

Revision of the genus *Stegnaspea* Baly with descriptions of five new species from southern Africa (Coleoptera: Chrysomelidae: Galerucinae: Alticini)

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Abstract

A revision of the Afrotropical flea beetle genus *Stegnaspea* Baly, 1877 is presented. In addition to the type species *S. trimeni* Baly, 1877, five new species are ascribed to this genus, *S. audisiana* sp.n., *S. danielssoni* sp.n., *S. debiasei* sp.n., *S. endroedyi* sp.n. and *S. penrithae* sp.n., all from the Republic of South Africa. A key to the species, micrographs of male and female genitalia, scanning electron micrographs of peculiar morphological characters, and distributional and ecological data are supplied.

Keywords

Afrotropical region, taxonomy

Introduction

The Alticini (Coleoptera: Chrysomelidae) is a taxon composed of minute to medium-sized beetles whose enlarged hind femora and renowned jumping ability have earned it the common name of flea beetles. It includes 4000 to 8000 species grouped in approximately 500 genera that are distributed worldwide, although most occur in the tropical regions of South America, Africa and Asia (Konstantinov & Vandenberg 1996; Santiago-Blay 2004). They are highly specialized phytophagous insects, of which the adults and larvae feed on stems, leaves and roots of most of the higher plant families (Konstantinov & Vandenberg 1996). The systematic position of the Alticini within Chrysomelidae, and particularly their relationships with Galerucinae, is a subject of active discussion (Duckett et al. 2004; Gómez-Zurita et al. 2007). In this paper we follow the more recent hypothesis that considers the Alticini to be a tribe belonging to the subfamily Galerucinae (Bouchard et al. 2011). They are characterized by the presence of a metafemoral spring and specific structures of the spermatheca, median lobe

of aedeagus and hind wing venation (cf., Furth & Suzuki 1994, 1998). Details of the composition of the Afrotropical Alticini are incomplete (Biondi & D'Alessandro 2010). Currently the Afrotropical flea beetle fauna includes 103 genera of which about 25% are apparently monotypic (Biondi & D'Alessandro 2010, 2011). The genus *Stegnaspea* Baly, 1877 was also known from only the type species *S. trimeni* Baly 1877, described from the Cape of Good Hope (Republic of South Africa). However, careful study of numerous specimens belonging to this taxon allowed us to ascribe five new species to this flea beetle genus, namely *S. audisiana* sp.n., *S. danielsoni* sp.n., *S. debiasi* sp.n., *S. endroedyi* sp.n. and *S. penrithae* sp.n., all from the Western Cape Province of the Republic of South Africa.

Materials and Methods

Material examined consisted of dried pinned specimens preserved in the institutions listed below, collected mostly by one of us (M.B.) during zoological collecting trips in southern Africa. Specimens were dissected and examined using WILD MZ12.5 and LEICA M205C binocular microscopes. Photomicrographs were taken using a Leica DFC500 camera and the Auto-Montage Pro 2006 software. Scanning electron micrographs were taken using a Hitachi TM-1000. Geographical coordinates of the localities are reported in degrees and minutes (DMD-WGS84 format); those included in square brackets were added by the authors.

Abbreviations

LAED, length of median lobe of aedeagus; LAN, length of antennae; LB, total body length; LE, length of elytra; LP, length of pronotum; LSP, length of spermatheca; WE, width of elytra; WP, width of pronotum.

Collections and depositories

BAQ, collection of M. Biondi, Dipartimento di Scienze Ambientali, University of L'Aquila, Italy; BMNH, The Natural History Museum, London, United Kingdom; MZLU, Lund Zoological Museum, Lund University, Sweden; NMPC, National Museum, Department of Entomology, Kunratic, Praha, Czech Republic; SAMC, Iziko South African Museum, Cape Town, South Africa; SANC, South African National Collection of Insects, ARC-Plant Protection Research Institute, Pretoria, South Africa; TMSA, Ditsong, National Museum of Natural History (formerly Transvaal Museum), Pretoria, Republic of South Africa.

Systematics

Genus *Stegnaspea* Baly

Stegnaspea Baly, 1877: 181–182.

Type species *Stegnaspea trimeni* Baly, 1877, by monotypy.

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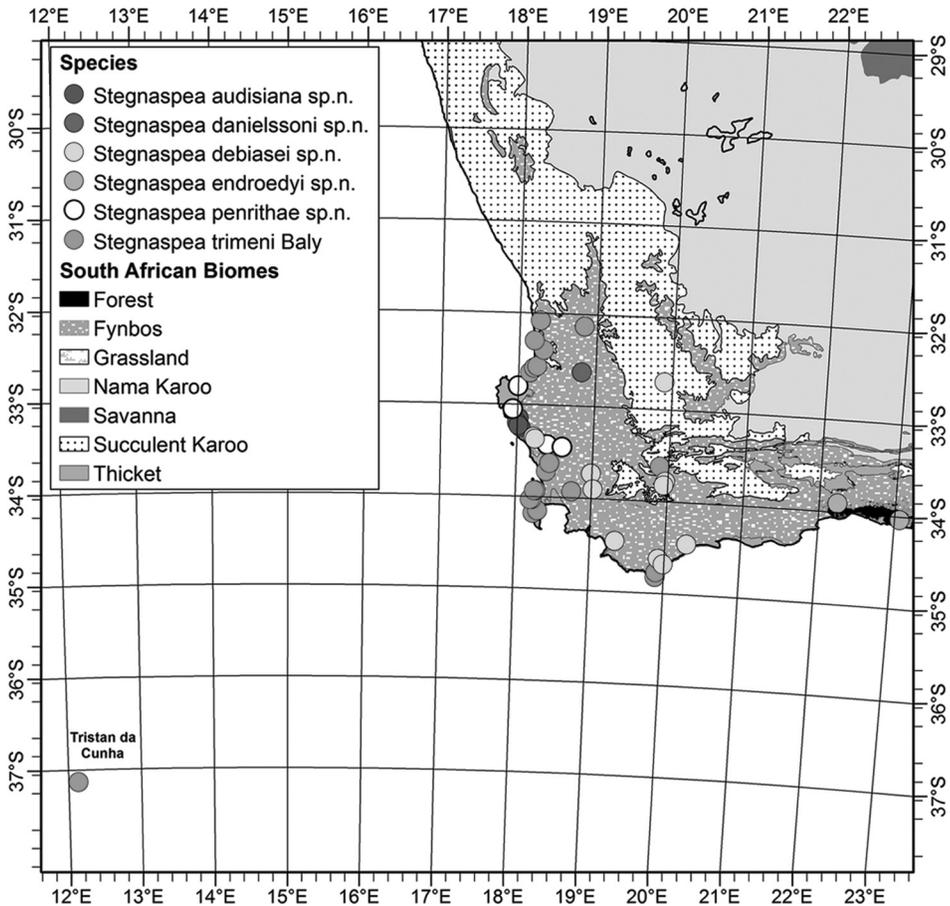


Fig. 1 Geographical distribution of species in the genus *Stegnaspea* Baly. This figure is published in colour in the online edition of this journal, which can be accessed via <http://www.brill.nl/ise>

Comments

Baly (1877) did specify neither the gender nor the *derivatio nominis* in the original description of the genus. The name *Stegnaspea* derives from the Greek words *Στεγνός* (= covered, not visible) and *Ασπίς, ἴδος* (= little shield) and certainly refers to the scutellum not being visible. Based on Article 30.1.3 of The International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature 1999), which states that “a genus-group name that is a Greek word latinized with change of ending, or with a Latin or latinized suffix, takes the gender normally appropriate to the changed ending or the Latin suffix”, the name *Stegnaspea* must be considered of feminine gender.

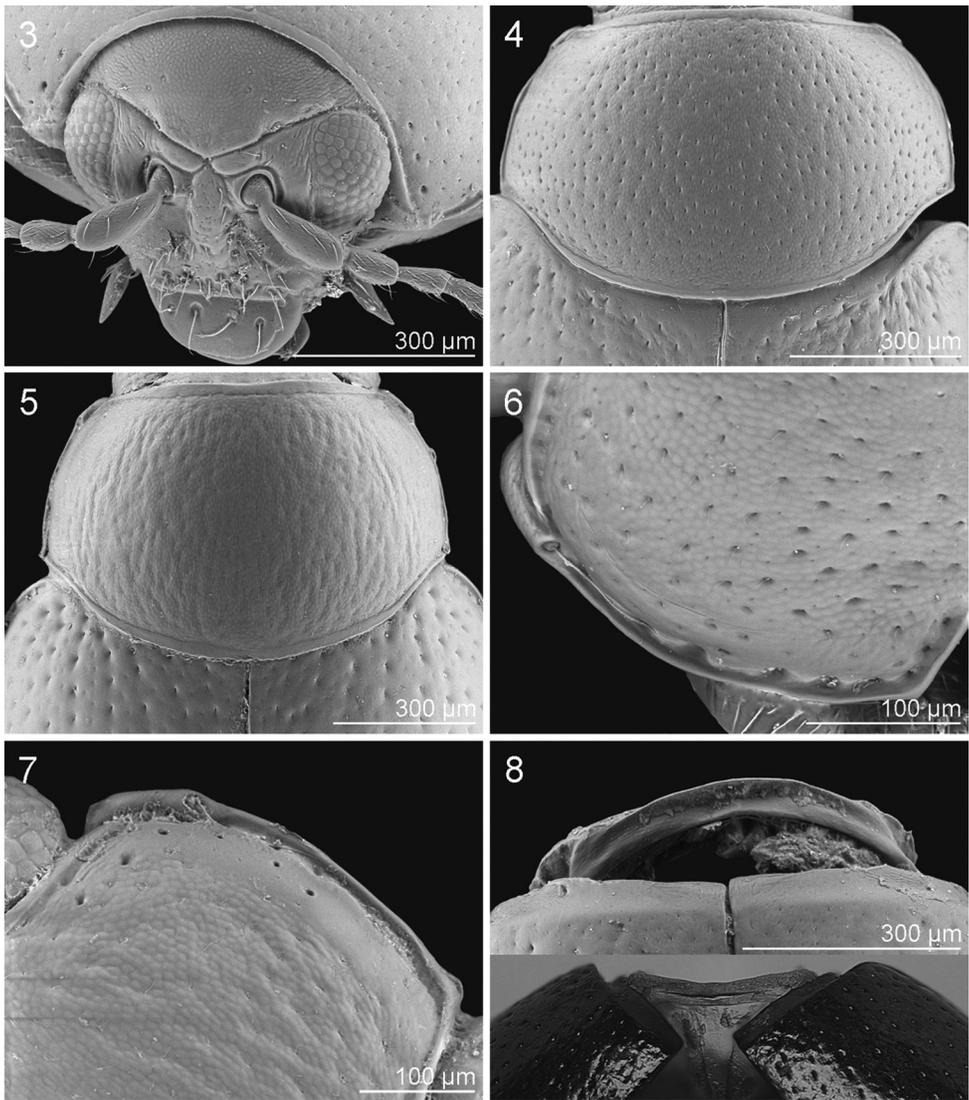
Morphological remarks

Some morphological characters of the genus *Stegnaspea* are revised and improved, based on the newly added material, so supplementing the original description by Baly



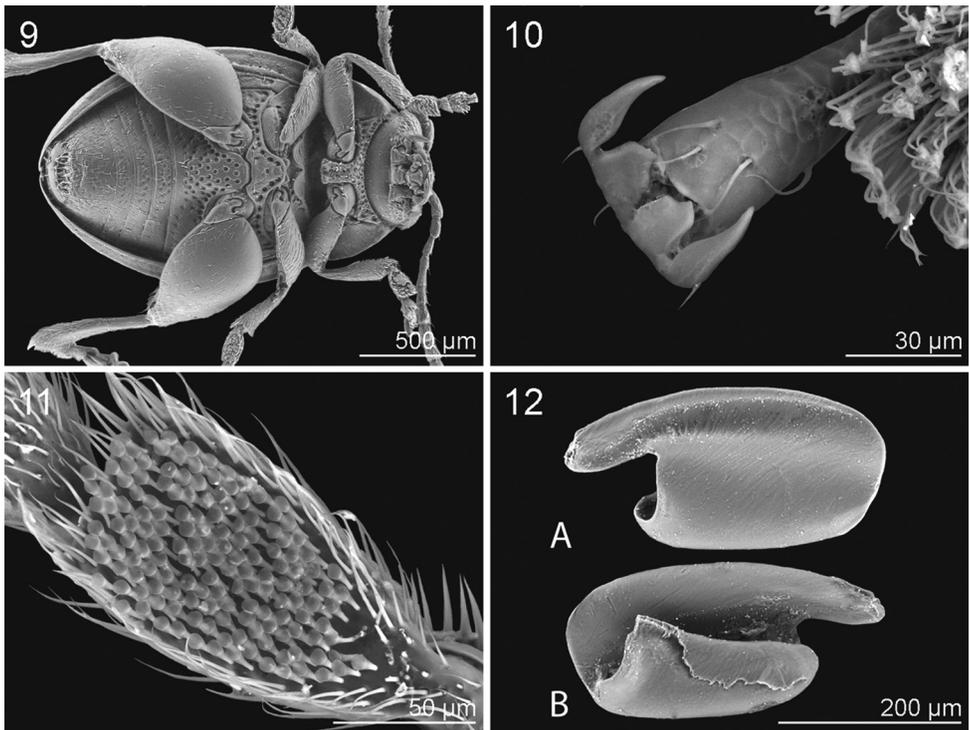
Fig. 2 Habitus of *Stegnaspea trimeni* Baly, 1877. This figure is published in colour in the online edition of this journal, which can be accessed via <http://www.brill.nl/ise>

(1877). Body (Fig. 2) short, elliptical, and distinctly convex; head (Fig. 3) hypognathous, deeply inserted in pronotum; antennae about half the length of the body; frontal tubercles elongate and distinctly delimited except for the lateral margins; frontal grooves deeply impressed; pronotum (Figs 4 and 5) sub-trapezoidal, narrower anteriorly, as wide as elytra basally; apical and basal margins with flat or narrowly margined borders; lateral margins generally rounded with a slight outward extension; scutellum not visible (Fig. 8); procoxal cavities open (Fig. 9); humeral callus absent on elytra; elytral punctation arranged in 9 regular rows (+ 1 short irregular sutural row); interstriae flat; metathoracic wings sub-apterous (*sensu* Biondi 1993); abdominal sternites (Fig. 9) with numerous setigerous punctures, larger on pro-, meso- and metasternum, and first abdominal sternite; hind tibiae with finely dentate external margin, not with distinct teeth or spines; apical spur of hind tibiae short; first tarsomere of anterior and middle tarsi with adhesive setae on ventral side in male (Fig. 11); females can be distinguished by the first tarsomere of the fore and middle tarsi, which is not dilated; tarsal claws sub-appendiculate (Fig. 10). Metafemoral spring (Fig. 12) with dorsal lobe slightly but regularly curved and extended arm moderately elongate; basal edge forming a widely rounded angle with dorsal margin of dorsal lobe; dorsal edge of ventral lobe feebly sinuate; basal angle of ventral lobe almost 90°, not pointed apically; and recurved flange moderately developed. A metafemoral spring with this configuration



Figs 3–8 Morphological characters in *Stegnaspea* Baly. (3) Head of *S. trimeni* Baly; (4, 6) pronotum of *S. debiasei* sp.n.; (5, 7) pronotum of *S. endroedyi* sp.n.; (8) base of elytra in *S. trimeni* Baly. This figure is published in colour in the online edition of this journal, which can be accessed via <http://www.brill.nl/ise>

can be attributed to the *Chaetocnema* morpho-group (Furth & Suzuki 1998; Furth 2011, pers. commun.). Median lobe of aedeagus thickset (Figs 13–18), generally complex towards the apex consisting of two closely associated lobes which are fused to form a median apical lobe (Figs 13, 15–17) with a small dorsal ligula that varies in shape; often with two distinct laminate extensions on ventral surface; and tegmen typically Y-shaped. Spermatheca (Figs 19–24) of Alticinae-type (Furth & Suzuki 1994), following the terminology of Döberl (1986) and Furth & Suzuki (1994), it consists of a



Figs 9–12 Morphological characters in *Stegnaspea* Baly. (9) Venter of *S. audisiana* sp.n.; (10) tarsal claws in *S. endroedyi* sp.n.; (11) ventral aspect of first tarsomere of male fore tarsus in *S. danielssoni* sp.n.; (12) dorsal (a) and ventral (b) aspect of metafemoral spring in *S. trimeni* Baly.

sub-cylindrical basal part, a distinctly developed distal part apex without an apical sclerotized appendix, and an uncoiled ductus which is sub-apically inserted; neck and apex of distal part similar in length and thickness. Vaginal palpi and tignum as in Figs 24 and 25.

Distribution

Republic of South Africa (Western Cape Province) and Tristan da Cunha (probably introduced) (Fig. 1).

Ecological notes

Some species of this flea beetle genus are common in open fields and are very probably associated with plants in the family Poaceae.

Key to species

Stegnaspea species are very similar in shape, sculpture and colour. Only males can be positively identified through examination of the median lobe of the aedeagus. The spermatheca is not useful for the identification of females, because of its highly variable shape.

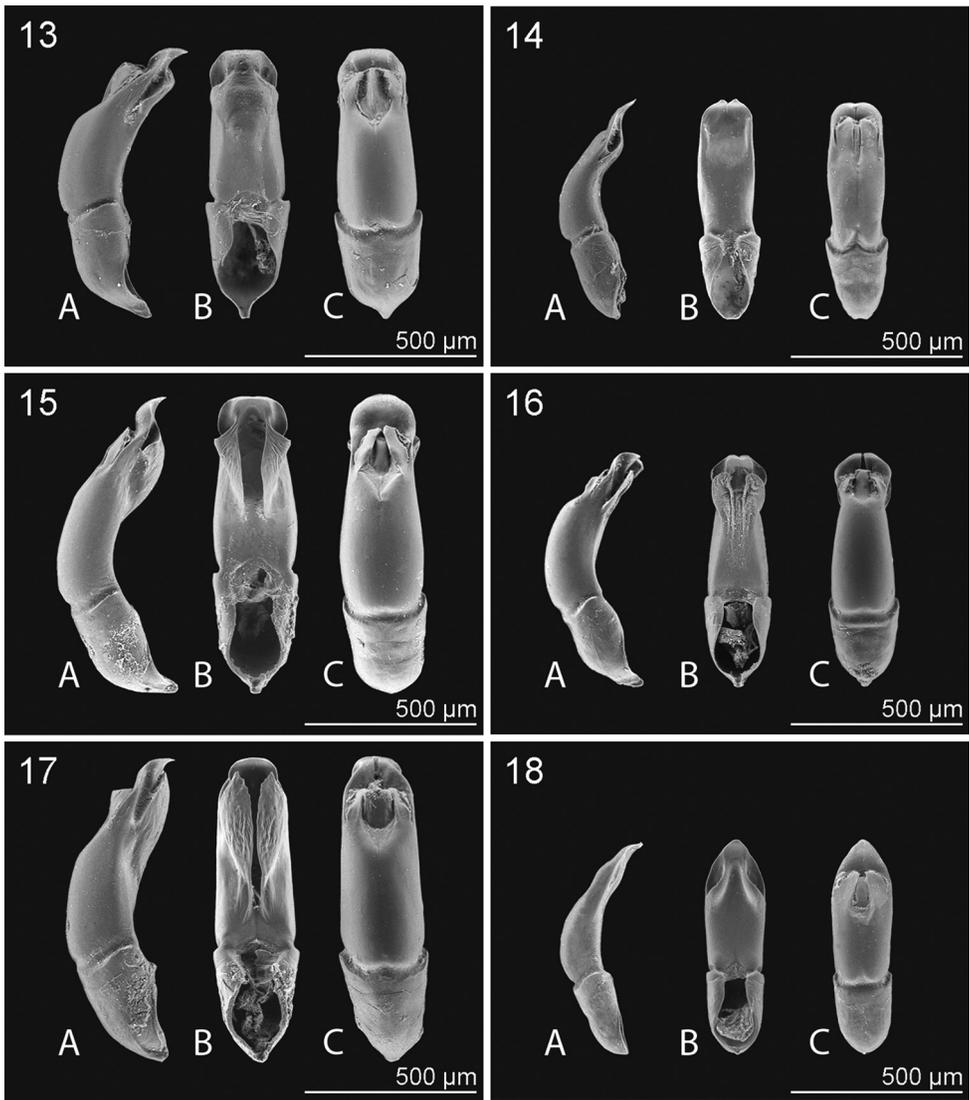
- 1 Median lobe of aedeagus (Figs 13, 15–17) more elongate (LAED > 0.68 mm) and widely rounded towards the apex; apex not distinctly incised; ventral laminate extensions always present and distinctly visible in distal half of aedeagus 2
- Median lobe of aedeagus (Figs 14, 18) shorter (LAED ≤ 0.68 mm), apex sub-triangular or distinctly incised; ventral laminate extensions absent or limited to sub-apical part of aedeagus 5
- 2 Median lobe of aedeagus (Fig. 16) with wide and slightly impressed ventral sulcus; ventral laminate extensions sub-reniform; aedeagus not enlarged ventrally towards the apex in lateral view *S. debiasei* sp.n.
- Median lobe of aedeagus (Figs 13, 15, 17) with deeply impressed ventral sulcus; ventral laminate extensions differently shaped, not reniform; aedeagus more or less enlarged ventrally towards the apex in lateral view 3
- 3 Median lobe of aedeagus (Fig 13) shorter (LAED ≤ 0.86 mm), with wide ventral sulcus; ventral laminate extensions narrow with shagreened surface .. *S. trimeni* Baly
- Median lobe of aedeagus (Fig 15, 17) more elongate (LAED > 0.86 mm), with narrow ventral sulcus; ventral laminate extensions wider, sub-triangular or sublanceolate, with distinctly wrinkled surface 4
- 4 Pronotal punctuation distinctly and uniformly impressed (Figs 4, 6). Median lobe of aedeagus (Fig. 15) distinctly narrower in apical fifth in ventral view; ventral laminate extensions sub-triangular, protruding strongly and attached to median lobe towards the apex; aedeagus slender medially, but distinctly enlarged in apical third in lateral view *S. danielsoni* sp.n.
- Pronotal punctuation very shallow with more deeply impressed punctures near anterior and lateral margins (Figs 5 and 7). Median lobe of aedeagus slightly but distinctly tapered from base to apex in ventral view (Fig. 17); ventral laminate extensions sub-lanceolate, protruding and separated from median lobe towards the apex; aedeagus more thickset but not distinctly enlarged ventrally in apical third in lateral view *S. endroedyi* sp.n.
- 5 Median lobe of aedeagus sub-triangular towards apex in ventral view (Fig. 18); not incised apically; ventral laminate extensions visible laterally towards apex; aedeagus slightly sinuate ventrally towards the apex in lateral view *S. penrithae* sp.n.
- Median lobe of aedeagus narrower at base and then sub-parallel in ventral view, and widely rounded apically (Fig. 14); apex distinctly incised; ventral laminate extensions absent; aedeagus strongly sinuate ventrally towards the apex in lateral view *S. audisiana* sp.n.

***Stegnaspea trimeni* Baly**

Stegnaspea trimeni Baly, 1877: 182

Type material examined

Lectotype ♂, REPUBLIC OF SOUTH AFRICA, Western Cape Province: Cape of Good Hope [–S34°09' E18°25'], ex Coll. Baly, (Biondi M. des.) (BMNH).

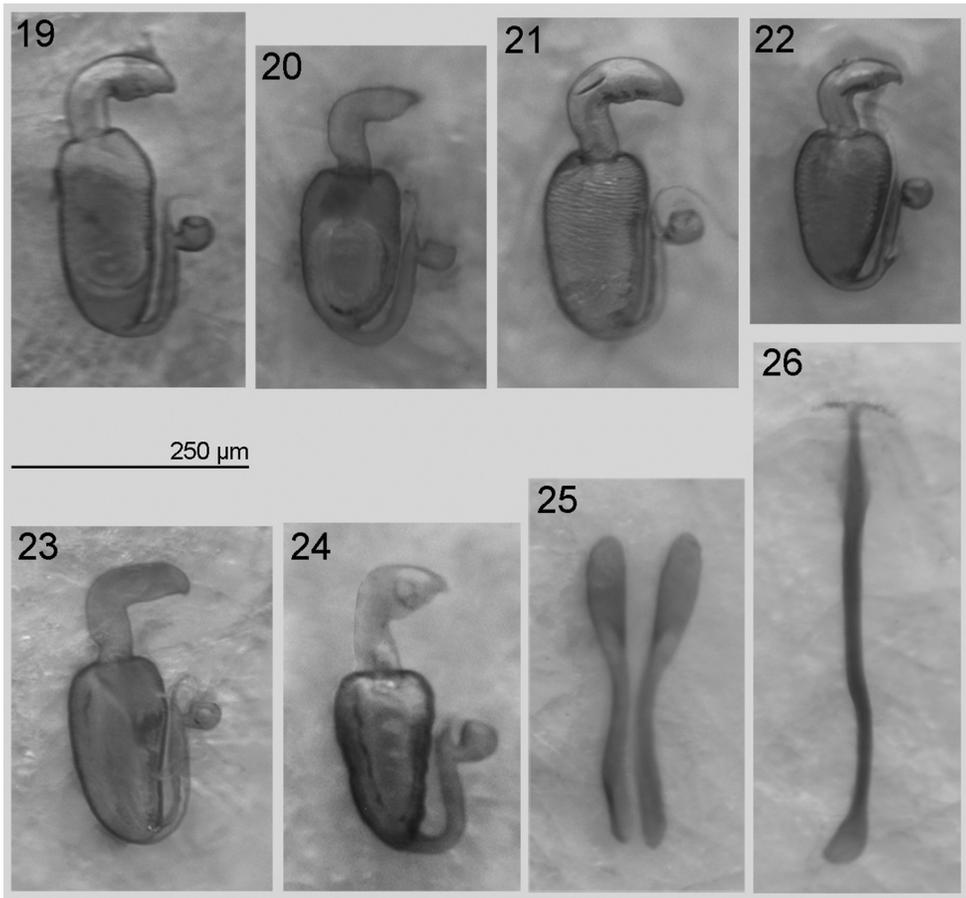


Figs 13–18 Median lobe of aedeagus in *Stegnaspea* species, with (A) lateral, (B) ventral and (C) dorsal view: (13) *S. trimeni* Baly (Table Mountain, Tafelberg road); (14) *S. audisiana* sp.n. holotype (3–12 km ESE Langebaan, R27); (15) *S. danielssoni* sp.n. holotype (Piekenierskloof); (16) *S. debiasei* sp.n. paratype (Kogmanskloof, road Ashton-Montagu); (17) *S. endroedyi* sp.n. holotype (Garden of Eden); (18) *S. penrithae* sp.n. paratype (15 km E Darling).

Paralectotypes: same locality of the lectotype, 2 specimens (not dissected), ex Coll. Baly (BMNH). A lectotype is here designated to permanently fix the identity of the type species of the genus.

Material examined

REPUBLIC OF SOUTH AFRICA: Western Cape Province: Cape Town [S33°55' E18°25'], 30.vii.1956, G. Botto, SAM-COL – 063501, 1 specimen (SAMC); Cape



Figs 19–26 Female genitalia in *Stegnaspea* species. Spermatheca in: (19) *S. trimeni* Baly (Chapmans Bay, Noordhoek); (20) *S. penrithae* sp.n. paratype (15 km E Darling); (21) *S. danielsoni* sp.n. paratype (Piekenierskloof); (22) *S. audisiana* sp.n. paratype (3–12 km ESE Langebaan, R27); (23) *S. debiasei* sp.n. paratype (10 km S Bredasdorp); (24) *S. endroedyi* sp.n. paratype (Langeberg, Ruitersbos For. St.); (25) *S. trimeni* Baly (Bookram farm), vaginal palpi and (26) tignum. This figure is published in colour in the online edition of this journal, which can be accessed via <http://www.brill.nl/ise>

Town, Table Mountain, Tafelberg road, 300–500 m, [S33°56' E18°24'], 21.ix.1994, P. Audisio, M. Biondi, M.A. Bologna leg., 57 specimens (BAQ); Cape Town, Table Mountain, top, 950–1060 m, [S33°56' E18°24'], 21.ix.1994, P. Audisio, M. Biondi, M.A. Bologna leg., 9 specimens (BAQ); Lambert's Bay, S32°05' E18°24', 28.viii.1989, E-Y: 2672, sifted litter, Endrödy & Klimasew, leg., 7♂ and 2♀ (TMSA); E of Lambert's Bay, S32°05' E18°24', 25.viii.1981, E-Y: 1849, ground trap with faeces bait, S. Endrödy-Younga leg., 2 specimens (TMSA); Grootdrif farm, S32°24' E18°27', 28.viii.1981, E-Y: 1862, ground trap 61 days with banana bait, S. Endrödy-Younga leg., 1 specimen (TMSA); ditto, E-Y: 1861b, ground traps 61 days with meat bait, 6 specimens (TMSA); *ibidem*, 27.x.1981, E-Y: 1903, sifted litter, 3 specimens (TMSA); Saamstaan farm, S32°35' E18°22', 30.viii.1981, E-Y: 1866, ground trap 60 days with

faeces bait, S. Endrödy-Younga leg., 3 specimens (TMSA); St. Helenafontein, S32°36' E18°20', 30.viii.1981, E-Y: 1867, ground trap 60 days with faeces bait, S. Endrödy-Younga leg., 1 specimen (TMSA); Bookram farm, S32°39' E18°17', 30.viii.1981, E-Y: 1868, ground trap 59 days with faeces bait, S. Endrödy-Younga leg., 8 specimens (TMSA); 13 km NW Struisbaai, S33°37' E20°01', 29.x.1983, E-Y: 2036, from under a stone, S. Endrödy-Younga leg., 31 specimens (TMSA); ditto, E-Y: 2035, from under stones, 3 specimens (TMSA); 25 km SSW Malmesbury, 150 m, S33°38' E18°34', loc. 2, 4.x.1994, R. Danielsson leg., 4 specimens (MZLU); 10 km E Melkbosstrand (M14), 120 m, sandy xeric grassland, [S33°43'E18°32'], 10.ix.1994, P. Audisio, M. Biondi, M.A. Bologna leg., 130 specimens (BAQ); Cape Town [S33°55' E18°25'], 1893, E. Simon leg., 2 specimens (NMPC); Cape Town, Lion's Head, 150-551 m, fynbos, S33° 56.216' E18°23.407', 24.ix.2006, M. Biondi, A. De Biase leg., 5 specimens (BAQ); Cape Town, NE of Hout Bay, S34°02' E18°20', loc. 1, 3.x.1994, R. Danielsson leg., 7 specimens (MZLU); Cape Peninsula, Chapmans Bay (Noordhoek), 0 m, sand dunes, [S34°02' E18°21'], 22.ix.1994, P. Audisio, M. Biondi, M.A. Bologna leg., 19 specimens (BAQ); Cape Peninsula, near Vishoek, 2 m, sandy marshes and dunes, S34°09.581' E18°25.876', 10.x.2005, P. Audisio, M. Biondi, A. De Biase leg., 13 specimens; Cape Peninsula, Scarborough, dunes, 0-5 m, [S34°11' E18°22'], 24.x.1993, P.A. Audisio leg., 2 specimens; Struisbaai Plaat, 4 km NE of Struisbaai, 0-10 m, dunes & fynbos, [S34°46' E20°02'], 19.ix.1994, P.A. Audisio, M. Biondi, M.A. Bologna leg., 11 specimens (BAQ); 3 km E Kaap Agulhas, S34°49' E20°01', loc. 16, 4.x.1994, R. Danielsson leg., 2 specimens (MZLU). TRISTAN DA CUNHA: The Hillpiece, [S37°08' E12°16'], 19.x.1977, J.F. Udsin leg., 3 specimens (BMNH).

Morphological remarks

Dorsal integument from pale brown to blackish; immature specimens paler. Median lobe of aedeagus (Fig. 13) from moderately slender to distinctly thickset (LAED = 0.81 ± 0.05 mm with $0.72 \leq \text{LAED} \leq 0.86$ mm; LE/LAED = 1.85 ± 0.10 with $1.65 \leq \text{LE/LAED} \leq 1.95$), maximum width in basal third; narrow laminate extensions delimiting the ventral sulcus on either side but attached to median lobe towards the apex; ventral sulcus wide, deeply impressed in apical half, with shagreened surface in apical fourth; dorsal ligula short or moderately elongate, tapering towards apex; aedeagus moderately curved in lateral view, with apex distinctly down-curved. Females distinguishable by slender first tarsomere of fore and middle tarsi. Spermatheca (Fig. 19) with sub-cylindrical basal part, sometimes narrowing apically; ductus generally half the length of the basal part, sometimes longer.

Variation. ♂ ($n = 10$; mean and standard deviation): LE = 1.50 ± 0.10 mm ($1.38 \leq \text{LE} \leq 1.62$ mm); WE = 1.17 ± 0.07 mm ($1.06 \leq \text{WE} \leq 1.25$ mm); LP = 0.57 ± 0.04 mm ($0.50 \leq \text{LP} \leq 0.61$ mm); WP = 0.90 ± 0.06 mm ($0.82 \leq \text{WP} \leq 0.96$ mm); LAN = 1.11 ± 0.09 mm ($1.00 \leq \text{LAN} \leq 1.24$ mm); LAED = 0.81 ± 0.05 mm ($0.72 \leq \text{LAED} \leq 0.86$ mm); LB = 1.98 ± 0.13 mm ($1.78 \leq \text{LB} \leq 2.11$ mm); LE/LP = 2.66 ± 0.07 ($2.55 \leq \text{LE/LP} \leq 2.78$); WP/LP = 1.59 ± 0.04 ($1.54 \leq \text{WP/LP} \leq 1.67$); WE/WP = 1.30 ± 0.02 ($1.26 \leq \text{WE/WP} \leq 1.33$); LAN/(LE + LP) = 0.54 ± 0.02 ($0.50 \leq \text{LAN}/(\text{LE} + \text{LP}) \leq 0.56$);

LE/LAED = 1.85 ± 0.10 ($1.65 \leq \text{LE/LAED} \leq 1.95$). ♀ ($n = 10$; mean and standard deviation): LE = 1.53 ± 0.10 mm ($1.42 \leq \text{LE} \leq 1.74$ mm); WE = 1.18 ± 0.06 mm ($1.09 \leq \text{WE} \leq 1.30$ mm); LP = 0.55 ± 0.03 mm ($0.51 \leq \text{LP} \leq 0.60$ mm); WP = 0.90 ± 0.04 mm ($0.84 \leq \text{WP} \leq 0.97$ mm); LAN = 1.06 ± 0.06 mm ($0.96 \leq \text{LAN} \leq 1.15$ mm); LSP = 0.27 ± 0.02 mm ($0.24 \leq \text{LSP} \leq 0.28$ mm); LB = 1.96 ± 0.11 mm ($1.84 \leq \text{LB} \leq 2.20$ mm); LE/LP = 2.78 ± 0.10 ($2.57 \leq \text{LE/LP} \leq 2.90$); WP/LP = 1.64 ± 0.04 ($1.57 \leq \text{WP/LP} \leq 1.68$); WE/WP = 1.31 ± 0.03 ($1.27 \leq \text{WE/WP} \leq 1.38$); LAN/(LE + LP) = 0.51 ± 0.03 ($0.46 \leq \text{LAN}/(\text{LE} + \text{LP}) \leq 0.54$); LE/LSP = 5.77 ± 0.36 ($5.21 \leq \text{LE/LSP} \leq 6.24$).

Distribution

Republic of South Africa (Western Cape Province) and Tristan da Cunha (probably introduced) (Fig. 1). Southern-Western Afrotropical chorotype (SWA) (Biondi & D'Alessandro 2006).

Ecological notes

This species was collected by one of us (M.B.) on Poaceae. Biome: Fynbos (Mucina & Rutherford 2006). Bioregions: West Strandveld, Northwest Fynbos, Southwest Fynbos, Southern Fynbos and South Coast Fynbos; West Coast Renosterveld, and East Coast Renosterveld (Mucina & Rutherford 2006).

Comments

In *S. trimeni*, *S. danielssoni* sp.n., *S. debiasei* sp.n. and *S. endroedyi* sp.n. the median lobe of the aedeagus has a distinctly sub-rounded apex and ventral laminate extensions (Figs 13, 15–17). As in *S. danielssoni* sp.n., *S. trimeni* also displays ventral laminate extensions attached to the median lobe towards its apical half (Figs 13 and 15). However, the following characteristics of *S. trimeni* allow easy separation from *S. danielssoni* sp.n.: median lobe of aedeagus with distinctly narrower ventral laminate extensions, their surface not wrinkled; laterally expanded but less rounded dorsal lobes; apical third not distinctly enlarged ventrally in lateral view (Fig. 13).

***Stegnaspea audisiana* sp.n.**

Type material

Holotype ♂: REPUBLIC OF SOUTH AFRICA: Western Cape Province, 3–12 km ESE Langebaan (R27), 30 m, fynbos and sandy grassland, [S33°09' E18° 09'], 10. ix.1994, P. Audisio, M. Biondi & M.A. Bologna leg. (SANC). Paratypes: REPUBLIC OF SOUTH AFRICA: Western Cape Province: same locality, date and collector as the holotype, 31♂ and 51♀ (BAQ); Geelbek Forestry, S33°12' E18°08', 25.viii.1983, E-Y: 1975, ground traps 70 days with banana bait, S. Endrödy-Younga leg., 1♂ and 1♀ (TMSA); Abrahamskraal farm, S33°14' E18°09', 25.viii.1983, E-Y: 1976, ground traps 70 days with faeces bait, S. Endrödy-Younga & M.L. Penrith leg., 2♂ and 1♀ (TMSA); 8 km N of Yzerfontein, S33°15' E18°11', 1.xi.1983, E-Y: 2039, grass netting, S. Endrödy-Younga leg., 2♂ (TMSA); ditto, 25.viii.1983, E-Y: 1978, ground traps 70 days with banana bait, S. Endrödy-Younga & M.L. Penrith leg., 1♂ (TMSA).

Diagnosis

Stegnaspea audisiana sp.n. is easily distinguishable from the other species, in having the median lobe of the aedeagus lacking distinct ventral laminate extensions; with a deeply incised apex; and distinctly sinuate ventrally towards the apex in lateral view (Fig. 14).

Description of male holotype

Dorsal integument brown with a distinct metallic lustre; elytra distinctly paler than head and pronotum; and basal margin of pronotum and elytral suture narrowly darkened. Body elliptical and moderately elongate (LB=1.77 mm), distinctly convex. Maximum pronotal width at base (WP=0.83 mm) narrower than maximum elytral width in basal third (WE=1.06 mm). Frons and vertex with distinctly micro-reticulate surface and a few deeply impressed setigerous punctures laterally; frontal tubercles slender and elongate; inter-antennal distance slightly shorter than length of first antennal segment; frontal carina slightly raised; labrum sub-quadrate and distally rounded, brownish with yellowish and partially darkened palpi; eyes sub-elliptical, moderately sized; antennae distinctly shorter than body length (LAN=0.98 mm; LAN/(LE+LP)=0.52), yellowish with segments 7–11 darkening gradually; length of each antennomere proportional to numerical sequence 100:69:65:54:69:54:61:61:61:61:100. Pronotum sub-trapezoidal, distinctly transverse (LP=0.52 mm; WP/LP=1.60), and distinctly rounded laterally; apical and basal margin with flat border; punctation densely and uniformly distributed on distinctly micro-reticulate and sparsely punctulate surface; punctures rather small but very deeply impressed. Elytra moderately elongate (LE=1.38 mm; WE=1.06 mm; LE/LP=2.65 WE/WP=1.28), entirely covering pygidium, distinctly arcuate laterally, jointly rounded apically; punctation arranged in 9 regular rows (+1 short sutural), with distinctly impressed medium-sized punctures on sub-smooth, distinctly and densely punctulate surface; and interstriae flat. Legs yellowish with partially darkened femora; hind tibiae very slightly curved. First tarsomere of fore and middle legs in male strongly dilated. Venter pale-brown; abdominal sternites with numerous setigerous punctures, larger on pro-, meso- and metasternum and first abdominal sternite; apical sternite without special pre-apical impressions (Fig. 9). Median lobe of aedeagus (Fig. 14) short (LAED=0.60 mm; LE/LAED=2.30), thick-set, sides sub-parallel in ventral view, becoming narrower towards base; apex formed by two lobes, each pointed apically, therefore forming an apparently deeply incised apex; ventral laminate extensions absent; ventral sulcus very slightly impressed; dorsal ligula short and slender; aedeagus curved and strongly sinuate ventrally towards the apex in lateral view. *Variation.* Male ($n=10$; mean and standard deviation): LE=1.33±0.07 mm (1.22≤LE≤1.41 mm); WE=1.03±0.04 mm (0.96≤WE≤1.08 mm); LP=0.50±0.03 mm (0.46≤LP≤0.56 mm); WP=0.83±0.03 mm (0.77≤WP≤0.88 mm); LAN=0.99±0.05 mm (0.93≤LAN≤1.06 mm); LAED=0.60±0.01 mm (0.58≤LAED≤0.62 mm); LB=1.72±0.07 mm (1.60≤LB≤1.84 mm); LE/LP=2.66±0.08 (2.52≤LE/LP≤2.76); WP/LP=1.65±0.07 (1.50≤WP/LP≤1.74); WE/WP=1.24±0.02 (1.23≤WE/WP≤1.28); LAN/(LE+LP)=0.54±0.03 (0.51≤LAN/(LE+LP)≤0.59); LE/LAED=2.22±0.11 (2.07≤LE/LAED≤2.43).

♀ ($n = 10$; mean and standard deviation): $LE = 1.43 \pm 0.03$ mm ($1.39 \leq LE \leq 1.48$ mm); $WE = 1.11 \pm 0.03$ mm ($1.06 \leq WE \leq 1.16$ mm); $LP = 0.52 \pm 0.02$ mm ($0.50 \leq LP \leq 0.55$ mm); $WP = 0.87 \pm 0.03$ mm ($0.83 \leq WP \leq 0.92$ mm); $LAN = 1.00 \pm 0.05$ mm ($0.90 \leq LAN \leq 1.06$ mm); $LSP = 0.25 \pm 0.01$ mm ($0.23 \leq LSP \leq 0.26$ mm); $LB = 1.82 \pm 0.10$ mm ($1.67 \leq LB \leq 1.96$ mm); $LE/LP = 2.76 \pm 0.11$ ($2.62 \leq LE/LP \leq 2.88$); $WP/LP = 1.68 \pm 0.05$ ($1.57 \leq WP/LP \leq 1.76$); $WE/WP = 1.27 \pm 0.05$ ($1.18 \leq WE/WP \leq 1.36$); $LAN/(LE + LP) = 0.51 \pm 0.02$ ($0.47 \leq LAN/(LE + LP) \leq 0.55$); $LE/LSP = 5.86 \pm 0.28$ ($5.38 \leq LE/LSP \leq 6.26$). Paratypes similar in colour and sculpture to the holotype. Females distinguishable by slender first tarsomere of fore and middle tarsi. Spermatheca (Fig. 22) generally with pyriform basal part which narrows distinctly towards the apex; and ductus moderately elongate.

Etymology

The new species is named after Mr P.A. Audisio (University “La Sapienza”, Rome, Italy), estimable specialist of Coleoptera: Nitidulidae, but above all friend and fellow traveller on collecting trips of one of us (MB) in many regions of the World.

Distribution

Republic of South Africa (Western Cape Province) (Fig. 1). Southern-Western Afrotropical chorotype (SWA) (Biondi & D'Alessandro 2006).

Ecological notes

This species was collected by one of us (M.B.) on Poaceae. Biome: Fynbos (Mucina & Rutherford 2006). Bioregions: West Strandveld, Southwest Fynbos (Mucina & Rutherford 2006).

***Stegnaspea danielssoni* sp.n.**

Type material

Holotype ♂: REPUBLIC OF SOUTH AFRICA: Western Cape Province, Piekenierskloof, 15 km S Citrusdal, S32°38' E18°57', loc. 5, 370 m, 4.x.1994, R. Danielsson leg. (MZLU). Paratypes: same locality, date and collector of the holotype, 1♂ and ♀ (BAQ, MZLU).

Diagnosis

Stegnaspea danielssoni sp.n., *S. debiasei* sp.n., *S. endroedyi* sp.n. and *S. trimeni* all have an aedeagus with the median lobe distinctly rounded apically and ventral laminate extensions (Figs 13, 15–17). As in *S. trimeni*, this new species displays ventral laminate extensions attached to the median lobe towards its apical half (Figs 13 and 15). However, *S. danielssoni* sp.n. is easily distinguishable from *S. trimeni* in that the median lobe of the aedeagus has broad, sub-triangular ventral laminate extensions which protrude strongly laterally; dorsal lobes that are distinctly irregularly rounded laterally; and the apical third that is distinctly enlarged ventrally in lateral view (Fig. 15).

Description of male holotype

Dorsal integument brown with a distinct metallic lustre; basal margin of pronotum and elytral suture narrowly darkened. Body elliptical and moderately elongate (LB = 2.14 mm), distinctly convex. Maximum pronotal width at base (WP = 0.96 mm) narrower than maximum elytral width in basal third (WE = 1.26 mm). Frons and vertex with distinctly micro-reticulate and irregularly punctulate surface, with a few shallowly impressed setigerous punctures laterally; frontal tubercles moderately elongate; inter-antennal distance slightly shorter than length of first antennal segment; frontal carina distinctly raised and rounded apically; labrum sub-quadrate and rounded distally, brownish with yellowish palpi; eyes elongate-elliptical, moderately sized; antennae distinctly shorter than body length (LAN = 1.15 mm; LAN/(LE + LP) = 0.52), yellowish with segments 7–11 darkening slightly and gradually; length of each antennomere proportional to numerical sequence 100:64:57:64:75:64:75:71:75:68:111. Pronotum sub-trapezoidal, distinctly transverse (LP = 0.62 mm; WP/LP = 1.61 mm), and distinctly rounded laterally; apical and basal margins with flat borders; punctation densely and uniformly distributed on finely micro-reticulate surface; punctures small and moderately impressed. Elytra moderately elongate (LE = 1.61 mm; WE = 1.33 mm; LE/LP = 2.60; WE/WP = 1.33) entirely covering pygidium, distinctly arcuate laterally, jointly rounded apically; punctation arranged in 9 regular rows (+ 1 short sutural), with moderately impressed medium-sized punctures on sub-smooth and distinctly punctulate surface; and interstriae flat. Legs yellowish with partially darkened femora; hind tibiae straight, first tarsomere of the fore and middle legs of male distinctly dilated (Fig. 11). Venter reddish; abdominal sternites with numerous setigerous punctures, larger on pro-, meso- and metasternum and first abdominal sternite; apical sternite without special pre-apical impressions. Median lobe of aedeagus (Fig. 15) elongate (LAED = 0.91 mm; LE/LAED = 1.77) and thickset, with maximum width in the middle; two ventral laminate extensions, wide and sub-triangular, protruding strongly laterally; ventral sulcus wide and deeply impressed in apical third; dorsal ligula short and sub-truncate apically; aedeagus distinctly enlarged ventrally in apical third, with distinctly down-curved apex in lateral view.

Variation. Male ($n=2$; mean and standard deviation): LE = 1.59 ± 0.04 mm ($1.56 \leq LE \leq 1.61$ mm); WE = 1.22 ± 0.06 mm ($1.18 \leq WE \leq 1.26$ mm); LP = 0.60 ± 0.03 mm ($0.58 \leq LP \leq 0.62$ mm); WP = 0.93 ± 0.04 mm ($0.90 \leq WP \leq 0.96$ mm); LAN = 1.13 ± 0.04 mm ($1.10 \leq LAN \leq 1.15$ mm); LAED = 0.90 ± 0.01 mm ($0.89 \leq LAED \leq 0.91$ mm); LB = 2.07 ± 0.10 mm ($2.00 \leq LB \leq 2.14$ mm); LE/LP = 2.64 ± 0.07 ($2.60 \leq LE/LP \leq 2.69$); WP/LP = 1.55 ± 0.01 ($1.55 \leq WP/LP \leq 1.55$); WE/WP = 1.31 ± 0.01 ($1.31 \leq WE/WP \leq 1.31$); LAN/(LE + LP) = 0.51 ± 0.01 ($0.51 \leq LAN/(LE + LP) \leq 0.52$); LE/LAED = 1.76 ± 0.01 ($1.75 \leq LE/LAED \leq 1.77$). ♀ ($n=1$): LE = 1.68 mm; WE = 1.33 mm; LP = 0.59 mm; WP = 1.00 mm; LAN = 1.18 mm; LSP = 0.28 mm; LB = 2.12 mm; LE/LP = 2.85; WP/LP = 1.69; WE/WP = 1.33; LAN/(LE + LP) = 0.52; LE/LSP = 6.0.

Paratypes very similar in colour and sculpture to the holotype. Females can be distinguished from males by the first tarsomere of the fore and middle legs which is not

dilated. Spermatheca (Fig. 21) with sub-cylindrical basal part and moderately elongate ductus.

Etymology

This new species is named after its collector Mr R. Danielsson (MZLU), estimable Coleopterist and Curator of the entomological collection of Lund Zoological Museum, University of Lund, Sweden.

Distribution

Republic of South Africa (Western Cape Province) (Fig. 1). Southern-Western Afrotropical chorotype (SWA) (Biondi & D'Alessandro 2006).

Ecological notes

No information is available about the host plants for this species. Biome: Fynbos (Mucina & Rutherford 2006). Bioregions: West Coast Renosterveld (Mucina & Rutherford 2006).

***Stegnaspea debiasei* sp.n.**

Type material

Holotype ♂: REPUBLIC OF SOUTH AFRICA: Western Cape Province, Bushy Park farm, S34°41' E20°07', 28.viii.1983, E-Y: 1992, ground trap 59 days with banana bait, S. Endrödy-Younga & M.L. Penrith leg. (TMSA). Paratypes: REPUBLIC OF SOUTH AFRICA: Western Cape Province: Heuningnes Riv., S32°42' E20°02', 28.x.1983, E-Y: 2029, grass netting, S. Endrödy-Younga leg., 1♂ and 3♀ (TMSA); R 315, road Darling-Yzerfontein, 159 m, S33°21.783' E18° 21.147', fynbos, 23.ix.2006, M. Biondi & A. De Biase leg., 2♂ and 7♀ (BAQ); 2 km NW Darling, 170 m, loc. 4, S33°22' E18°22', 4.x.1994, R. Danielsson leg., 1♂ (MZLU); road to Du Toitskloof Pass, NE slope, 484 m, S33°43.813' E19°06.550', road edge, 22.ix.2006, M. Biondi & A. De Biase leg., 22♂ and 25♀ (BAQ); Montagu, S33°47.08' E20° 06.79', Camping, 808 m, 18.xi.2007, G. Osella leg., 3♂ and 4♀ (BAQ); road Ashton-Montagu, Kogmanskloof, 180 m, S33°49.436' E20°05.417', 9.x.2005, P.A. Audisio, M. Biondi & A. De Biase leg., 1♂ (BAQ); Franschoek Pass [S33°54' E19°09'], E slope, 550-800 m, 25.x.1993, P.A. Audisio leg., 11♂ and 14♀ (BAQ); Stellenbosch, 33°56'S 18°52'E, vi.1978, L. v. Luik leg., 5 specimens (SANC); Akkedisbergpas, neighbourhood Stanford, 30 m, S34°26.534' E19°28.362', 21.ix.2006, fynbos, M. Biondi & A. De Biase leg., 2♂ and 5♀ (BAQ); De Hoop Nature Reserve, 0-200 m, S34°27' E20°25', loc. 12, 10-13.x.1994, R. Danielsson leg., 9♂ and 6♀ (MZLU); 10 km S Bredasdorp, S34°37' E20°03', loc. 15, 12.x.1994, R. Danielsson leg., 5♂ and 4♀ (MZLU).

Diagnosis

Stegnaspea debiasei sp.n., *S. danielssoni* sp.n., *S. endroedyi* sp.n. and *S. trimeni* all have an aedeagus with the median lobe distinctly rounded apically and ventral laminate

extensions (Figs 13, 15–17). As in *S. endroedyi* sp.n., this new species displays two ventral laminate extensions which are not attached to the median lobe apically (Figs 16 and 17). However, *S. debiasei* sp.n. is easily distinguishable from *S. endroedyi* sp.n. in having the median lobe of the aedeagus shorter (≤ 0.85 mm in *S. debiasei* sp.n.; > 0.85 mm in *S. endroedyi* sp.n.) and more distinctly curved in lateral view, with sub-reniform ventral laminate extensions (Fig 16).

Description of male holotype

Dorsal integument dark brown with a distinct metallic lustre; elytra slightly paler than head and pronotum; and basal margin of pronotum and elytral suture narrowly darkened. Body elliptical, moderately elongate (LB = 1.74 mm), and distinctly convex. Maximum pronotal width at base (WP = 0.81 mm) narrower than maximum elytral width in basal third (WE = 1.01 mm). Frons and vertex with distinctly micro-reticulate and sparsely punctulate surface with a few larger but slightly impressed setigerous punctures laterally; frontal tubercles slender and elongate; inter-antennal distance slightly shorter than length of first antennomere; frontal carina moderately raised and rounded apically; labrum sub-quadrate, rounded distally and brownish with brownish palpi; eyes elongate-elliptical, moderately sized; antennae distinctly shorter than body length (LAN = 0.88 mm; LAN/(LE + LP) = 0.49), yellowish; length of each antennomere proportional to numerical sequence 100:69:46:50:61:54:61:54:61:54:104. Pronotum (Fig. 4) sub-trapezoidal, distinctly transverse (LP = 0.52 mm; WP/LP = 1.56), distinctly rounded laterally; apical and basal margins with flat borders; punctation densely and uniformly distributed on distinctly micro-reticulate and sparsely punctulate surface; punctures small but deeply impressed (Fig. 6). Elytra moderately elongate (LE = 1.29 mm; WE = 1.01 mm; LE/LP = 2.48; WE/WP = 1.25) entirely covering pygidium, distinctly arcuate laterally, jointly rounded apically; punctation arranged in 9 regular rows (+ 1 short and irregular sutural), with moderately impressed medium-sized punctures on irregular, sub-smooth and distinctly punctulate surface; and interstriae flat. Legs yellowish with partially darkened femora; hind tibiae very slightly curved. First tarsomere of fore- and middle legs of male distinctly dilated.

Venter brownish; apex of abdomen paler; abdominal sternites with numerous setigerous punctures, larger on pro-, meso- and metasternum and first abdominal sternite; apical sternite without special pre-apical impressions. Median lobe of aedeagus (Fig. 16) short and thickset (LAED = 0.70 mm; LE/LAED = 1.84), tapering distinctly from base to apical fourth in dorsal or ventral view; distinctly enlarged and widely rounded apically; two ventral sub-reniform laminate extensions visible, with distinctly shagreened surface; ventral sulcus wide and very slightly impressed; dorsal ligula short, truncate apically and protruding from adjacent margins; aedeagus regularly curved in lateral view.

Variation. Male ($n = 10$; mean and standard deviation): LE = 1.41 ± 0.07 mm ($1.29 \leq LE \leq 1.54$ mm); WE = 1.10 ± 0.04 mm ($1.01 \leq WE \leq 1.18$ mm); LP = 0.54 ± 0.04 mm ($0.50 \leq LP \leq 0.60$ mm); WP = 0.86 ± 0.04 mm ($0.81 \leq WP \leq 0.94$ mm);

LAN = 1.02 ± 0.08 mm ($0.88 \leq \text{LAN} \leq 1.12$ mm); LAED = 0.75 ± 0.05 mm ($0.69 \leq \text{LAED} \leq 0.82$ mm); LB = 1.84 ± 0.09 mm ($1.74 \leq \text{LB} \leq 2.06$ mm); LE/LP = 2.61 ± 0.13 ($2.46 \leq \text{LE/LP} \leq 2.80$); WP/LP = 1.58 ± 0.05 ($1.52 \leq \text{WP/LP} \leq 1.65$); WE/WP = 1.28 ± 0.03 ($1.25 \leq \text{WE/WP} \leq 1.33$); LAN/(LE + LP) = 0.52 ± 0.02 ($0.49 \leq \text{LAN}/(\text{LE} + \text{LP}) \leq 0.56$); LE/LAED = 1.89 ± 0.11 ($1.75 \leq \text{LE/LAED} \leq 2.03$). ♀ ($n = 10$; mean and standard deviation): LE = 1.54 ± 0.08 mm ($1.42 \leq \text{LE} \leq 1.68$ mm); WE = 1.19 ± 0.05 mm ($1.10 \leq \text{WE} \leq 1.28$ mm); LP = 0.57 ± 0.05 mm ($0.50 \leq \text{LP} \leq 0.68$ mm); WP = 0.93 ± 0.06 mm ($0.84 \leq \text{WP} \leq 1.02$ mm); LAN = 1.03 ± 0.07 mm ($0.94 \leq \text{LAN} \leq 1.16$ mm); LSP = 0.26 ± 0.02 mm ($0.22 \leq \text{LSP} \leq 0.29$ mm); LB = 1.94 ± 0.14 mm ($1.74 \leq \text{LB} \leq 2.20$ mm); LE/LP = 2.72 ± 0.15 ($2.35 \leq \text{LE/LP} \leq 2.84$); WP/LP = 1.63 ± 0.08 ($1.44 \leq \text{WP/LP} \leq 1.70$); WE/WP = 1.29 ± 0.05 ($1.23 \leq \text{WE/WP} \leq 1.38$); LAN/(LE + LP) = 0.49 ± 0.02 ($0.45 \leq \text{LAN}/(\text{LE} + \text{LP}) \leq 0.53$); LE/LSP = 5.88 ± 0.69 ($5.07 \leq \text{LE}/\text{LSP} \leq 7.27$). Paratypes very similar in colour and sculpture to the holotype; sometimes with more or less strongly impressed pronotal sculpture and dorsal integument entirely or partially (pronotum) darkened. First tarsomere of the fore and middle legs in males varies from moderately to distinctly dilated. Median lobe of aedeagus varies from moderately slender to distinctly thickset. Females can be distinguished by the slender first tarsomere of the fore and middle legs. Spermatheca (Fig. 23) generally with subpyriform basal part which narrows apically, and moderately elongate ductus.

Etymology

The new species is named after Mr A. De Biase (University “La Sapienza”, Rome, Italy), friend and fellow traveller of one of us (M.B.) on many collecting trips in South Africa.

Distribution

Republic of South Africa (Western Cape Province) (Fig. 1). Southern-Western Afrotropical chorotype (SWA) (Biondi & D'Alessandro 2006).

Ecological notes

This species was collected by one of us (M.B.) on Poaceae. Biomes: Fynbos and Succulent Karoo (Mucina & Rutherford 2006). Bioregions: North West Fynbos, South West Fynbos, Southern Fynbos, South Coast Fynbos, East Coast Renosterveld, Rainshadow Valley Karoo (Mucina & Rutherford 2006).

***Stegnaspea endroedyi* sp.n.**

Type material

Holotype ♂: REPUBLIC OF SOUTH AFRICA: Western Cape Province: Garden of Eden, S34°02' E23°12', 13.xii.1976, E-Y:1310, sifted litter, S. Endrödy-Younga leg. (TMSA). Paratypes: REPUBLIC OF SOUTH AFRICA: Western Cape Province: Langeberg, Ruitersbos For. St., S33°54' E22°02', 7.xi.1993, E-Y:2949 on vegetation, Endrödy-Younga leg., 1♂ and 3♀ (TMSA).

Diagnosis

Stegnaspea endroedyi sp.n., *S. debiasei* sp.n., *S. danielssoni* sp.n. and *S. trimeni* all have an aedeagus with the median lobe distinctly rounded apically and ventral laminate extensions (Figs 13, 15–17). As in *S. debiasei* sp.n., ventral laminate extensions are not attached to the apical part of the median lobe (Figs 16 and 17). However, *S. endroedyi* sp.n. is easily distinguishable from *S. debiasei* sp.n. as they differ in size (>0.85 mm in *S. endroedyi* sp.n.; ≤ 0.85 mm in *S. debiasei* sp.n.), have differently shaped ventral laminate extensions on the aedeagus (Figs 16b and 17b), and the median lobe is less strongly curved in lateral view (Figs 16a and 17a). This new species also displays a peculiar external morphological character — the pronotal punctation is very shallowly impressed on a distinctly micro-reticulate surface (Fig. 5), with a few more deeply impressed punctures only near the anterior and lateral margins (Fig. 7).

Description of male holotype

Integument reddish-brown dorsally with a distinct metallic lustre; basal margin of pronotum distinctly darkened; elytral suture narrowly darkened. Body elliptical, not very long (LB = 1.83 mm), and distinctly convex. Maximum pronotal width near base (WP = 0.87 mm) narrower than maximum elytral width in basal third (WE = 1.18 mm). Frons and vertex with indistinctly micro-reticulate surface, with a few shallowly impressed setigerous punctures laterally; frontal tubercles moderately slender and elongate; inter-antennal distance distinctly shorter than first antennal segment length; frontal carina slightly raised; labrum sub-quadrate and distally rounded, brownish with yellowish, partially darkened palpi; eyes sub-elliptical, moderately sized; antennae distinctly shorter than body length (LAN = 1.24 mm; $LAN/(LE + LP) = 0.62$), yellowish, with segments 5–11 darkening gradually but distinctly; length of each antennomere proportional to numerical sequence 100:63:53:60:70:63:77:73:73:103. Pronotum (Fig. 5) not distinctly sub-trapezoidal, moderately transverse (LP = 0.58 mm; $WP/LP = 1.50$), and distinctly rounded laterally; apical and basal margins with flat borders; punctation densely and uniformly distributed on irregularly micro-reticulate surface; punctures very small and shallowly impressed; and a few big punctures near anterior and lateral margins (Fig. 7). Elytra not distinctly elongate (LE = 1.41 mm; WE = 1.18 mm; $LE/LP = 2.43$; $WE/WP = 1.36$), entirely covering pygidium, distinctly rounded laterally, and jointly rounded apically; punctation arranged in 9 regular rows (+ 1 short sutural), with large and moderately impressed punctures on smooth surface; and interstriae flat and regularly punctulate. Legs yellowish with partially darkened femora and straight hind tibiae. First tarsomere of the fore and middle legs of the male distinctly dilated. Venter brown; abdominal sternites with numerous setigerous punctures, larger on pro-, meso- and metasternum and margins of first abdominal sternite; and apical sternite without special pre-apical impressions. Median lobe of aedeagus (Fig. 17) elongate (LAED = 0.90 mm; $LE/LAED = 1.57$), moderately thickset, tapering slightly from base to apex in dorsal and ventral view; two elongate ventral laminate extensions, pointed and protruding apically, their surface distinctly wrinkled; ventral

sulcus narrow but deeply impressed in apical 2/3s; dorsal ligula distinctly enlarged, short and sub-truncate apically; aedeagus moderately curved, with distinctly down-curved apex in lateral view.

Variation. ♂ ($n=2$; mean and standard deviation): LE = 1.48 ± 0.09 mm ($1.41 \leq \text{LE} \leq 1.54$ mm); WE = 1.24 ± 0.08 mm ($1.18 \leq \text{WE} \leq 1.30$ mm); LP = 0.58 ± 0.01 mm ($0.58 \leq \text{LP} \leq 0.59$ mm); WP = 0.88 ± 0.01 mm ($0.87 \leq \text{WP} \leq 0.89$ mm); LAN = 1.23 ± 0.01 mm ($1.22 \leq \text{LAN} \leq 1.24$ mm); LAED = 0.92 ± 0.03 mm ($0.90 \leq \text{LAED} \leq 0.94$ mm); LB = 1.95 ± 0.16 mm ($1.83 \leq \text{LB} \leq 2.06$ mm); LE/LP = 2.54 ± 0.16 ($2.43 \leq \text{LE/LP} \leq 2.66$); WP/LP = 1.52 ± 0.02 ($1.50 \leq \text{WP/LP} \leq 1.53$); WE/WP = 1.41 ± 0.07 ($1.36 \leq \text{WE/WP} \leq 1.46$); LAN/(LE+LP) = 0.60 ± 0.03 ($0.58 \leq \text{LAN}/(\text{LE} + \text{LP}) \leq 0.62$); LE/LAED = 1.60 ± 0.05 ($1.57 \leq \text{LE/LAED} \leq 1.64$). ♀ ($n=3$; mean and standard deviation): LE = 1.52 ± 0.03 mm ($1.50 \leq \text{LE} \leq 1.55$ mm); WE = 1.22 ± 0.04 mm ($1.19 \leq \text{WE} \leq 1.26$ mm); LP = 0.55 ± 0.01 mm ($0.54 \leq \text{LP} \leq 0.56$ mm); WP = 0.91 ± 0.01 mm ($0.90 \leq \text{WP} \leq 0.92$ mm); LAN = 1.20 ± 0.03 mm ($1.17 \leq \text{LAN} \leq 1.22$ mm); LSP = 0.25 ± 0.02 mm ($0.24 \leq \text{LSP} \leq 0.27$ mm); LB = 1.90 ± 0.03 mm ($1.87 \leq \text{LB} \leq 1.92$ mm); LE/LP = 2.76 ± 0.10 ($2.68 \leq \text{LE/LP} \leq 2.87$); WP/LP = 1.65 ± 0.05 ($1.61 \leq \text{WP/LP} \leq 1.70$); WE/WP = 1.34 ± 0.02 ($1.32 \leq \text{WE/WP} \leq 1.37$); LAN/(LE+LP) = 0.58 ± 0.01 ($0.57 \leq \text{LAN}/(\text{LE} + \text{LP}) \leq 0.58$); LE/LSP = 6.01 ± 0.28 ($5.74 \leq \text{LE}/\text{LSP} \leq 6.29$). Paratypes very similar in colour and sculpture to the holotype. Females can be distinguished by the slender first tarsomere of the fore and middle legs; they also display a more transverse pronotum (WP/LP in males = 1.52 ± 0.02 ($1.50 \leq \text{WP}/\text{LP} \leq 1.53$) and WP/LP in females = 1.65 ± 0.05 ($1.61 \leq \text{WP}/\text{LP} \leq 1.70$)) and elytra longer (LE/LP in males = 2.54 ± 0.16 ($2.43 \leq \text{LE}/\text{LP} \leq 2.66$) and LE/LP in females = 2.76 ± 0.10 ($2.68 \leq \text{LE}/\text{LP} \leq 2.87$)). Spermatheca (Fig. 24) with sub-pyriform basal part which narrows apically, and moderately elongate ductus.

Etymology

This new species is named after its collector Mr S. Endrödy-Younga, estimable Coleopterist of the Transvaal Museum, Pretoria, Gauteng, Republic of South Africa, who passed away in 1999.

Distribution

Republic of South Africa (Western Cape Province) (Fig. 1). Southern-Western Afrotropical chorotype (SWA) (Biondi & D'Alessandro 2006).

Ecological notes

No information is available on the host plant for this species. Biome: Fynbos (Mucina & Rutherford 2006). Bioregion: Eastern Fynbos-Renosterveld (Mucina & Rutherford 2006).

Stegnaspea penrithae* sp.n.Type material*

Holotype ♂: REPUBLIC OF SOUTH AFRICA: Western Cape Province, 3 km S Velddrif, S32°48' E18°08', 22.viii.1983, E-Y:1961, ground trap 73 days with meat bait, S. Endrödy-Younga & M.L. Penrith leg. (TMSA). Paratypes: REPUBLIC OF SOUTH AFRICA: Western Cape Province: same locality, date and collector of the holotype, 4♂ and 3♀ (TMSA); 4 km NE Langebaan, S33°03' E18°04', 24.viii.1983, E-Y:1971, ground trap 71 days with banana bait, S. Endrödy-Younga & M.L. Penrith leg., 1♂ (TMSA); 15 km E Darling, S33°26' E18°32', loc. 3, 150 m, 4.x.1994, R. Danielsson leg., 4♂ and 6♀ (MZLU); Malmesbury, river bridge, 93 m, 23.ix.2006, S33°27.912' E18°43.996', M. Biondi & A. De Biase leg., 1♂ (BAQ).

Diagnosis

S. penrithae sp.n. is easily distinguishable from the other species in that the median lobe of the aedeagus is short and sub-triangular apically, and the ventral laminate extensions are only visible ventrally and sub-apically (Fig. 18).

Description of male holotype

Dorsal integument dark brown with a distinct metallic lustre; basal margin of pronotum and elytral suture narrowly darkened. Body elliptical, moderately elongate (LB=1.74 mm), and distinctly convex. Maximum pronotal width at base (WP=0.84 mm) narrower than maximum elytral width in basal third (WE=1.06 mm). Frons and vertex with distinctly micro-reticulate and sparsely punctulate surface, with a few larger weakly impressed punctures laterally; frontal tubercles moderately elongate; inter-antennal distance slightly shorter than length of first antennal segment; frontal carina slightly raised; labrum sub-quadrangle and rounded distally, brownish with brownish palpi; eyes elongate-elliptical, moderately sized; antennae distinctly shorter than body length (LAN=1.06 mm; LAN/(LE+LP)=0.57), yellowish with segments 5–11 partially darkened; length of each antennomere proportional to numerical sequence 100:57:50:50:57:57:64:57:57:61:100. Pronotum sub-trapezoidal, distinctly transverse (LP=0.52 mm; WP/LP=1.62), and distinctly rounded laterally; apical and basal margins narrowly bordered; punctation densely and uniformly distributed on distinctly micro-reticulate and sparsely punctulate surface; and punctures small but deeply impressed. Elytra moderately elongate (LE=1.33 mm; WE=1.06 mm; LE/LP=2.56; WE/WP=1.26), entirely covering pygidium, distinctly arcuate laterally, jointly rounded apically; punctation arranged in 9 regular rows (+1 short sutural), with moderately impressed medium-sized punctures on sub-smooth and distinctly punctulate surface; interstriae flat. Legs yellowish with partially darkened middle and hind femora; first tarsomere of the fore and middle legs of male moderately dilated, and hind tibiae very slightly curved. Venter brownish; apex of abdomen paler; abdominal sternites with numerous setigerous punctures, larger on pro-, meso- and metasternum and first abdominal sternite; apical sternite without special pre-apical impressions. Median lobe of aedeagus (Fig. 18) short (LAED=0.61 mm; LE/LAED=2.18) and

distinctly thickset, with maximum width in apical third; sub-triangular apically; ventral laminate extensions only visible ventrally and sub-apically; ventral sulcus very slightly impressed; dorsal ligula short, small and almost hidden, sub-rounded apically; aedeagus slightly curved, and slightly sinuate ventrally in the apical third in lateral view.

Variation. Male ($n=10$; mean and standard deviation): LE = 1.36 ± 0.09 mm ($1.20 \leq \text{LE} \leq 1.50$ mm); WE = 1.04 ± 0.08 mm ($0.88 \leq \text{WE} \leq 1.15$ mm); LP = 0.50 ± 0.04 mm ($0.42 \leq \text{LP} \leq 0.56$ mm); WP = 0.82 ± 0.04 mm ($0.74 \leq \text{WP} \leq 0.88$ mm); LAN = 1.03 ± 0.06 mm ($0.93 \leq \text{LAN} \leq 1.12$ mm); LAED = 0.61 ± 0.05 mm ($0.54 \leq \text{LAED} \leq 0.66$ mm); LB = 1.76 ± 0.13 mm ($1.54 \leq \text{LB} \leq 1.95$ mm); LE/LP = 2.75 ± 0.18 ($2.32 \leq \text{LE/LP} \leq 2.88$); WP/LP = 1.65 ± 0.10 ($1.43 \leq \text{WP/LP} \leq 1.76$); WE/WP = 1.27 ± 0.05 ($1.19 \leq \text{WE/WP} \leq 1.33$); LAN/(LE + LP) = 0.56 ± 0.02 ($0.52 \leq \text{LAN}/(\text{LE} + \text{LP}) \leq 0.57$); LE/LAED = 2.23 ± 0.05 ($2.17 \leq \text{LE/LAED} \leq 2.32$). ♀ ($n=9$; mean and standard deviation): LE = 1.50 ± 0.06 mm ($1.40 \leq \text{LE} \leq 1.56$ mm); WE = 1.15 ± 0.06 mm ($1.04 \leq \text{WE} \leq 1.22$ mm); LP = 0.53 ± 0.02 mm ($0.48 \leq \text{LP} \leq 0.56$ mm); WP = 0.89 ± 0.02 mm ($0.85 \leq \text{WP} \leq 0.92$ mm); LAN = 1.05 ± 0.04 mm ($0.97 \leq \text{LAN} \leq 1.10$ mm); LSP = 0.25 ± 0.01 mm ($0.24 \leq \text{LSP} \leq 0.26$ mm); LB = 1.86 ± 0.08 mm ($1.74 \leq \text{LB} \leq 1.98$ mm); LE/LP = 2.85 ± 0.10 ($2.66 \leq \text{LE/LP} \leq 2.98$); WP/LP = 1.70 ± 0.06 ($1.59 \leq \text{WP/LP} \leq 1.78$); WE/WP = 1.29 ± 0.05 ($1.20 \leq \text{WE/WP} \leq 1.34$); LAN/(LE + LP) = 0.52 ± 0.01 ($0.50 \leq \text{LAN}/(\text{LE} + \text{LP}) \leq 0.54$); LE/LSP = 5.96 ± 0.20 ($5.64 \leq \text{LE/LSP} \leq 6.24$). Paratypes similar in colour and sculpture to the holotype. Females can be distinguished by the first tarsomere of the anterior and middle legs which is not dilated. Spermatheca (Fig. 20) with sub-cylindrical basal part, often narrowing apically; and ductus moderately elongate.

Etymology

This new species is named after Mrs M.L. Penrith, one of its collectors, a respected beetle taxonomist herself and now involved in veterinary science (Republic of South Africa).

Distribution

Republic of South Africa (Western Cape Province) (Fig. 1). Southern-Western Afrotropical chorotype (SWA) (Biondi & D'Alessandro 2006).

Ecological notes

No information is available on the host plants for this species. Biome: Fynbos (Mucina & Rutherford 2006). Bioregions: West Coast Renosterveld and West Strandveld (Mucina & Rutherford 2006).

Discussion

Of the known flea beetle genera *Stegnaspea* is unique in that it apparently has no scutellum. In his key to the Neotropical genera, Scherer (1983) reports “scutellum absent”

for the genera *Aulonodera* Champion, 1918 from Chile and *Exaudita* Bechyné, 1955 from Brazil. This statement is incorrect, because the scutellum is reduced, but visible in both *Aulonodera* (Jerez & Bocaz 2006: 220 “Scutellum visible”) and *Exaudita* (Bechyné 1955: 131 “Schildchen kaum erkennbar”). Medvedev (1997) described the genus *Ascuta* from Nepal, subsequently named *Novascuta* by Özdikmen (2008). Despite the original name that means “without scutellum”, Medvedev (1997) stated that this genus displays a reduced scutellum. *Stegnaspea* could be attributed to the morpho-ecological group known as “minotoid”, based on its external morphology (Medvedev 1997; Nadein 2005). This group includes small humicole or moss-inhabiting forms that are globose, very convex, have short legs and greatly reduced metathoracic wings. However, the species ascribed to this South African flea beetle genus were collected on the leaves of green plants, and an association with plants in the family Poaceae is predicted. They are good ‘jumpers’ (personal data of M.B.). The updated distribution of the genus reported in this paper confirms that *Stegnaspea* belongs to the flea beetle genera endemic to Southern Africa, which represent approximately 10% of the total number of Afrotropical Alticini genera (Biondi & D’Alessandro, 2010). Moreover, it is the only genus strictly endemic of the Western Cape Province.

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