P. pondoenisis*; **54–55.** *P. vittata*. Scale bars (50, 52, 54) = 1 mm; (51, 53, 55) = 100 µm. 1st column ×15, 2nd ×200.
Table 1. Feeding records of *Pegylis sommeri*, *P. pondoensis* and *P. vittata*. For additional details refer to the material examined under the respective species.

<table>
<thead>
<tr>
<th>Crop / Plant</th>
<th>som</th>
<th>pon</th>
<th>vit</th>
<th>Reference/s</th>
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<tr>
<td><em>Acacia mearnsii</em> De Wild. (black wattle)</td>
<td>X</td>
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<td>Prins 1965; Carnegie <em>et al.</em> 1974; Annecke &amp; Moran 1982; Swain &amp; Prinsloo 1986; Material examined</td>
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<td><em>Acacia spp.</em> (wattle plantations)</td>
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<td>X</td>
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<td><em>Brachylaena transvaalensis</em> E. Philips &amp; Schweick (forest silver-oak)</td>
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<td></td>
<td>X</td>
<td>D. Williams, pers.comm.</td>
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<tr>
<td>* Celtis africana* Burm.f. (white stinkwood)</td>
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<td>D. Williams, pers.comm.</td>
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<td><em>Encephalartos friderici-guilielmi</em> Lehm.</td>
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<td>Fruit trees (damaging fruit trees)</td>
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<td>X</td>
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<td><em>Rosa</em> L. (ornamental garden roses)</td>
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<td>?</td>
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<tr>
<td><em>Solanum</em> L. spp. (potatoes)</td>
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<td>Harrison (unpubl. data) from South Africa, KwaZulu-Natal. Larvae feeding on tubers</td>
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<td><em>Vitis</em> L. (grapevines)</td>
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</table>

Following Klopper *et al.* (2006) *Acacia mollissima* auct. is a synonym of *A. mearnsii*. 


**ACKNOWLEDGEMENTS**

I am grateful to and thank all of the following: curators and the museums listed in the materials and methods for access to specimens; M.J. Wingfield and C.H. Scholtz (both UP) provided NRF and Mellon Foundation funding respectively; P. Schoolmeesters for literature; K. Balkwill (Wits) for writing time at Wits’ Pullen Nature Reserve; and three anonymous reviewers whose comments improved the paper.

**REFERENCES**


Gazetteer of localities for *Pegylis sommeri*, *P. pondensis* and *P. vittata* in southern Africa (species indicated by the first three letters of their names). Additions to label data in square brackets; nr = near; ? = questionable species localities. Unless indicated otherwise all localities are for ‘populated places’, with the grid reference taken from NIMA (2010). Although this paper focusses on the South African species of *Pegylis*, where their ranges extend into neighbouring countries these localities are also included.

### SOUTH AFRICA

#### Northern Cape
- Kimberley, ? 28°44'S 24°46'E

#### Eastern Cape
- Alexandria For(est) St[ation] 33°43'S 26°23'E
- Alexandria Forest 33°42'S 26°22'E
- Alexandria, Woody Cape 33°46'S 26°20'E
- Alice [pp] 32°47'S 26°50'E
- Bizana 31°34'S 29°34'E
- Cradock 32°11'S 25°37'E
- East London 33°02'S 27°55'E
- Emagusheni, [pp] 30°51'S 29°36'E
- Faraway Farm, nr Grahamstown 33°19'S 26°32'E
- Flagstaff 31°05'S 29°29'E
- Fort Beaufort 32°47'S 26°38'E
- Grahamstown 33°18'S 26°32'E
- Grahamstown, Howison's Poort 33°20'S 26°30'E
- Hluuleka [pp] 31°49'S 29°18'E
- Hogsback [Mountain] 32°36'S 27°01'E
- Hogsback [pp] 32°35'S 26°57'E
- Howison's Poort 33°22'S 26°29'E
- Humansdorp 34°02'S 24°46'E
- Katberg [Railway Station] 32°32'S 26°41'E
- Kleinefontein 33°33'S 27°03'E
- Louiskiisk 31°21'S 29°35'E
- Nkambati, [Mkambati Stream] 31°16'S 30°02'E
- nr East London, 'The Hill' 33°00'S 27°54'E
- Niholyane 29°58'S 30°48'E
- Pirie Bush / Forest 32°43'S 27°17'E
- Port Elizabeth [pp] 33°58'S 25°35'E
- Port Saint John's [PP] 31°38'S 29°32'E
- Port Saint John's, Silaka Pp, som 31°33'S 29°30'E
- Pretoria [pp] 30°47'S 28°35'E
- Queenstown 31°54'S 26°53'E
- Silaka For Reserve 31°33'S 29°30'E
- St John's River Pp, som 31°38'S 29°32'E
- Stutterheim 32°34'S 27°25'E
- Tarkastad [pp] 31°38'S 26°15'E
- Trappe's Valley [Railway Station] 33°27'S 26°54'E
- Umtata 31°35'S 28°47'E
- Umtiza, East London Coast Reserve 33°02'S 27°49'E
- Waterklo [farm] 31°51'S 26°36'E
- Gauteng
- Bryanston 30°03'S 28°02'E
- Johannesburg 31°26'S 28°05'E

#### KwaZulu-Natal
- Amanzimtoti 30°03'S 30°53'E
- Balgowan 29°22'S 30°01'E
- Bellair 29°53'S 30°57'E
- Breedershoek, [nr Krantzkop] 28°29'S 31°16'E
- Bulwer 29°48'S 29°45'E
- Cathedral Peak [pp] 28°55'S 29°09'E
- Cathkin Park 29°00'S 29°25'E
- Cedara (Agricultural College) 29°32'S 30°16'E
- Chakes Kraal 29°27'S 31°04'E
- Clan Syn 29°23'S 30°29'E
- Clan Stahl [pp] 30°15'S 30°48'E
- Cobham Nat. Res. [State Forest] 29°40'S 29°20'E
- Cramond (Plantation) 29°23'S 30°24'E
- Dalton 29°20'S 30°38'E
- Dlinza Forest [Nat. Res.] 28°53'S 31°26'E
- Doreen Clark Nat. Res. 29°34'S 30°17'E
- Drakensberg Garden 29°46'S 29°14'E
- Drummond 29°45'S 30°42'E
- Dukuduku [Forest Reserve] 28°21'S 32°18'E
- Durban 29°51'S 31°01'E
- Durban- to Pietermaritzburg [road] 29°51'S 31°01'E
- D'Urban 28°44'S 31°54'E
- Empangeni 28°46'S 31°54'E
- Empangeni Univ. 28°46'S 31°54'E
- Eshowe [pp] 28°53'S 31°28'E
- Eshowe, [pp] 28°53'S 31°28'E
- Eshowe, [pp] 28°53'S 31°28'E
- Faraday Farm, nr Grahamstown 33°19'S 26°32'E
- Faraway Farm, nr Grahamstown 33°19'S 26°32'E
- Flagstaff 31°05'S 29°29'E
- Fort Beaufort 32°47'S 26°38'E
- Grahamstown 33°18'S 26°32'E
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- Stutterheim 32°34'S 27°25'E
- Tarkastad [pp] 31°38'S 26°15'E
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- Gauteng
- Bryanston 30°03'S 28°02'E
- Johannesburg 31°26'S 28°05'E

### Gazetted localities


Accepted 27 June 2014
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<tr>
<td>Elandshoek vi</td>
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<td>30°43'E</td>
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<td>Elandshoek vii</td>
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<td>Fourteen Streams [pp] vi</td>
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<td>31°03'E</td>
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<td>Gustav Klingbiel N.R. (nr Lydenburg) vi</td>
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<td>Heidelberg vi</td>
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<td>Johannesburg vi</td>
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<td>Nelspruit Gallery Forest, below Station vi</td>
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**North-West**

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<td>Silver River [Silwerrivier] [sem]</td>
<td>33°58'S</td>
<td>22°33'E</td>
</tr>
<tr>
<td>Stellenbosch [pp] [sem]</td>
<td>33°56'S</td>
<td>18°51'E</td>
</tr>
<tr>
<td>Winterskloof [sem]</td>
<td>33°32'S</td>
<td>23°34'E</td>
</tr>
</tbody>
</table>

**MOZAMBIQUE**

<table>
<thead>
<tr>
<th>Location</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delagoa [Bay, Maputo] [sem]</td>
<td>26°00'S</td>
<td>32°40'E</td>
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</table>

**SWAZILAND**

<table>
<thead>
<tr>
<th>Location</th>
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<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malagwane Hill [Mbabane] vi</td>
<td>26°19'S</td>
<td>31°08'E</td>
</tr>
<tr>
<td>Mbabane, Mantenga Ranch vi</td>
<td>26°19'S</td>
<td>31°08'E</td>
</tr>
</tbody>
</table>

**TANZANIA**

<table>
<thead>
<tr>
<th>Location</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sansibar, [Zanzibar Island] vi</td>
<td>06°10'S</td>
<td>39°20'E</td>
</tr>
</tbody>
</table>

**ZAMBIA**

<table>
<thead>
<tr>
<th>Location</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isoka [plain(s)] vi</td>
<td>08°50'S</td>
<td>31°12'E</td>
</tr>
<tr>
<td>Isoka [p.p.] vi</td>
<td>10°08'S</td>
<td>32°38'E</td>
</tr>
<tr>
<td>Isoka [stream] vi</td>
<td>10°11'S</td>
<td>32°38'E</td>
</tr>
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</table>

**ZIMBABWE**

<table>
<thead>
<tr>
<th>Location</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulawayo vi</td>
<td>20°09'S</td>
<td>28°35'E</td>
</tr>
<tr>
<td>Kimberley [mine] [cf. other in Norther Cape]</td>
<td>17°18'S</td>
<td>31°21'E</td>
</tr>
</tbody>
</table>