

**Research article**Submitted: May 7th, 2018 - Accepted: June 4th, 2018 - Published: June 29<sup>th</sup>, 2018**Two new species of *Chaetocnema* Stephens from South Africa (Coleoptera: Chrysomelidae, Galerucinae, Alticini)**

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**Abstract**

In this paper *Chaetocnema adamastori* **sp. nov.** and *C. saldanhai* **sp. nov.**, both from Western Cape Province (Republic of South Africa), are described. The two new species are closely related with *C. audisiana* Biondi and *C. capensis* Bryant, respectively. Micrographs of diagnostic characters, including male and female genitalia, are supplied. Ecological data for each species, including habitat preference, host plant and phenology, are also reported.

**Key words:** *Chaetocnema*, new species, Coleoptera, Chrysomelidae, Afrotropical region, Republic of South Africa.

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**Introduction**

The Afrotropical region, including Madagascar, hosts about 1600 known flea beetle species ascribed to 102 genera. In sub-Saharan Africa, in particular, 86 flea beetle genera are recorded of which about 66% are endemic (Biondi 2017, Biondi & D'Alessandro 2010a, 2010b, 2011, 2012, 2013a, 2013b, 2015, 2016, 2017, 2018, Döberl 2010, D'Alessandro et al. 2012, 2014, 2017, Biondi et al. 2017, D'Alessandro & Biondi 2018).

The worldwide flea beetle genus *Chaetocnema* Stephens, 1831 is occurring in the Afrotropical region with over 100 described species, and it is well represented in moist environments and grasslands, associated with plants belonging to several botanical families, particularly the Chenopodiaceae (currently included in the Amaranthaceae), Polygonaceae, Cyperaceae and Poaceae (Jolivet & Hawkeswood, 1995; Biondi et al. 2015).

Relatively few species of *Chaetocnema* (11.6%) are widespread throughout the Afrotropical region, while a large percentage (67.3%) of endemic and subendemic species is particularly concentrated in Central Africa, southern Africa and Madagascar (Biondi 2000, 2001, 2002a, 2002b, Biondi & D'Alessandro 2006a, 2006b). Among them, a significant number of endemic species are associated with Mediterranean-type vegetation (Fynbos, Renosterveld, Strandveld and Cape Thicket) in southwestern Africa, where a relatively limited number of habitats and vegetation types host a large number of species with high levels of microendemism. This trend is particularly evident

in temperate grasslands and forests in mountain areas (i.e. Drakensberg region), and in the Mediterranean ecosystems in the Western Cape Province of Republic of South Africa (Biondi et al. 2015; Biondi & De Nardis 2000).

In this contribution, we describe two new species of *Chaetocnema* from the Table Mountain (Western Cape Province), based on two series of specimens collected during field trips in South Africa in the years 1994 and 2005, *Chaetocnema adamastori* **sp. nov.** and *C. saldanhai* **sp. nov.**

**Materials and methods**

Material examined consisted of dried pinned specimens deposited at: BAQ: collection of M. Biondi, Dipartimento di Medicina clinica, Sanità pubblica, Scienze della Vita e dell'Ambiente, Università degli Studi dell'Aquila, Italy; BMNH: The Natural History Museum, formerly British Museum (Natural History), London, Great Britain; MNHN: Muséum National d'Histoire Naturelle, Paris, France; SANC: South African National Collection of Insects, Pretoria, Republic of South Africa; ZMHB: Museum für Naturkunde der Humboldt-Universität, Berlin, Germany; ZSM: Zoologische Staatssammlung München, Germany. These internationally recognized acronyms follow the list of "The Insect and Spider Collections of the World Website" (Evenhuis 2016).

Specimens were examined, measured and dissected using a Leica M205C binocular microscope. Photomicro-

graphs were taken using a Leica DFC500 camera and the Zerene Stacker software version 1.04. Scanning electron micrographs were taken using a Hitachi TM-1000. Ten males and ten females, when available, were measured to determine the mean, standard deviation and range of some morphometric measurements for each sex. The terminology follows D'Alessandro et al. (2016, Fig. 10E) for the median lobe of aedeagus, and Döberl (1986), Furth & Suzuki (1994) and Suzuki (1988) for the spermatheca.

Geographical coordinates of the localities were reported in degrees, minutes and seconds (DMS-WGS84 format); coordinates and geographical information that are included in square brackets were added by the authors using information from the web site of Google Earth. Chorotypes follow Biondi & D'Alessandro (2006a). Ecological notes are reported in terms of types of vegetation, identified and described by Mucina and Rutheford (2006), based on the geographic coordinates of the localities where the specimens were collected.

### Measurements

|             |   |
|-------------|---|
| <b>LA</b>   | numerical sequence proportional to length of each antennomere       |
| <b>LAED</b> | length of aedeagus  |
| <b>LAN</b>  | length of antennae  |
| <b>LB</b>   | total length of body (from apical margin of head to apex of elytra) |
| <b>LE</b>   | length of elytra  |
| <b>LP</b>   | medial length of pronotum   |
| <b>LSPC</b> | length of spermathecal capsule                                      |
| <b>WE</b>   | maximum width of elytra together                                    |
| <b>WP</b>   | maximum width of pronotum   |

### Results

#### *Chaetocnema adamastori* sp. nov.

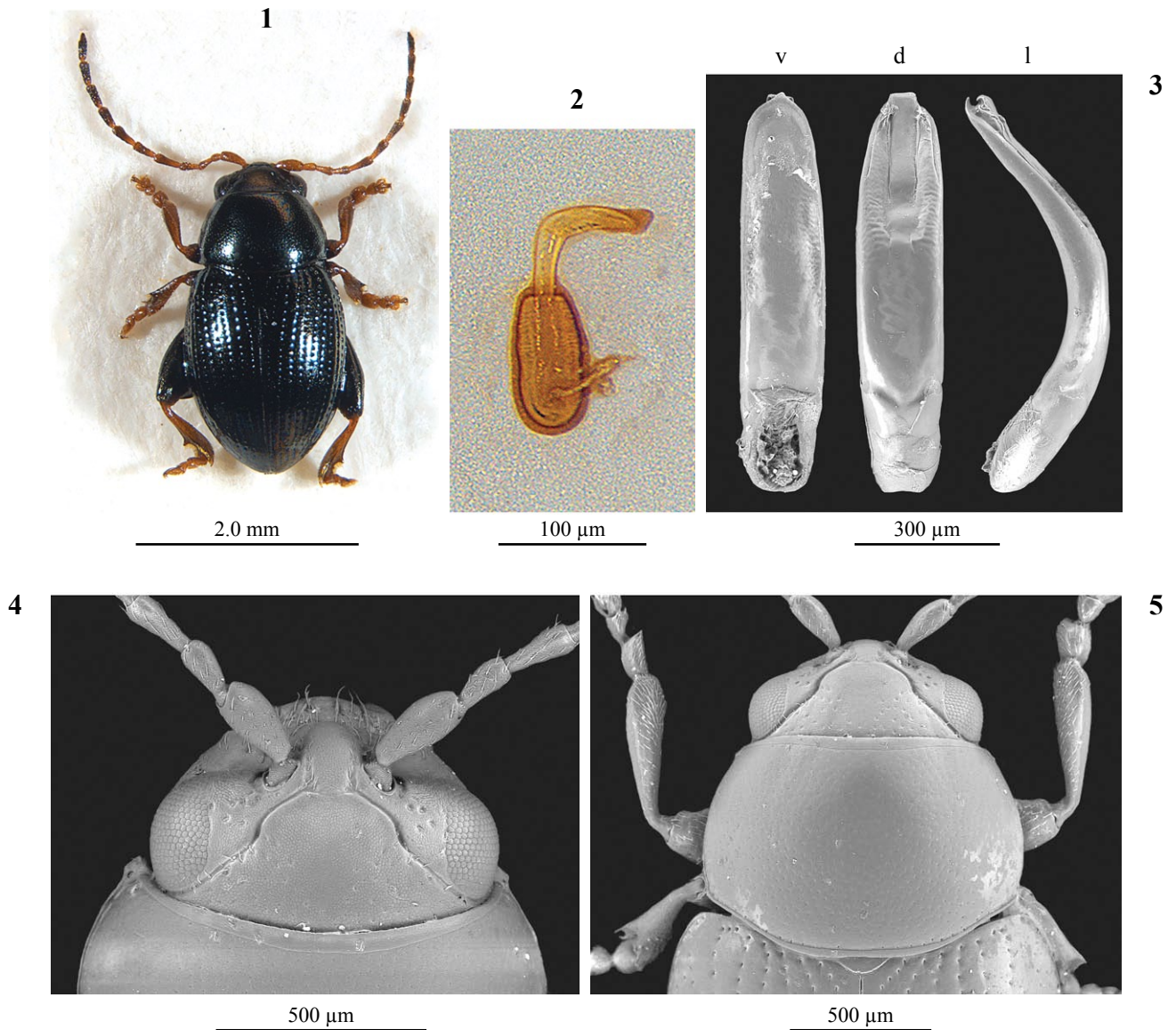
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**Diagnosis.** *Chaetocnema adamastori* sp. nov. shows major similarities in habitus and sculpture with two other South African species, *C. audisiana* Biondi, 2000 from the Western Cape Province, and *C. subaterrima* Jacoby, 1900 from KwaZulu-Natal (Biondi 2002a). However, *C. subaterrima*, and its related species (Bechyné 1959), are immediately distinguishable for having very deep and wide frontal grooves, and a clear sulcus between each eye and relative antennal socket. *C. adamastori* sp. nov. and *C. audisiana*, instead, share some characters that may be indicators of real affinity, such as: pronotum bordered anteriorly and posteriorly; scutellum wide, subtriangular; basal part of spermatheca straight. However, the new species can be easily distinct by: frontal grooves joining anteriorly (Fig. 4) (not joining at all in *C. audisiana*); frontal carina clearly delimited (Fig. 4) (not delimited in *C. audisiana*); interantennal space narrower than first antennomere length, especially in male (Fig. 4) (as wide as first antenno-

mere length or slightly wider in *C. audisiana*); anterior angles of pronotum more prominent anteriorly than laterally (Fig. 4) (more prominent laterally in *C. audisiana*); different shape of aedeagus and spermatheca (Figs 2-3, 11-12).

**Description of the holotype** (♂). Body elliptical, scarcely elongate, moderately convex (Fig. 1); LB = 2.65 mm. Maximum pronotal width in middle (WP = 1.08 mm); maximum elytral width in middle (WE = 1.33 mm). Dorsal integument blackish with dark-green metallic lustre (Fig. 1). Head (Fig. 4) with microreticulate surface; vertex shallowly but distinctly punctate, both laterally and posteriorly; some large punctures between antennal socket and inner margin of each eye; frontal grooves deeply impressed from upper ocular margin to frontal carina, forming together a wide U-shaped sulcus anteriorly; frontal carina wide, apically flat; inter-antennal space slightly wider than half-length of first antennomere; frontal tubercles absent; eye elliptical-elongate; genae punctate, slightly longer than half-length of eye; antennae distinctly longer than half body length (Fig. 1) (LAN = 2.13 mm; LAN/LB = 0.80), brownish, with distal antennomeres gradually more darkened; LA: 100:53:63:74:95:84:92:89:95:84:111. Pronotum (Fig. 5) subrectangular, moderately transverse (LP = 0.70 mm; WP/LP = 1.54), distinctly rounded laterally, as wide as elytra basally, and bordered anteriorly and basally; basal margin slightly sinuate; lateral margin slightly expanded, not visible in dorsal view (Figs 4-5); anterior angles (Fig. 4) acute, distinctly prominent; posterior angles not prominent; punctation dense and uniform, with small punctures distinctly impressed on microreticulate surface. Scutellum wide, subtriangular, with microreticulate surface. Elytra (Fig. 1) moderately elongate (LE = 1.75 mm; WE/LE = 0.76), entirely covering pygidium, distinctly arcuate laterally and jointly rounded apically; lateral margin weakly expanded up to subapical part of elytra, hardly visible in dorsal view; punctation arranged in 9 (+ 1 scutellar) regular rows; punctures larger than on both head and pronotum (Fig. 5), and distinctly impressed on micro-punctate surface; interstriae weakly raised, humeral callus absent. Subbrachypterous metathoracic wings (sensu Biondi 1993). Femora metallic green; coxae, tibiae and tarsi brownish. First protarsomeres and mesotarsomeres distinctly dilated (Figs 1, 5), with adhesive setae on ventral side. Ventral integument blackish, with mostly punctate segments; last abdominal segment without special preapical impressions. Aedeagus (Fig. 3) (LAED = 0.80 mm; LE/LAED = 2.19) in ventral view subparallel laterally and subrounded apically, with an evident median tooth; ventral surface wrinkled laterally, slightly depressed; median lobe distinctly and evenly curved in lateral view, with slightly dorsally oriented apex; dorsal ligula subrectangular, long about one fourth the length of aedeagus; dorsal surface wrinkled laterally in apical half.

**Variation.** Male (n = 10; mean and standard deviation;



**Figs 1-5** – Morphological features of *Chaetocnema adamastori* sp. nov. **1**, habitus, ♂; **2**, spermatheca; **3**, aedeagus; **4**, head in dorsal view; **5**, head, pronotum and base of elytra. Abbreviations in Fig. 3: **d** = dorsal view; **l** = lateral view; **v** = ventral view.

range): LE =  $1.95 \pm 0.12$  mm ( $1.75 \leq LE \leq 2.09$  mm); WE =  $1.50 \pm 0.09$  mm ( $1.33 \leq WE \leq 1.60$  mm); LP =  $0.77 \pm 0.04$  mm ( $0.70 \leq LP \leq 0.83$  mm); WP =  $1.19 \pm 0.07$  mm ( $1.08 \leq WP \leq 1.28$  mm); LAN =  $2.36 \pm 0.16$  mm ( $2.10 \leq LAN \leq 2.58$  mm); LAED =  $0.83 \pm 0.02$  mm ( $0.80 \leq LAED \leq 0.88$  mm); LB =  $2.93 \pm 0.18$  mm ( $2.65 \leq LB \leq 3.15$  mm); LE/LP =  $2.55 \pm 0.04$  ( $2.50 \leq LE/LP \leq 2.61$ ); WE/WP =  $1.26 \pm 0.02$  ( $1.23 \leq WE/WP \leq 1.30$ ); WP/LP =  $1.56 \pm 0.02$  ( $1.54 \leq WP/LP \leq 1.60$ ); WE/LE =  $0.77 \pm 0.02$  ( $0.74 \leq WE/LE \leq 0.80$ ); LAN/LB =  $0.81 \pm 0.02$  ( $0.78 \leq LAN/LB \leq 0.83$ ); LE/LAED =  $2.34 \pm 0.09$  ( $2.19 \leq LE/LSP \leq 2.46$ ). Female (n = 10; mean and standard deviation; range): LE =  $1.96 \pm 0.13$  mm ( $1.70 \leq LE \leq 2.13$  mm); WE =  $1.51 \pm 0.11$  mm ( $1.38 \leq WE \leq 1.68$  mm); LP =  $0.76 \pm 0.05$  mm ( $0.65 \leq LP \leq 0.83$  mm); WP =  $1.18 \pm 0.10$  mm ( $0.98 \leq WP \leq 1.30$

mm); LAN =  $1.90 \pm 0.14$  mm ( $1.60 \leq LAN \leq 2.10$  mm); LSP =  $0.17 \pm 0.01$  mm ( $0.15 \leq LSP \leq 0.19$  mm); LB =  $2.75 \pm 0.20$  mm ( $2.40 \leq LB \leq 3.08$  mm); LE/LP =  $2.60 \pm 0.04$  ( $2.53 \leq LE/LP \leq 2.66$ ); WE/WP =  $1.28 \pm 0.03$  ( $1.22 \leq WE/WP \leq 1.33$ ); WP/LP =  $1.56 \pm 0.04$  ( $1.50 \leq WP/LP \leq 1.63$ ); WE/LE =  $0.77 \pm 0.02$  ( $0.73 \leq WE/LE \leq 0.79$ ); LAN/LB =  $0.69 \pm 0.03$  ( $0.63 \leq LAN/LB \leq 0.73$ ); LE/LSP =  $11.45 \pm 1.29$  ( $9.07 \leq LE/LSP \leq 13.25$ ). Paratypes very similar in shape, sculpture and color to the holotype. Female without dilated first protarsomeres and mesotarsomeres and with distinctly shorter antennae. Spermatheca (Fig. 2) with sub-cylindrical basal part; neck distinct from the basal part and partially inserted in it; apical part about as long and thick as neck; ductus thin, very short, uncoiled, and inserted on basal part laterally.

**Type material.** Holotype ♂: Republic of South Africa: Western Cape Province, Cape Town, Table Mountain, Top-Cableway, 16.x.2005, 1050-500 m, S33 57.630 E18 24.308, P. Audisio, M. Biondi & A. De Biase leg. (BAQ). Paratypes: same data of the holotype, 19 ♂♂ and 15 ♀♀ (BAQ; BMNH; SANC; ZMHB); ditto, Table Mountain top, 950-1050 m, 21.ix.1994, P. Audisio, M. Biondi & M.A. Bologna leg., 14 ♂♂ and 11 ♀♀ (BAQ; MNHN; ZSM).

**Type locality.** Republic of South Africa, Western Cape Province, Cape Town, Table Mountain, Top-Cableway, 1050-500 m, S33 57.630 E18 24.308.

**Distribution.** Republic of South Africa, Western Cape Province.

**Chorotype.** South-Western African (SWA).

**Host-plant.** The new species was collected on a grass plant (fam. Poaceae), very common along the high altitude of the Table Mountain - Plettenberg Gorge track (Fig. 15).

**Habitat.** *Chaetocnema adamastori* **sp. nov.** is preferably associated with Peninsula Granite Fynbos (FFg 3 of Mucina and Rutheford 2006), a vegetation type occurring at lower slopes on the Cape Peninsula from Lion's Head to Smitswinkel Bay and almost completely surrounding Table Mountain.

**Phenology.** IX-X. The two series of available specimens were collected at the end of September (1994) and in October (2005).

**DNA data.** Not available.

**Etymology.** The specific epithet of the new species derives from the mythological figure of Adamastor, a Titan transformed into a towering mountain in order to protect the Cape from passing sailors who dared discover the African continent's mysteries.

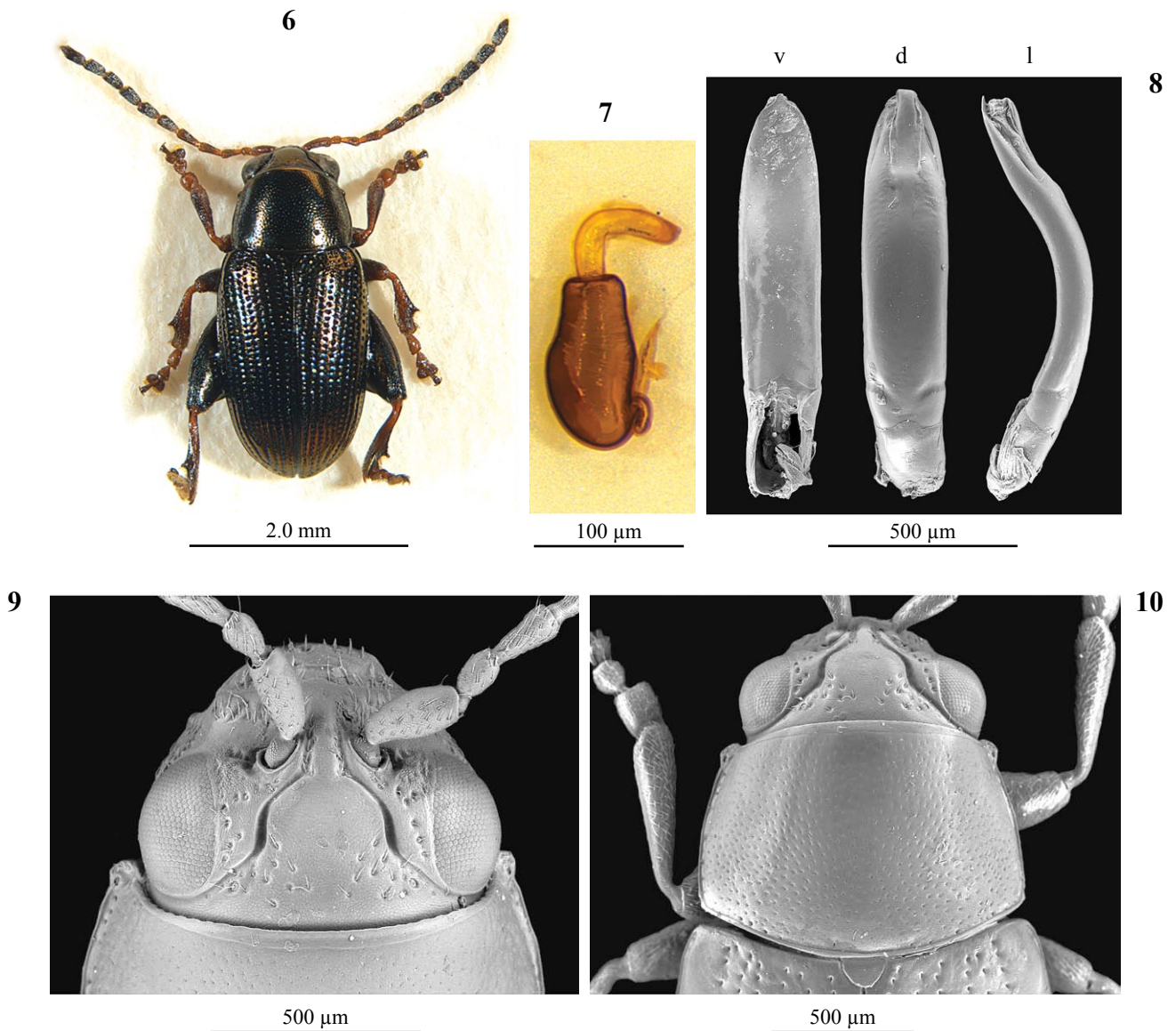
***Chaetocnema saldanhai* sp. nov.**

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**Diagnosis.** *Chaetocnema saldanhai* **sp. nov.** shows several similarities with *C. capensis* Bryant, 1928 from Republic of South Africa (Northern Province, Mpumalanga, KwaZulu-Natal, Eastern Cape Province and Western Cape Province) (Biondi 2002a). The two species share the following characters: elliptical-elongate body shape; frontal grooves forming together a U-shaped sulcus anteriorly; inter-antennal space clearly narrower than the length of first antennomere; head punctuation consisting of few punctures on vertex; pronotum, subrectangular, moderately transverse, with dense punctuation, clearly more finely impressed than on elytra. In addition, in both species the

spermatheca shows: subcylindrical, sclerotized basal part, clearly distinct from apical part; distal part bent of 90° and slightly longer than collum; ductus quite short (Figs 7, 14). They also share the general shape of the aedeagus in ventral view, and the short dorsal ligula (Figs 8, 13). However, *C. saldanhai* **sp. nov.** is easily distinguishable from *C. capensis* for having: size generally larger, with LE+LP ≥ 2.70 in male and ≥ 2.80 in female (generally < 2.70 in male and < 2.80 in female of *C. capensis*); elytra laterally almost straight (Fig. 6) (moderately curved in *C. capensis*); frontal carina distinctly delimited laterally (Fig. 9) (not delimited laterally in *C. capensis*); presence of larger points on vertex (Figs 9-10); integuments metallic dark bronze (Fig. 6) (mostly metallic green in *C. capensis*); legs and antennae darker. In *C. saldanhai* **sp. nov.** (Figs 8, 13), the aedeagus shows the apical third slightly sinuate in lateral view (straight in *C. capensis*); apex in ventral view moderately acute and laterally rounded (widely obtuse and weakly rounded in *C. capensis*); dorsal surface smooth (sublaterally distinctly shagreened in *C. capensis*). Compared to *C. capensis*, the spermatheca of *C. saldanhai* **sp. nov.** shows a thicker basal part and a one-coiled ductus (ductus uncoiled in *C. capensis*) (Figs 7, 14).

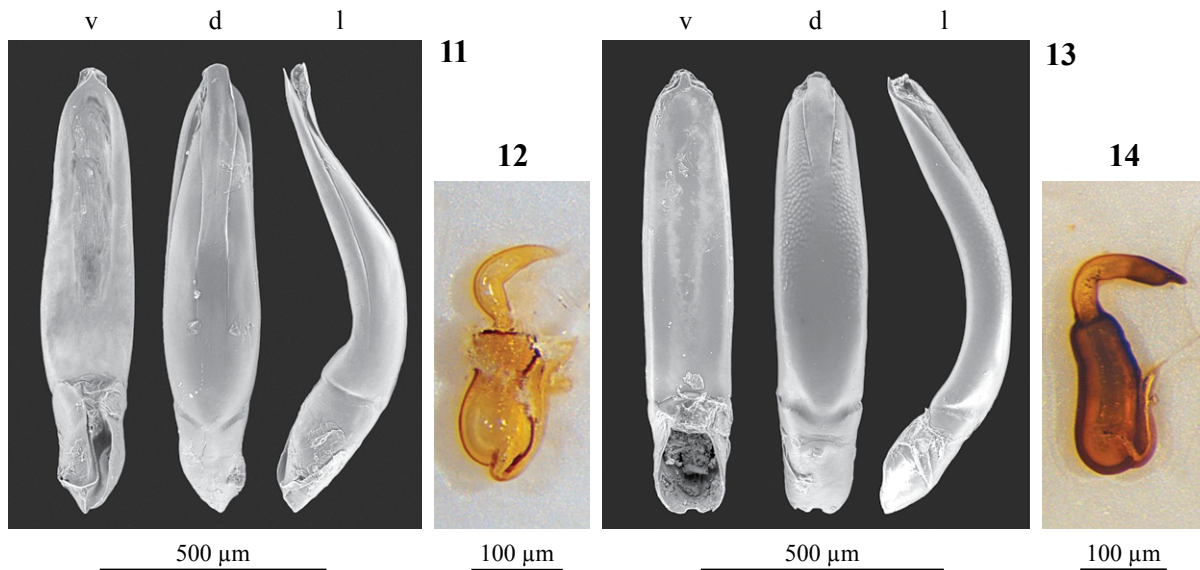
**Description of the holotype** (♂). Body elliptical, elongate, little convex (Fig. 6); LB = 2.76 mm. Maximum pronotal width at base (WP = 1.00 mm); maximum elytral width in middle (WE = 1.28 mm). Dorsal integument dark bronze with greenish metallic lustre (Fig. 6). Head (Fig. 9) with microreticulate surface; some large punctures laterally on vertex and along inner margin of each eye; frontal grooves deeply impressed from upper ocular margin to frontal carina, forming together an U-shaped sulcus anteriorly; frontal carina thin, apically flat; inter-antennal space slightly narrower than half-length of first antennomere; frontal tubercles absent; eye subrounded; genae punctate, about as long as half-length of eye; antennae distinctly longer than half body length (Fig. 6) (LAN = 2.00 mm; LAN/LB = 0.72); antennomeres 7-11 dark brown, 1-6 paler both apically and basally; LA: 100:42:58:79:84:82:79:79:79:95. Pronotum (Fig. 10) subrectangular, moderately transverse (LP = 0.74 mm; WP/LP = 1.35), weakly rounded laterally, as wide as elytra basally; both anterior and posterior margins bordered; lateral margin slightly expanded, visible in dorsal view; anterior angles distinctly prominent, obliquely bevelled; posterior angles not prominent at all; punctuation dense and uniform, with distinct punctures impressed on microreticulate surface. Scutellum subtriangular, with microreticulate surface. Elytra (Fig. 6) elongate (LE = 1.96 mm; WE/LE = 0.65), entirely covering pygidium, almost straight laterally, jointly rounded apically; lateral margin weakly expanded up to subapical part of elytra, little visible in dorsal view; punctuation arranged in 9 (+ 1 scutellar) regular rows; punctures larger than on pronotum (Fig. 10), and distinctly impressed on irregularly microreticulate surface; interstriae weakly raised, humer-



**Figs 6-10** – Morphological features of *Chaetocnema saldanhai* sp. nov. **6**, habitus, ♂; **7**, spermatheca; **8**, aedeagus; **9**, head in dorsal view; **10**, head, pronotum and base of elytra. Abbreviations in Fig. 8: **d** = dorsal view; **l** = lateral view; **v** = ventral view.

al callus distinct. Macropterous metathoracic wings. Hind femora of the same color as the dorsal integument; fore and middle femora dark brown; tibiae brown, darker in distal half, tarsi brown. First protarsomeres and mesotarsomeres distinctly dilated (Figs 6, 10), with adhesive setae on ventral side. Ventral integument blackish, with mostly punctate segments, especially prosternum; last abdominal segment without special preapical impressions. Aedeagus (Fig. 8) (LAED = 1.00 mm; LE/LAED = 1.96) mostly subparallel laterally, in ventral view, and tapering towards the apex in apical fourth; apex moderately acute, laterally rounded, with a median tooth; ventral surface smooth; aedeagus distinctly curved in lateral view, slightly sinuate in apical fourth; dorsal ligula subrectangular, about one fifth the length of aedeagus.

**Variation.** Male (n = 5; mean and standard deviation; range): LE =  $2.32 \pm 0.28$  mm ( $1.96 \leq LE \leq 2.72$  mm); WE =  $1.48 \pm 0.15$  mm ( $1.28 \leq WE \leq 1.68$  mm); LP =  $0.84 \pm 0.09$  mm ( $0.74 \leq LP \leq 0.98$  mm); WP =  $1.21 \pm 0.16$  mm ( $1.00 \leq WP \leq 1.44$  mm); LAN =  $2.48 \pm 0.36$  mm ( $2.00 \leq LAN \leq 3.00$  mm); LAED =  $1.09 \pm 0.14$  mm ( $1.00 \leq LAED \leq 1.34$  mm); LB =  $3.33 \pm 0.45$  mm ( $2.76 \leq LB \leq 3.96$  mm); LE/LP =  $2.75 \pm 0.07$  ( $2.65 \leq LE/LP \leq 2.78$ ); WE/WP =  $1.23 \pm 0.04$  ( $1.17 \leq WE/WP \leq 1.28$ ); WP/LP =  $1.43 \pm 0.05$  ( $1.35 \leq WP/LP \leq 1.47$ ); WE/LE =  $0.64 \pm 0.01$  ( $0.62 \leq WE/LE \leq 0.65$ ); LAN/LB =  $0.74 \pm 0.02$  ( $0.72 \leq LAN/LB \leq 0.76$ ); LE/LAED =  $2.14 \pm 0.15$  ( $1.96 \leq LE/LSP \leq 2.35$ ). Female (n = 10; mean and standard deviation; range): LE =  $2.51 \pm 0.25$  mm ( $2.08 \leq LE \leq 2.84$  mm); WE =  $1.61 \pm 0.17$  mm ( $1.36 \leq WE \leq 1.84$  mm); LP =  $0.88 \pm 0.10$  mm ( $0.72 \leq$



**Figs 11-14** – Male and female genitalia. **11**, aedeagus of *Chaetocnema audisiana* Biondi, Mt. Hawequas (BAQ); **12**, spermatheca of *C. audisiana* Biondi, Franschhoek Pass (BAQ); **13**, aedeagus of *C. capensis* Bryant, Chrissiesmeer (BAQ); **14**, spermatheca of *C. capensis* Bryant, Sani Pass (BAQ). Abbreviations in Figs 11 and 13: **d** = dorsal view; **l** = lateral view; **v** = ventral view.

LP  $\leq$  1.04 mm); WP =  $1.28 \pm 0.13$  mm ( $1.06 \leq$  WP  $\leq$  1.44 mm); LAN =  $2.25 \pm 0.19$  mm ( $1.94 \leq$  LAN  $\leq$  2.62 mm); LSP =  $0.28 \pm 0.02$  mm ( $0.26 \leq$  LSP  $\leq$  0.30 mm); LB =  $3.55 \pm 0.38$  mm ( $2.96 \leq$  LB  $\leq$  4.12 mm); LE/LP =  $2.87 \pm 0.10$  ( $2.73 \leq$  LE/LP  $\leq$  3.07); WE/WP =  $1.26 \pm 0.03$  ( $1.21 \leq$  WE/WP  $\leq$  1.30); WP/LP =  $1.47 \pm 0.05$  ( $1.38 \leq$  WP/LP  $\leq$  1.55); WE/LE =  $0.64 \pm 0.02$  ( $0.61 \leq$  WE/LE  $\leq$  0.68); LAN/LB =  $0.64 \pm 0.03$  ( $0.59 \leq$  LAN/LB  $\leq$  0.68); LE/LSP =  $9.11 \pm 1.01$  ( $8.00 \leq$  LE/LSP  $\leq$  11.25). Paratypes very similar in shape and sculpture to the holotype; some specimens with bluish rather than greenish metallic lustre. Female without the dilated first protarsomeres and mesotarsomeres, and with

slightly shorter antennae. Spermatheca (Fig. 7) with subcylindrical, slightly curved basal part; neck distinct from the basal part and partially inserted in it; apical part as thick as neck and slightly longer; ductus thin, quite short, one-coiled, subapically inserted on ventral side of basal part.

**Type material.** Holotype ♂: Republic of South Africa: Western Cape Province, Cape Town, Table Mountain top, 950-1050 m, [S33 57.630 E18 24.308], 21.ix.1994, P. Audisio, M. Biondi & M.A. Bologna leg. (BAQ). Paratypes: same data of the holotype, 3 ♂♂ and 14 ♀♀ (BAQ; BMNH; SANC); ditto, Table Mountain, Top-Cableway,



**Figs 15-16** – Host plants. **15**, grass plant (fam. Poaceae) where *Chaetocnema adamastori* sp. nov. was collected; **16**, *Thamnochortus nutans* (fam. Restionaceae) (arrow) in the habitat of Peninsula Sandstone Fynbos (FFs 9 of Mucina and Rutheford 2006), where *Chaetocnema saldanhai* sp. nov. was collected.

16.x.2005, 1050-500 m, S33 57.630 E18 24.308, P. Audisio, M. Biondi & A. De Biase leg., 1 ♂ (BAQ).

**Type locality.** Republic of South Africa: Western Cape Province, Cape Town, Table Mountain top, 950-1050 m, [S33 57.630 E18 24.308].

**Distribution.** Republic of South Africa, Western Cape Province, Table Mountain.

**Chorotype.** South-Western African (SWA).

**Host-plant.** The new species was collected on plants of *Thamnochortus nutans* (fam. Restionaceae) (Fig. 16), an endemic species of Table Mountain and Constantiaberg (Haaksma & Linder 2000).

**Habitat.** *Chaetocnema saldanhai* **sp. nov.** seems exclusively associated with the Peninsula Sandstone Fynbos (FFs 9 of Mucina and Rutheford 2006), a vegetation type extended from the top of Lion's Head and Table Mountain to Cape Point and Cape of Good Hope (Fig. 16).

**Phenology.** IX-X. The main series of available specimens was collected at the end of September (1994) and one single male specimen in October (2005); this male was in coupling with a female but this latter managed to escape capture. Some females collected in September had eggs in their abdomen.

**DNA data.** Not available.

**Etymology.** The new species is named after António de Saldanha, a Castilian-Portuguese 16th-century captain, who was the first European to make the first recorded ascent of Table Mountain.

## Discussion

Regarding the southern-western Africa, a significant number of endemic species of *Chaetocnema* are associated with Mediterranean-type vegetation, as Fynbos, Renosterveld, Strandveld and Cape Thicket (Biondi et al. 2015). Based on the new data, Afrotropical Cape Floristic Region Biodiversity Hotspot hosts twelve endemic species of *Chaetocnema*, seven of which only occur in this region, *adamastori* **sp. nov.**, *chalicea* (Harold), *audisiana* Biondi, *convexicollis* (Boheman), *danielssoni* Biondi & D'Alessandro, *saldanhai* **sp. nov.**, and *tablensis* Bryant, with a 33.3% level of endemism. Two of the species also occur in the Succulent Karoo Biodiversity Hotspot, *darwini* Bryant and *capeneri* Biondi & D'Alessandro, and five are extended to the Maputaland-Pondoland-Albany Biodiversity Hotspot, *bevinsi* Bryant, *capensis* Bryant, *purpurea* Jacoby and *sudafricana* Biondi & D'Alessandro.

**Acknowledgements** – We are very grateful to our friends and colleagues Paolo Audisio and Alessio De Biase (University of Rome “La Sapienza”, Italy) and Marco Alberto Bologna (University of Rome “Roma Tre”, Italy) for providing us the interesting flea beetle material collected in South Africa.

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