

Heteroptera of Lebanon. I. *Atractotomus riegeri* sp. nov. from North Lebanon (Heteroptera, Miridae, Phyllinae)*

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Summary

Atractotomus riegeri sp. nov. from North Lebanon, where it was collected on *Abies cilicica* in two different localities, is described and illustrated. The new species is easily separated from all other Palaearctic *Atractotomus* by the unique shape of its second antennal segment, regularly and remarkably inflated in both sexes. A key to the males of Palaearctic *Atractotomus*, partly based on that by STONEDAHL (1990), has been provided in order to facilitate the recognition of the species.

Kurzfassung

Atractotomus riegeri sp. nov. aus dem Nord-Libanon, wo die Art an zwei Lokalitäten auf *Abies cilicica* gesammelt wurde, wird beschrieben und abgebildet. Die neue Art kann leicht von allen anderen paläarktischen *Atractotomus* durch die besondere Form ihres zweiten Antennengliedes unterschieden werden, das in beiden Geschlechtern regelmäßig und bemerkenswert verbreitert ist. Ein Bestimmungsschlüssel für die Männchen der paläarktischen *Atractotomus*, teils auf dem von STONEDAHL (1990) beruhend, wird angefügt, um das Bestimmen der Art zu erleichtern.

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Introduction

The Heteropterofauna of Lebanon is one of the least known among Middle East countries, particularly in comparison with neighbouring countries such as Israel and Jordan. Yet the amazing variety of its natural habitats and the richness of its vegetation suggest that its Heteropterofauna must be extremely rich and interesting.

In the present paper, which is the first contribution in a series of papers devoted to the knowledge of Lebanese Heteroptera based on a rich material collected by myself during an expedition in 2010 and on specimens studied in several museums

and private collections, a new species of *Atractotomus* FIEBER is described and illustrated.

Atractotomus riegeri sp. n.

Type material

Holotype: ♂, Lebanon, Zagharta District, Horsh Ehdén Nature Reserve, 1.500-1.700 m, 20.5.2010, A. CARAPEZZA lgt. Paratypes: 2 ♂♂, 1 ♀, same data as holotype; 18 ♂♂, 29 ♀♀, Lebanon, Akkar District; Djebel Qammoua, 1.500-1.700 m, 21.5.2010. – All the material mentioned is presently preserved in the author's collection.

Description

Colouration. Dorsal habitus as in fig. 1. General colouration dark brown. Head dark brown to black, bucculae reddish; antennal segments I and II black, segment III-IV yellowish; eyes pale brown or reddish. Pronotum and scutellum dark brown; hemelytra dark reddish brown to dark brown, membrane uniformly fuscous, veins concolorous. Femora and hind tibiae dark brown, front and middle tibiae yellowish; tibial spines black. Tarsi pale; apical half of third tarsomere dark brown. Ventral surface and abdomen dark brown.

Vestiture. Upper surface with dark simple setae (fig. 2 b) and recumbent, narrow and elongate silvery white scalelike setae (fig. 2 c); the latter are distributed also on ventral surfaces of thorax and abdomen.

Structure. Both sexes macropterous; body moderately elongate, total length 3.0-3.38 mm in males, 2.93-3.32 mm in females; length from tip of tylus to cuneal fracture 2.13-2.46 in males, 2.06-2.36 mm in females. Body about 2.96-3.12 (males) or 2.81-3.0 (females) times as long as broad at base of pronotum. Head strongly produced in front of eyes, frons moderately sloping anteriorly, vertex weakly convex, posterior margin almost straight; head about 0.64-0.71 (males) or 0.66-0.74 (females) times as broad as base of pronotum, in dorsal view about 2.1 times as broad as high, in lateral view (fig. 2 a) 1.45-1.50 times as long as high; width of head across eyes

* Honouring the Heteropterologist Dr. CHRISTAN RIEGER on behalf of his 70th birthday.



Figure 1. *Atractotomus riegeri* sp. nov.: dorsal habitus of male.

0.70-0.75 mm in both sexes; ocular index 1.79-1.95 (males) or 1.91-2.09 (females), eyes occupying four-fifths of height of head in lateral view. Antennae sexually not dimorphic, with segment II strongly and evenly inflated, length of antennal segments equal to 0.22-0.25 : 0.93-1.0 : 0.17-0.19 : 0.24-0.25 (males) or 0.20-0.22 : 0.96-1.06 : 0.17-0.20 : 0.22-0.24 mm (female); 2nd segment 1.28-1.40 (males) or 1.32-1.45 (females) times as long as width of head across eyes and 0.87-0.92 (males) or 0.93-1.03 (females) times as long as basal width of pronotum. Central diameter of antennal segment II 2.75-3.33 (males) or 3.0-3.25 (females) times greater than central diameter of foretibiae. Tip of rostrum extending to hind margin of middle coxae. Pronotum 1.04-1.09 mm (males), 1.0-1.09 mm (females) broad and 2.19-2.44 times as broad basally as long in

middle in both sexes, posterior margin weakly concave centrally. Hemelytra with external margins moderately rounded and gently diverging caudad, maximum width before cuneal fracture. Length ratios of hind tarsomeres (fig. 2 d) equal to 27 : 36 : 49; claw (fig. 2 e) very small, 0.05 mm long, dorsally straight and moderately bent apically, pulvilli large covering ventral surface of claw except tip.

Male genitalia. Left and right parameres as in figs. 2 g-h. Phalloteca strongly curved (fig. 2 f); vesica (fig. 2 i) medially coiled, secondary gonopore apical, gonopore sclerite narrow with spines restricted to distal half.

Discussion

The genus *Atractotomus* FIEBER, recently placed in the tribe Nasocorini REUTER by SCHUH & MENARD (2013), is known to include 44 species; it is mainly Holarctic, with one species only described from the Afrotropical region (LINNAVUORI 1993; KERZHNER & JOSIFOV 1999; SCHUH 2002-2013; AUKEMA et al. 2013). Ten of them live in the Palaearctic but STONEDAHN (1990), in his revision of the genus, regarded the following four as species incertae sedis, probably forming a monophyletic group with *Heterocapillus pici* (REUTER): *A. amygdali* WAGNER, *A. mali* (MEYER-DÜR), *A. rhodani* FIEBER and *A. vireti* WAGNER. Prior to the new species described in this paper seven species certainly belonging to *Atractotomus* were known from the Palaearctic region: *brunomassai* CARAPEZZA, 1982 (Southern Italy, Greece, on *Abies alba*); *kolenatii* (FLOR, 1860) (Central European present also in Turkey and East Siberia, probably introduced in North America; on *Abies* and *Picea*); *magnicornis* (FALLÉN, 1807) (widely distributed all over Europe and in Turkey, introduced in North America; on *Abies*, *Juniperus*, *Larix* and *Picea*); *marcoi* CARAPEZZA, 1982 (Andorra, Italy, Germany, Bulgaria, Russia, on *Pinus laricio*, *P. nigra* and *P. sylvestris*); *morio* SAHLBERG, 1883 (Finland, Sweden, Northern and Eastern Russia, Mongolia, Korea, on *Abies* and *Picea*); *parvulus* REUTER, 1878 (widely distributed in Central and Northern Europe); *persquamosus* SEIDENSTÜCKER, 1961 (Turkey, on *Abies cilicica*).

A. riegeri sp. n. is easily distinguished from these seven species by the following combination of characters: second antennal segment very long, strongly and regularly inflated in both sexes, around 3 times thicker than the foretibiae and 2.27-2.50 times longer than third and fourth segments together, hemelytral membrane without scalelike setae, vesica robust with secondary go-

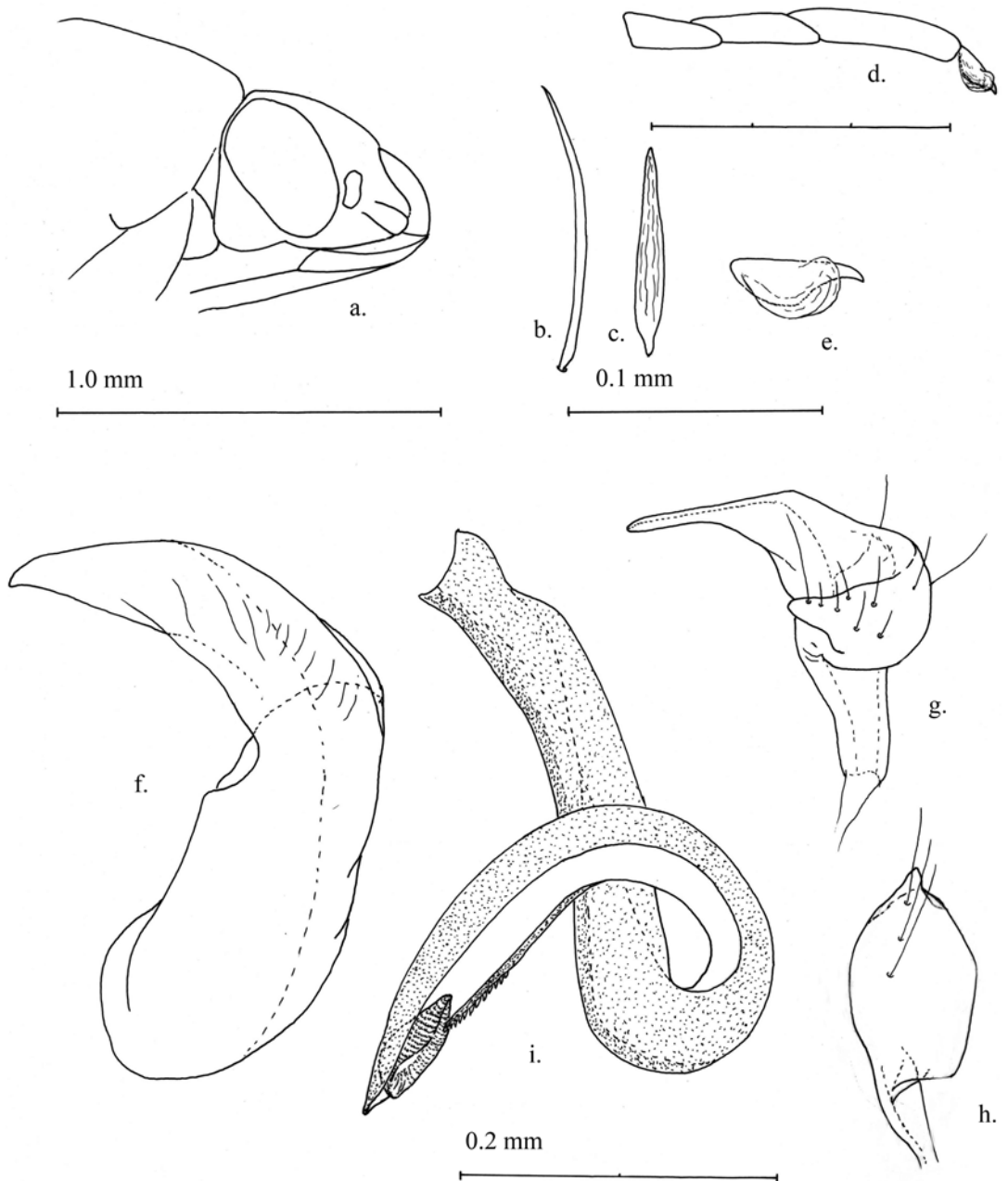


Figure 2. *Atractotomus riegeri* sp. nov.: a. head in lateral view; b. dorsal simple seta; c. dorsal scale-like seta; d. hind tarsus; e. hind claw; f. phalloteca; g. left paramere; h. right paramere; i. vesica.

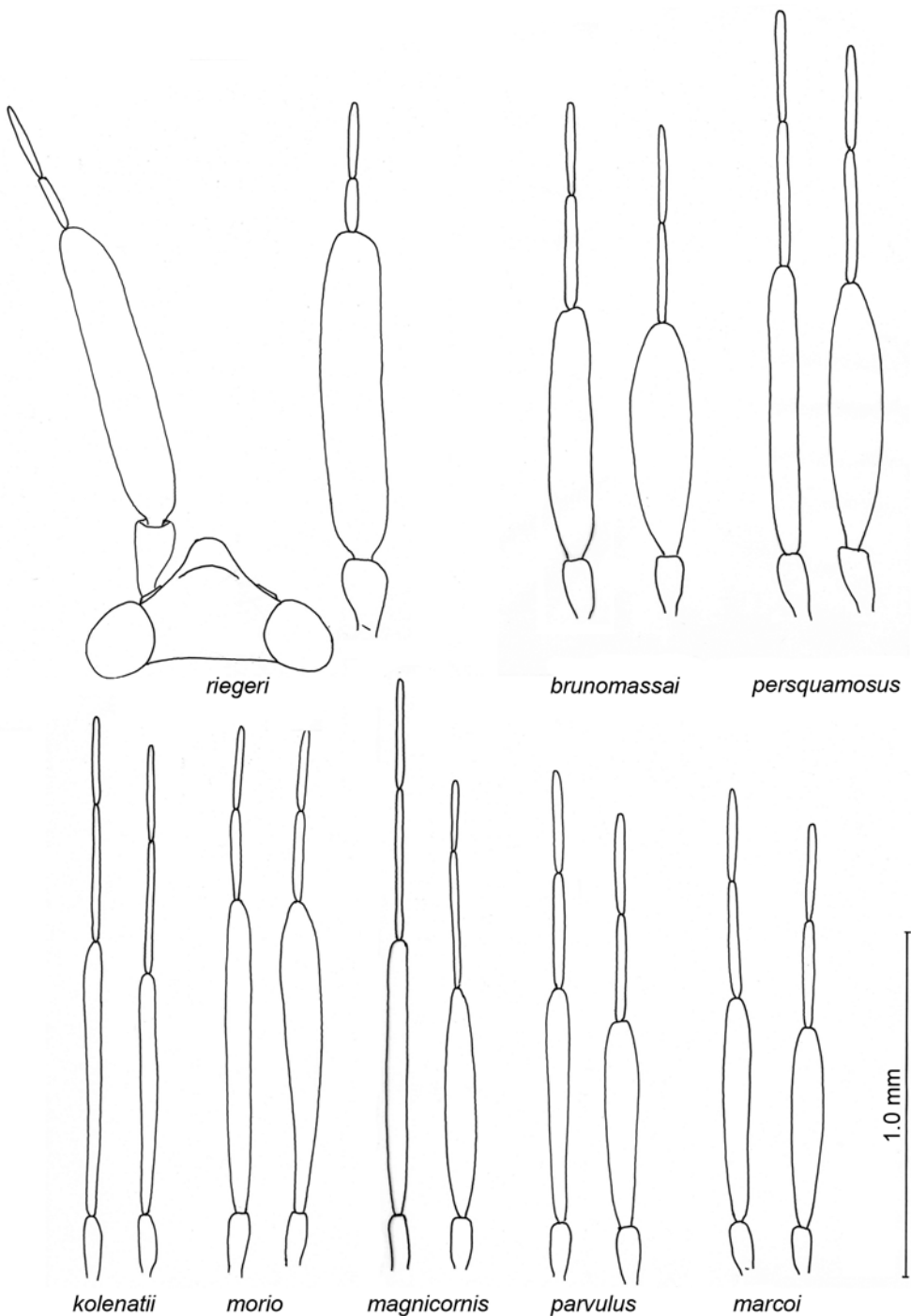


Figure 3. Antennae of Palaearctic species of *Atractotomus* (left male, right female).

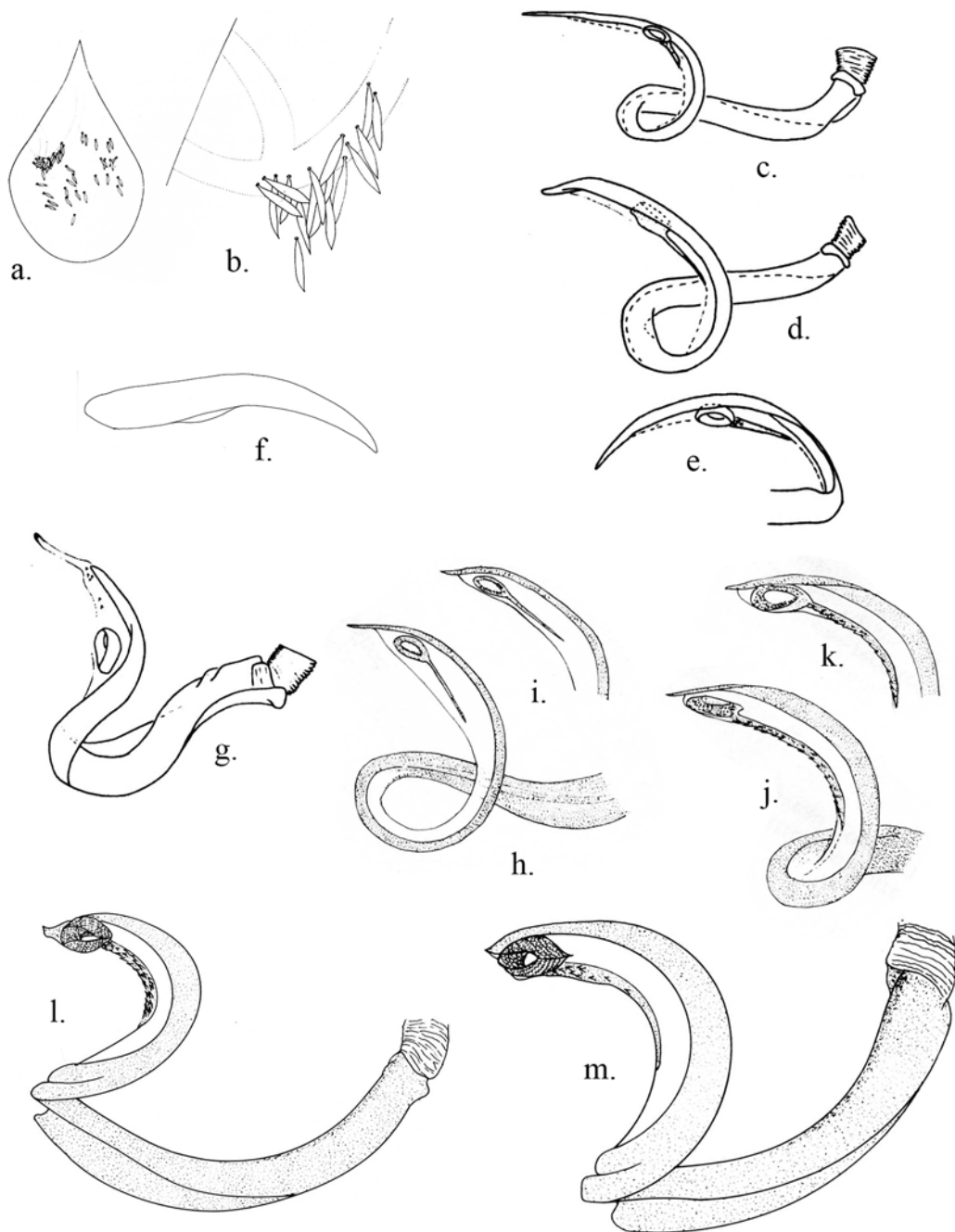


Figure 4. a-b: *A. brunomassai* – a. membrane of female; b. detail of membrane; c. *A. marcoi*, vesica; d. *A. parvulus*, vesica; e. *A. parvulus*, apex of vesica; f. *A. morio*, claw; g. *A. morio*, vesica; h-i: *A. kolenatii*, apex of vesica; j-k: *A. magnicornis*, apex of vesica; l. *A. persquamosus*, vesica; m. *A. brunomassai*, vesica. a-b (from CARAPEZZA 1982); c-g (from STONEDAHL 1990); h-k (from MATOCQ & PÉRICART 1986); l-m (from CARAPEZZA 1994).

Table 1. Average values for some ratios in Palaearctic *Atractotomus*. The width of second antennal segment is measured in its widest point, that of front tibia centrally.

	Length II / III+IV ant (♂♂)	Length II / III+IV ant (♀♀)	Width II ant / front tibia (♂♂)	Width II ant / front tibia (♀♀)
<i>brunomassai</i>	1.29	1.31	2.3	3.4
<i>marcoi</i>	1.11	0.98	1.6	2.0
<i>kolenatii</i>	1.22	1.06	1.0	1.0
<i>magnicornis</i>	1.05	1.10	1.5	2.0
<i>morio</i>	1.80	1.81	2.0	2.6
<i>parvulus</i>	1.20	1.06	1.5	1.7
<i>persquamosus</i>	1.12	1.12	2.0	3.3
<i>riegei</i> sp. n.	2.27	2.52	3.0	3.1

gonopore close to apex and gonopore sclerite with spines restricted to distal half. In particular, size, shape and ratios of the second antennal segment, remarkably inflated in both sexes, allow an immediate separation from all other species, as shown in Table 1 and illustrated in fig. 3.

Key to males of Palaearctic *Atractotomus*

Males of the Palaearctic species of the genus *Atractotomus* can be identified by the following key, updating that by STONEDHAL (1990).

- 1 Hemelytral membrane without scalelike setae 2
- Hemelytral membrane with scalelike setae, often clustered near distal curve of areolar vein (figs 4 a-b) 7
- 2 Length of antennal segment II less than to slightly greater than width of head across eyes – ratio 0.88 : 1 to 1.08 : 1 3
- Length of antennal segment II noticeably greater than width of head across eyes – ratio 1.17 : 1 to 1.58 : 1 4
- 3 Posterior margin of head weakly concave in dorsal view; vesica as in fig. 4 c, with thin secondary gonopore, and short, nonspinose gonopore sclerite, terminal part beyond secondary gonopore almost straight *marcoi*
- Posterior margin of head nearly straight in dorsal view; vesica as in figs 4 d-e, with thicker secondary gonopore and long gonopore sclerite bearing several weak spines distally, terminal part beyond secondary gonopore noticeably curved *arvulus*
- 4 Antennal segment II gradually thickened distally - length 1.22-1.33 mm; pretarsus with

- long, narrow claws and minute pulvilli (fig. 4 f); vesica as in fig. 4 g *morio*
- Length from apex of tylus to cuneal fracture 2.29-2.58 mm; antennal segment II uniformly wide beyond basal constriction, not inflated distally - length 0.88-1.06 mm; pretarsus with short, thickened claws and large pulvilli (as in fig. 2 e) 5
 - 5 Diameter of antennal segment II 1-2 times greater than that of foretibia. 6
 - Diameter of antennal segment II 2.75-3.25 times greater than that of foretibiae *riegei* sp. n.
 - 6 Diameter of antennal segment II only slightly greater than that of foretibiae; vesica as in figs 4 h-i *kolenatii*
 - Diameter of antennal segment II noticeably greater than that of foretibiae; vesica as in figs 4 j-k *magnicornis*
 - 7 Gonopore sclerite of vesica with abundant spines along its whole length, as in fig. 4 l ... *persquamosus*
 - Gonopore sclerite of vesica with few spines only, restricted to proximity of gonopore, as in fig. 4 m *brunomassai*

Etymology. I have the pleasure to dedicate this new species to CHRISTIAN RIEGER on the occasion of his 70th birthday in recognition of his relevant contributions to the study of Heteroptera.

Bionomics. The host plant of the new species is *Abies cilicica* (ANTOINE & KOTSCHY) CARRIÈRE, a coniferous tree which reaches its southernmost limit in the forest of Horshe Ehden in Lebanon.

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