

SHORT COMMUNICATION

Unravelling the taxonomic assessment of an interesting new species from Socotra Island: *Blepharidina socotrana* sp. nov. (Coleoptera: Chrysomelidae)

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Abstract. The description of *Blepharidina socotrana* sp. nov. (Coleoptera: Chrysomelidae: Galerucinae: Alticini), with clear Afrotropical affinities, from Socotra Island is provided. Photos of the main diagnostic morphological characters, including aedeagus, are supplied. A phylogenetic analysis of all species of *Blepharidina* Bechyné, 1968, performed to clarify the taxonomic position of the new species, confirms the presence of two clades referable to as *Blepharidina* s. str. and *B. (Afroblepharida)* Biondi & D’Alessandro, 2017, and places the new species within *Afroblepharida*, even though with a moderate support.

Key words. Coleoptera, Chrysomelidae, *Afroblepharida*, *Blepharidina* s. str., parsimony analysis, Socotra Island, Yemen, Afrotropical Region

Zoobank: <http://zoobank.org/urn:lsid:zoobank.org:pub:ED21AD48-94A1-4D13-A36E-5F3754ED0FF0>

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Introduction

Alticini (Coleoptera, Chrysomelidae, Galerucinae) are probably the largest and most diverse tribe of Chrysomelidae, comprising over 534 genera and about 8000 species (NADEIN 2012, NADEIN & BEZDĚK 2014), occurring all over the world. They are called ‘flea beetles’ because of the presence of a metafemoral structure that enables them to jump (NADEIN & BETZ 2016). Their host plants include almost all vascular plant families, generally with high levels of specialization and close association with the vegetation types (JOLIVET & VERMA 2002, BIONDI et al. 2015). They feed on stems, leaves or roots, and rarely flowers, both in their adult and larval stages.

The Socotra Archipelago is considered to belong to the Afrotropical Region (BATELKA 2012). This wide zoogeographical region hosts about 1600 known species of flea beetles, included in 103 genera, 67 of which are endemic, distributed in wide to very limited areas. The list is still far from being complete, as demonstrated by the new species and genera recently described and by the huge amount of unidentified material preserved in public collections and depositories (Biondi pers. data; BIONDI 2017; BIONDI & D’ALESSANDRO 2010a,b, 2012, 2013a,b, 2015, 2016, 2017a,b, 2018; BIONDI et al. 2017; D’ALESSANDRO & BIONDI

2018; D’ALESSANDRO et al. 2014, 2018a; DÖBERL 2010). As for Socotra Archipelago, notwithstanding the remarkable increase in the knowledge of the invertebrate biota in the last 20 years (HÁJEK & BEZDĚK 2012, 2014, 2017), it seems that the collecting effort to evaluate the actual insect diversity in this area has been insufficient (HÁJEK & BEZDĚK 2017). Based on most of the present data, the biota of Socotra Archipelago is composed mainly of Afrotropical elements, generally shared with Somali or Ethiopian areas, and, to a lesser extent, Palaearctic elements (BATELKA & BOLOGNA 2014, MALENOVSKÝ & BURCKHARDT 2014, BIONDI & D’ALESSANDRO 2017b), and shows a remarkable endemism rate found at both species and genus level (BATELKA 2012, MALENOVSKÝ & BURCKHARDT 2014, BEZDĚK & HÁJEK 2017). However, based on an analysis referring to the Coleoptera, HÁJEK & BEZDĚK (2019) report that the genera occurring in Socotra Archipelago are composed of about 50% of elements of Palaearctic origin and 50% of African origin.

In this paper, *Blepharidina socotrana* sp. nov. is described from Socotra Island. *Blepharidina* Bechyné, 1968 is a flea beetle genus endemic to the Afrotropical Region, widespread in sub-Saharan Africa above the Tropic of Capricorn and comprising two subgenera: *Afroblepharida* Biondi & D’Alessandro, 2017 with



11 species (D'ALESSANDRO et al. 2018a), and *Blepharidina* s. str. with 20 species (D'ALESSANDRO et al. 2019). The subgenus *Afroblepharida* primarily occurs in central eastern Africa and is generally associated with more xeric conditions compared to *Blepharidina* s. str., which has a more southern distribution and generally occurs in more mesic environments (D'ALESSANDRO et al. 2018b). The two subgenera show an overlap in Kenya and south Somalia (D'ALESSANDRO et al. 2018a,b, 2019).

The new species was not immediately attributable to one of the two established subgenera, so to clarify its taxonomic position, we performed a parsimony analysis based on morphological characters derived from the external anatomy and structure of aedeagus of all the known species of *Blepharidina*, using *Calotheca marginalis* (Weise, 1902) as an outgroup.

Material and methods

Material examined consisted of a single dried pinned male specimen preserved in the National Museum, Prague, Czech Republic. The specimen was examined, measured and dissected using a Leica M205C stereomicroscope. Photographs were taken using a Leica DFC500 camera and were composed using Zerene Stacker software version 1.04. Scanning electron photographs were taken using a Hitachi TM-1000.

Cladistic analysis. Parsimony analysis was performed on the following 32 species (cf. BIONDI et al. 2017, D'ALESSANDRO et al. 2018a, 2019): 11 species of *Blepharidina* (*Afroblepharida*) (*B. (A.) afarensis* Biondi & D'Alessandro, 2018, *B. (A.) antinorii* (Chapuis, 1879), *B. (A.) bantu* Biondi & D'Alessandro, 2018, *B. (A.) benadiriensis* Biondi & D'Alessandro, 2018, *B. (A.) gedyei* (Bryant, 1948), *B. (A.) nubiana* Biondi & D'Alessandro, 2018, *B. (A.) pusilla* Biondi & D'Alessandro, 2018, *B. (A.) scripta* (Weise, 1904), *B. (A.) somaliensis* (Bryant, 1948), *B. (A.) tajurensis* Biondi & D'Alessandro, 2018, *B. (A.) zephyra* Biondi & D'Alessandro, 2018); 19 species of *Blepharidina* s. str. (*B. (s. str.) aliquantula* D'Alessandro, Iannella & Biondi, 2019, *B. (s. str.) bimbiensis* (Bechyné, 1948), *B. (s. str.) burtli* (Bryant, 1944), *B. (s. str.) carinata* (Bryant, 1944), *B. (s. str.) delineata* (Bryant, 1944), *B. (s. str.) guttulata* (Baly, 1881), *B. (s. str.) himba* D'Alessandro, Iannella & Biondi, 2019, *B. (s. str.) intermedia* (Jacoby, 1888), *B. (s. str.) kasigauensis* D'Alessandro, Iannella & Biondi, 2019, *B. (s. str.) kenya* D'Alessandro, Iannella & Biondi, 2019, *B. (s. str.) knighti* (Bryant, 1945), *B. (s. str.) laesa* (Kolbe, 1897), *B. (s. str.) macarthuri* (Bryant, 1948), *B. (s. str.) matabelelandensis* D'Alessandro, Iannella & Biondi, 2019, *B. (s. str.) ornaticollis* (Jacoby, 1888), *B. (s. str.) partita* (Jacoby, 1895), *B. (s. str.) picta* (Kolbe, 1897), *B. (s. str.) regalini* D'Alessandro, Iannella & Biondi, 2019, *B. (s. str.) rudeli* (Weise, 1905)); and *Calotheca marginalis* considered an outgroup, and the new species *Blepharidina socotrana* sp. nov. Twenty-eight additive morphological characters (19 bi-state and 9 tri-state) were used (Table 1). Seventeen characters were derived from the external anatomy and

eleven from the aedeagal structure. The terminology for the median lobe of aedeagus follows D'ALESSANDRO et al. (2016: Fig. 10E). Spermatheca was not considered because no females are known for the new species. The parsimony analysis was performed with the aid of the TNT program version 1.5 (GOLOBOFF & CATALANO 2016) using: traditional search algorithm ('Wagner trees') with 500 replications and 100 trees saved per replication; additive characters; tree bisection reconnection swapping algorithm (TBR); extended implied weighting method. In accordance with GOLOBOFF et al. (2008a,b, 2018) and GOLOBOFF (2014), character weighting by the implied weighting method was used in our analysis, because the resampling measures are, for morphological data, clearly improved when weighting against homoplasy is used. The *xpiwe*(* option was used, because in this way TNT automatically considers weighting partitions considering average numbers of missing entries for the set, to calculate the extrapolation factor for each of the characters in the set. The *K* value (constant of concavity) was set with the aid of the script IMPLIEDW.RUN, as proposed by MIRANDE (2009). Missing entries were assumed to have 50% of the homoplasy of the observed entries. Bremer supports were calculated in TNT using the script BREMER.RUN (GOLOBOFF et al. 2008b).

Morphological characters used for the parsimony analysis (matrix in Table 1; figures available in BIONDI et al. 2017, D'ALESSANDRO et al. 2018a, 2019).

Head

1. Inter-ocular space: distinctly wider than transverse width of each eye (0); as wide as or narrower than transverse width of each eye (1).
2. Frontal grooves: deeply impressed both anteriorly and posteriorly (0); weakly impressed, especially anteriorly, sometimes barely distinguishable (1).
3. Frontal grooves, anteriorly: apex running beyond inner margin of antennal socket (0); apex directed towards inner margin of antennal socket (1).

Pronotum

4. Pronotal base: without evident striae or dimples (0); with two, generally distinct, lateral longitudinal striae (1); generally, with two small lateral dimples (2).
5. Anterior margin of pronotum: narrow (0); wide (1).
6. Anterior margin of pronotum: regularly curved (0); laterally sinuate (1).
7. Anterior margin of pronotum: medially as wide as laterally or slightly wider (0); distinctly (at least three times) wider medially than laterally (1); wider laterally (2).
8. Anterior angles of pronotum: anteriorly or laterally prominent and more-or-less pointed (0); obliquely truncate (1).
9. Lateral margin of pronotum in lateral view: regularly rounded (0); moderately sinuate, with anterior half not prominent (1); distinctly sinuate, with anterior half distinctly prominent (2).
10. Pronotum in dorsal view: laterally rounded or not regularly narrowing towards anterior margin, (0);

trapezoidal, laterally straight, with entirely visible lateral margins, regularly narrowing towards anterior margin with maximum width at base (1).

11. Basal margin of pronotum: narrow (0); wide (1).
12. Basal margin of pronotum (excluding angles): medially as wide as laterally (0); distinctly wider medially (1); wider laterally (2).
13. Posterior angles of pronotum in dorsal view: slightly obtuse, with one or both sides straight (0); widely obtuse, with rounded sides (1).

Elytra

14. Elytral punctuation: in regular single rows (0); in double rows or in bands (1); mostly or entirely irregular (2).
15. Elytral epipleura: weakly visible in basal half in lateral view, almost horizontally oriented (0); visible in basal half in lateral view (1).
16. Elytral margin: homogenous in thickness (0); much thinner laterally of the humeral callus (1); distinctly more enlarged just behind the basal fifth (2).

Legs

17. Tarsal claws: bifid (0); simple or sub-appendiculate (1).

Aedeagus

18. Dorsal ligula shape: not carinate medially (0); carinate medially (1).
19. Median lobe in lateral view: about as thick basally (next to phallobase) as subapically (0); thicker basally than subapically (1).
20. Lateral small folds on apex oriented ventrally: absent (0); present (1).

21. Apical part in lateral view: ventrally oriented (0); straight or more-or-less dorsally oriented (1).
22. Phallobase in lateral view: ventrally oriented (0); aligned with median lobe (1).
23. Medial lobe of dorsal ligula: simple (0); apically bilobed (1); apically complex (2).
24. Lateral lobes of dorsal ligula: evident (0); absent or very short and/or narrow (1).
25. Dorsal ligula: short, with base not beyond the subapical part (0); elongate, with base from half-length of median lobe to phallobase (1).
26. Dorsal surface of median lobe: smooth (0); densely longitudinally carinate (1); only on dorsal ligula sparsely longitudinally carinate (2).
27. Ventral surface: with lateral longitudinal depressions (0); with a median sulcus (1); without distinctly depressed areas, at most with a V-shaped area shallowly depressed basally (2).
28. Ventral surface subapically: medially more prominent than laterally (0); not prominent (1).

Abbreviations. The following abbreviations are used in the text.

NMPC	Národní muzeum, Praha, Czech Republic;
LA	numerical sequence proportional to the length of each antennomere;
LAED	length of aedeagus;
LAN	length of antennae;
LB	total length of body (from apical margin of head to apex of elytra);
LE	length of elytra;
LP	medial length of pronotum;
WE	maximum width of elytra combined;
WP	maximum width of pronotum.

Table 1. Matrix of characters used for the parsimony analysis (see text).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
<i>Calotheca marginalis</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Blepharidina (Afroblepharida) afarensis</i>	0	1	1	2	0	0	2	0	0	0	0	2	1	2	1	0	1	0	1	0	0	0	2	1	1	0	2	0
<i>Blepharidina (Afroblepharida) antinorii</i>	1	1	1	2	0	0	2	0	0	0	0	2	1	1	1	0	0	1	1	0	0	0	2	1	1	0	1	0
<i>Blepharidina (Afroblepharida) bantu</i>	1	1	1	2	0	0	2	0	0	0	0	2	1	1	1	0	0	1	1	0	0	0	2	1	1	0	1	0
<i>Blepharidina (Afroblepharida) benadiriensis</i>	1	1	1	2	0	0	2	0	0	0	0	2	1	1	1	0	1	0	1	0	0	0	2	1	1	0	0	0
<i>Blepharidina (Afroblepharida) gedyei</i>	1	1	1	2	0	0	2	0	0	0	0	2	1	1	1	0	0	0	1	0	0	0	2	1	0	0	2	0
<i>Blepharidina (Afroblepharida) nubiana</i>	1	1	1	2	0	0	2	0	0	0	0	2	1	1	1	0	0	1	1	0	0	0	2	1	1	0	1	0
<i>Blepharidina (Afroblepharida) pusilla</i>	1	1	1	2	0	0	2	0	0	0	0	2	1	1	1	0	1	0	1	0	0	0	2	1	1	0	1	0
<i>Blepharidina (Afroblepharida) scripta</i>	1	0	1	1	0	0	2	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	2	0	0	0	0	0
<i>Blepharidina (Afroblepharida) somaliensis</i>	0	1	1	2	0	0	2	0	0	0	0	2	1	2	1	0	0	0	1	0	0	0	2	1	1	0	2	0
<i>Blepharidina (Afroblepharida) tajurensis</i>	0	1	1	2	0	0	2	0	0	0	0	2	1	2	1	0	1	0	1	0	0	0	2	1	1	0	2	0
<i>Blepharidina (Afroblepharida) zephyra</i>	1	1	1	2	0	0	2	0	0	0	0	2	1	1	1	0	0	0	1	0	0	0	2	1	1	0	2	0
<i>Blepharidina (Blepharidina) aliquantula</i>	0	1	1	1	1	0	0	0	2	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0	0	0	1	0
<i>Blepharidina (Blepharidina) bimbiensis</i>	0	1	1	1	1	0	1	0	1	0	1	1	0	0	1	0	0	0	1	0	1	0	1	2	1	0	0	0
<i>Blepharidina (Blepharidina) burtli</i>	0	1	1	1	1	1	0	0	1	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0	0	0	1	0
<i>Blepharidina (Blepharidina) carinata</i>	0	1	1	1	1	0	1	0	1	1	1	1	0	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0
<i>Blepharidina (Blepharidina) delineata</i>	0	1	1	1	1	1	0	0	1	1	1	0	0	0	1	1	0	?	?	?	?	?	?	?	?	?	?	?
<i>Blepharidina (Blepharidina) guttulata</i>	0	1	1	1	1	0	1	0	1	0	1	1	0	0	1	0	0	0	0	1	0	1	2	1	0	0	0	0
<i>Blepharidina (Blepharidina) himba</i>	0	1	1	1	1	1	0	0	2	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0	0	2	1	1
<i>Blepharidina (Blepharidina) intermedia</i>	0	1	1	1	1	1	0	1	2	0	1	0	0	0	1	2	0	0	1	0	1	1	1	0	0	0	1	1
<i>Blepharidina (Blepharidina) kasigauensis</i>	0	1	1	1	1	1	0	0	2	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0	0	0	1	0
<i>Blepharidina (Blepharidina) kenyana</i>	0	1	1	1	1	1	0	0	1	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0	0	0	1	1
<i>Blepharidina (Blepharidina) knighti</i>	0	1	1	1	1	1	0	0	2	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0	1	2	1	1
<i>Blepharidina (Blepharidina) laesa</i>	0	1	1	1	1	1	0	1	2	0	1	0	0	0	1	2	0	0	1	0	1	1	1	0	0	0	1	1
<i>Blepharidina (Blepharidina) macarthuri</i>	0	1	1	1	1	1	0	0	1	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0	0	1	1	1
<i>Blepharidina (Blepharidina) matabelandensis</i>	0	1	1	1	1	1	0	0	2	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0	0	2	1	1
<i>Blepharidina (Blepharidina) ornatocollis</i>	0	1	1	1	1	1	0	0	1	0	1	0	0	0	1	1	0	0	1	0	1	0	1	1	0	0	1	1
<i>Blepharidina (Blepharidina) partita</i>	0	1	1	1	1	0	1	0	1	0	1	1	0	0	1	0	0	0	0	1	0	1	2	1	0	0	0	0
<i>Blepharidina (Blepharidina) picta</i>	0	1	1	1	1	1	0	1	2	0	1	0	0	0	1	2	0	0	1	0	1	1	1	0	0	0	?	?
<i>Blepharidina (Blepharidina) rudeli</i>	0	1	1	1	1	0	1	0	1	1	1	1	0	0	1	0	0	?	?	?	?	?	?	?	?	?	?	?
<i>Blepharidina (Blepharidina) regalini</i>	0	1	1	1	1	1	0	0	1	0	1	0	0	0	1	1	0	0	1	0	1	1	1	0	0	0	1	0
<i>Blepharidina socotrana</i> sp. nov.	1	0	1	1	0	0	2	0	0	1	0	2	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1

Results

Blepharidina (Afroblepharida) socotrana sp. nov.

(Figs 1–2)

Type material. HOLOTYPE: ♂, Yemen, Socotra Island / Dixam plateau, 15.-22.vi.2012 / Wadi Dirhor, open woodland / with *Boswellia ameero* trees / 12°28.0'N 54°00.5'E, 340 m, // Socotra Expedition 2012 / J. Bezděk, J. Hájek, V. Hula, / P. Kment, I. Malenovský, / J. Niedobová & L. Purchart leg. (NMPC).

Description of male holotype. Body elliptical-elongate, moderately convex (Fig. 1). Measurements: LB = 5.50 mm; WP = 2.20 mm; WE = 3.00 mm. Head pale brown, with some darker areas; pronotum pale yellow, with unclear bordered brown patches on punctate areas; elytra pale yellow, with irregular brown areas on striae; scutellum brown; antennae and legs pale yellow; hind femora weakly darkened. Head with smooth surface; vertex distinctly micropunctate laterally; frontal grooves sinuate, deeply impressed from antennal socket to interocular space; frontal tubercles absent; interocular space slightly raised, distinctly narrower than transverse ocular width; antennae as long as half body length (LAN = 2.75 mm; LAN/LB = 0.50); LA: 100 : 56 : 81 : 69 : 91 : 56 : 88 : 56 : 56 : 69 : 88. Pronotum trapezoidal, transverse (LP = 1.05 mm; WP/LP = 2.20), weakly rounded laterally; pronotal surface smooth, with lines and groups of differently sized punctures, and with short lateral longitudinal striae reaching basal margin; both apical and basal margins distinctly thinner medially than laterally; lateral margins very finely bordered. Scutellum subtriangular. Elytra moderately elongate (LE = 4.05 mm; WE/LE = 0.74; LE/LP = 3.86), slightly rounded laterally,

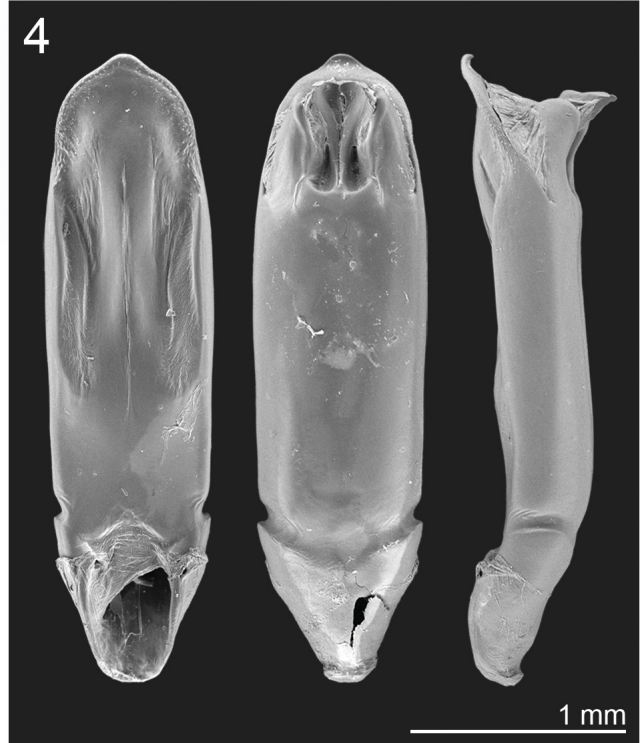
apically jointly rounded; punctation clearly impressed on smooth surface, arranged in nine regular rows plus short scutellar row; interstriae flat. Legs with first pro- and mesotarsomere distinctly dilated; tarsal claws simple. Ventral parts yellow; last abdominal ventrite without distinctive preapical impressions. Median lobe of aedeagus (Fig. 2) (LAED = 2.05 mm; LE/LAED = 1.98) fusiform in ventral view, distally subtriangular with rounded apex; ventral surface weakly wrinkled laterally on apical third; dorsal ligula apparently formed by one median and two lateral, more elongate, lobes; large, sclerotized and subrectangular median lobe raising from dorsal surface, laterally bent, with apical median tooth; in lateral view, aedeagus regularly curved from phallobase to apex.

Differential diagnosis. *Blepharidina socotrana* sp. nov. occupies a rather isolated position within the genus, even though closer to the species of *Afroblepharida*, especially to *B. (A.) scripta* (Figs 3–4), as also suggested by the herein performed cladistic analysis. The new species shares the following characters with *B. scripta*: deeply impressed frontal grooves; trapezoidal pronotum with entirely visible lateral margins in dorsal view; pronotal posterior angles weakly obtuse; pronotal base with a latero-longitudinal striae. However, *B. socotrana* sp. nov. is easily distinguishable from *B. scripta* in having: elytral striae arranged in regular single rows (irregular double rows or striae in *B. scripta*); bare head (distinctly hairy in *B. scripta*); pale colour of antennae and legs (darker in *B. scripta*). In *B. socotrana* sp. nov. the median lobe of aedeagus is: fusiform in ventral view (thickset in *B. scripta*); slender and regularly curved in lateral view (almost straight in *B. scripta*); with a large,



Figs 1–2. *Blepharidina (Afroblepharida) socotrana* sp. nov. 1 – habitus; 2 – median lobe of aedeagus in ventral, dorsal, and lateral view (from left to right).

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Figs 3–4. *Blepharidina (Afroblepharida) scripta* (Weise, 1904). 1 – habitus; 2 – median lobe of aedeagus in ventral, dorsal, and lateral view (from left to right).

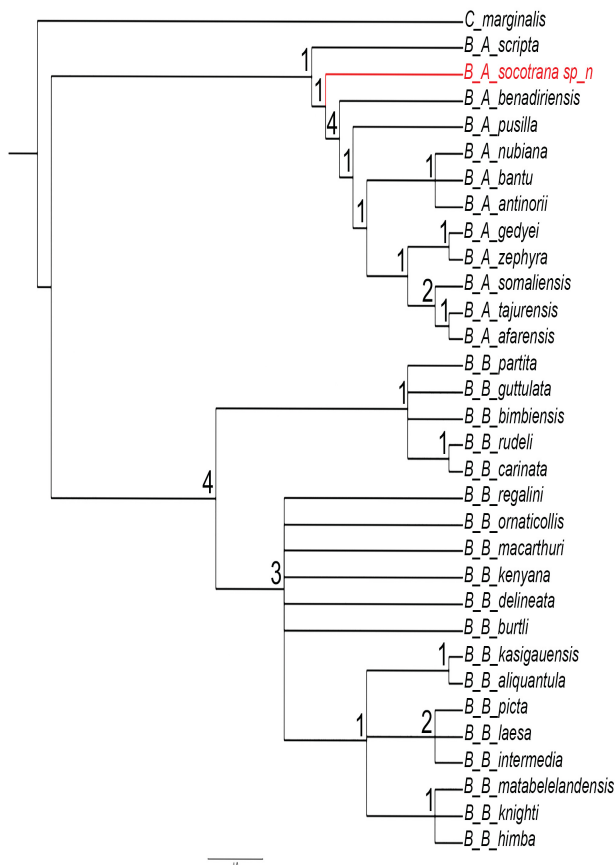


Fig. 5. Strict consensus tree returned from parsimony analysis, with Bremer supports.

sclerotized and subrectangular median lobe raising from dorsal surface, laterally bent and with an apical median tooth (absent in *B. scripta*); dorsal ligula formed by one median and two lateral elongate lobes (short median and lateral lobes in *B. scripta*).

Etymology. The specific epithet is a female adjective in the genitive case referring to Socotra Island, where the new species was collected.

Habitat. The only known specimen was collected in an open woodland with *Boswellia ameero* trees, at 340 m a.s.l.

Distribution. Yemen (Socotra). Possibly Northern-Eastern Afrotropical (NEA) chorotype (BIONDI & D'ALESSANDRO 2006).

Conclusions

The Wagner parsimony analysis returned the strict consensus tree in Fig. 5 ($K = 5.35$; scores tree length = 67 (57 with soft polytomies); most parsimonious trees = 96; best score (TBR) = 3.179; Consistency Index (CI) = 0.552; Retention Index (RI) = 0.889), which strongly supports the monophyletic status of *Blepharidina* s. str. (Bremer support = 4). The subgenus *Afroblepharida* is also very well supported for all species (Bremer support = 4), except for *B. (A.) scripta* from Kenya because of some differences, especially in the characters 2, 11, 19, 24, partially shared with *B. socotrana* sp. nov. The taxonomical position of *B. socotrana* sp. nov. is not completely resolved by this analysis, but surely some conclusions can be made: a) *B. socotrana* sp. nov. is a *Blepharidina* s. l.;

b) based on the morphological characters of the male, it cannot be attributed to the subgenus *Blepharidina* s.str.; c) similarly to *B. scripta*, this new species occupies a basal position in the clade including the other ten species of *Afrolepharida*.

Based on these considerations, we choose to attribute the new species to the subgenus *Afrolepharida*. The examination of future material, mainly females, is necessary for verification of our present placement.

Based on the current knowledge, Alticini of Socotra Island comprises 20 species in 11 genera, with the following endemic taxa: the genus *Bezdekaltica* Döberl, 2012 with the species *B. socotrana* Döberl, 2012, *Aphthona socotrana* Döberl, 2012, *Luperomorpha biondii* Döberl, 2012, *Blepharidina (Afrolepharida) socotrana* sp. nov., and *Longitarsus doeberli* Biondi & D'Alessandro, 2017. Apart from *Longitarsus doeberli*, closely related to the Palaearctic *Longitarsus anchusae* species group (BIONDI 1995), the remaining endemic taxa show clear Afrotropical affinities (DÖBERL 2012, BIONDI & D'ALESSANDRO 2017b, D'ALESSANDRO & BIONDI 2018).

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