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REVISION OF THE GENUS *AKIMERUS* IN EUROPE AND THE PALAEARCTIC AREA (COLEOPTERA: CERAMBYCIDAE)

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[Vartanis, J. 2023. Revision of the genus *Akimerus* in Europe and the Palaearctic area (Coleoptera: Cerambycidae). Munis Entomology & Zoology, 18 (suppl.): 1854-1860**]**

ABSTRACT: The genus *Akimerus* Audinet – Serville, 1835, entirely consists of three species / subspecies, *Akimerus schaefferi schaefferi* Laicharting, 1784, *Akimerus schaefferi ariannae* Pesarini & Sabbadini, 2007 and *Akimerus berchmansi* Breit, 1915. All these species / subspecies were compared with each other and a complete revision.

KEY WORDS: Coleoptera, Cerambycidae, Lepturinae, Akimerus, Europa, Palaearctic region

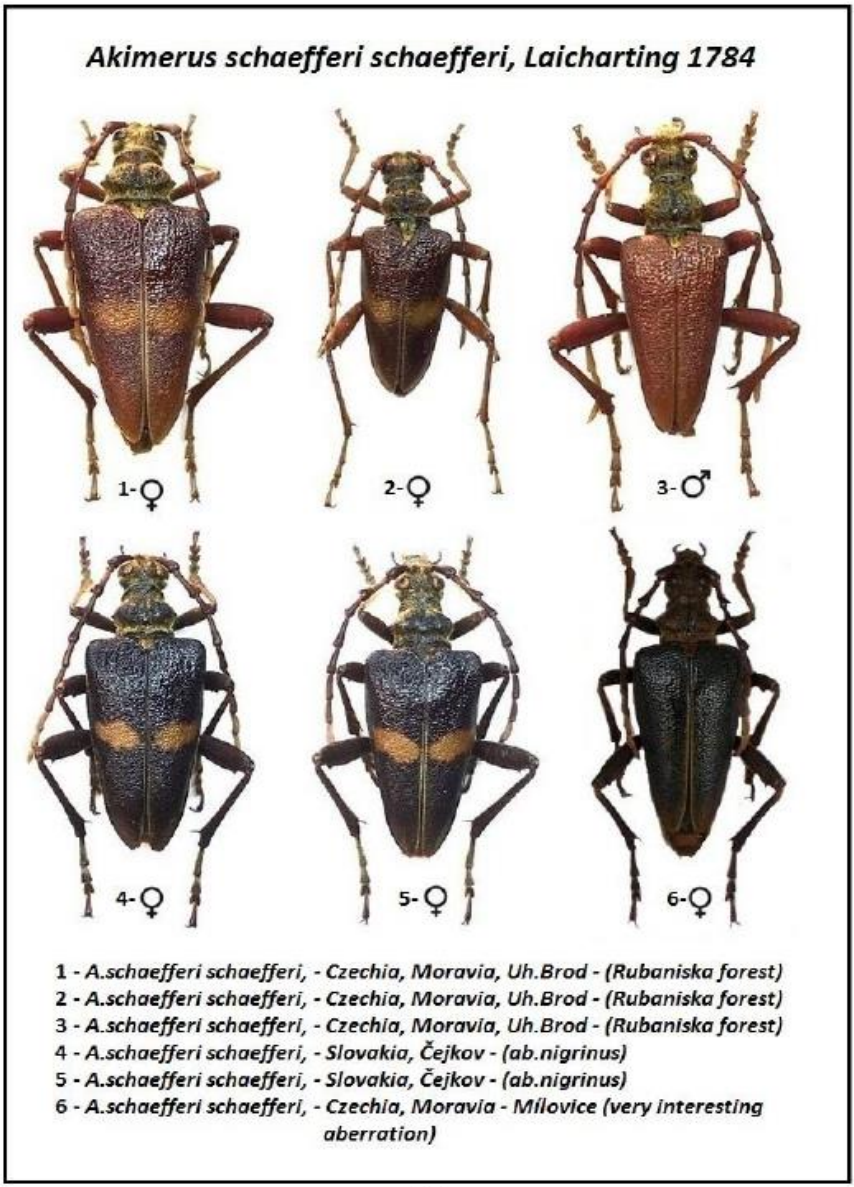
Akimerus schaefferi schaefferi Laicharting, 1784

Description of the subspecies: The subspecies was described in 1784, by Laicharting, as *Leptura schaefferi*. It is a larger taxon, males 15 - 22 mm, females 18 - 27 mm. Body very plump, antennae thick, slightly shorter than the ends of the elytron, third to fifth antennae segment strongly nodular at the end and more or less strongly expanded. Pronotum with two large swollen bumps on surface. Head densely and wrinkled-punctate, pronotum coarsely wrinkled-punctate, with a longitudinal groove in the middle. The elytron is twice as long as wide at the base, very strongly narrowed at the back, strongly wrinkled at the base. Head, pronotum, thorax, labellum, and sterna densely golden-yellow pubescent, elytron sparsely and shortly pubescent, apparently glabrous. Red-yellow to red-brown, head, pronotum and thorax black, elytron solid red-brown in males, or red-brown with a pale yellow transverse band in the middle of the female, or completely black with the same band (ab. *nigrinus* Pic). Sample image *Akimerus schaefferi schaefferi* Laicharting, 1784 - card number (1).

Geographic distribution: *Akimerus schaefferi schaefferi* Laicharting, 1784, is known from Central Europe in the Czech Republic, Moravia, Uherský Brod - Rubaniska forest, where I observed every year a large number of imágs flying around the food plant *Quercus* L., the trees were rather situated towards the south. In the region of South Moravia, there are several destinations with a strong occurrence of the species, but it is nevertheless a rare species that prefers original old forests, where the main tree species is *Quercus* L. In addition to this destination, it is also found in Austria, Bulgaria, Croatia, Slovakia, France, Germany, Romania, Ukraine and Hungary.

Remark on bionomy: The subspecies is widespread in various destinations across Europe. This is a polyphagous species, but it strongly prefers the food plant *Quercus* L., the imago flies around and sits on the leaves of the food plant in warm

weather, I have never seen it on the surrounding plants or on the flowers of various plants. Occurrence in VI. and VII. months.



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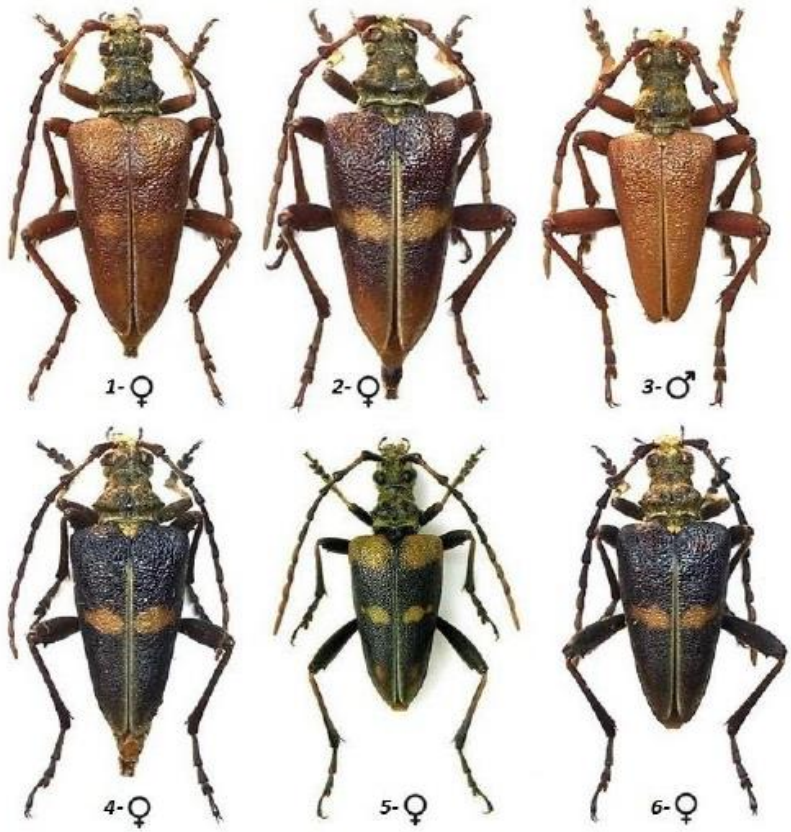
Akimerus schaefferi ariannae Pesarini & Sabbadini, 2007

Original description of the subspecies: Strongly differentiated from the nominal form through the different structure of the apical portion of hind tibiae in males and the more variable elytral pattern in females. In males, the apex of hind tibiae is charakterized by the presence of a strong inner spiny projection, and the uniformly reddish elytra show a well developed sutural stripe of golden adpressed hairs, features which are both lacking or strongly reduced in the nominal form. The female elytral pattern is highly variable, and shows several colour combinations never observed in the nominal form (one of them resembles even the red, black and yellow elytral pattern often observed in *Akimerus berchmansi* Breit, 1915), where it is reddish or black with single yellow medial mark. Differences can be found also in the structure of males genitalia, so that the two subspecies can be distinguished as follows. The subspecies *Akimerus schaefferi ariannae* was described in 2007 by the Italians Pesarini & Sabbadini from Greece in the Thessaly region in the provinces of Vlahava - Nomos Trikala at an altitude of 900m. It is still an endemic species of Greece, where females are very variable compared to the nominal form. Females are colored from red, yellow-red with various spots on the elytron to black color of the elytron, all can be seen in the photos below. Of the three known taxa of the genus *Akimerus* Audinet – Serville, 1835, this subspecies is the largest in terms of females, at least that's how I personally observed it on many dozens of specimens of all species and subspecies. – card number (2).

Geographic distribution: The new subspecies *Akimerus schaefferi ariannae* Pesarini & Sabbadini, 2007, is so far only widespread in Greece in the area of Thessaly and Ipiros, therefore it is an endemic species of Greece.

Remark on bionomy: It is a polyphagous species, like the entire genus *Akimerus* Audinet – Serville, 1835, yet the main food plant is (*Quercus frainneto*), where males and females fly around the food plant in warm weather and especially when there is no wind and sit on the leaves where the females attract males for mating. I have never observed it on plants of various species. The development takes three years and takes place mainly in the root system of *Quercus* nutrient plants. Generally, this species is observed in the VI or VII months, it depends very much on the climatic conditions in the given year and everything is affected by the winter and the amount of precipitation. There are years where the occurrence is very weak, which is an effect that is also observed in the nominal species, genus. It is still a very rare species in all known destinations. There are periods of occurrence where for several years, the occurrence is very weak and only isolated images are observed. And again there are years when the population is very strong and males and females are found in greater numbers.

Akimerus schaefferi ariannae, Pesarini & Sabb. 2007



1 - *A. schaefferi ariannae, - Greece, Thessalia prov.,Kalambaka.*
2 - *A. schaefferi ariannae, - Greece, Thessalia prov., Trikala periferia.*
3 - *A. schaefferi ariannae, - Greece, Thessalia prov., Kalambaka.*
4 - *A. schaefferi ariannae, - Greece, Epirus prov., Arta - Fillipiada dasos.*
5 - *A. schaefferi ariannae, - Greece, Thessalia prov., Kastraki (600m).*
6 - *A. schaefferi ariannae, - Greece, Epirus prov., Pindos NP (450m).*

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Akimerus berchmansi Breit, 1915

Description of the species: *Akimerus berchmansi* was described in 1915 by Josef Breit in Vienna, where he describes in the original description that the species berchmansi differs from the classic species in both sexes by the absence of dense, sometimes rather shaggy, golden-yellow hairs on the head, pronotum, labellum and underside of sterna, elytra more or less shining over the entire surface and more bumpy towards apex. Navis this species is more variable than the nominal form. Josef Breit writes that he had many samples to compare and even a jet black specimen, including other smaller characters that distinguish these two species from each other. *Akimerus berchmansi* Breit, 1915, shows highly variable pieces in both males and females. Males range from brown-red to completely black pieces, interesting evidence not seen in the nominal species. In addition, males also show a certain pattern on the elytron, in some cases, all can be seen in the photo below. see table (3). Females are also very variable from brownish-red to completely black pieces with a yellow band in the middle of the elytron. This species is very different from the other two subspecies with the naked eye and shows very characteristic features. The variability of females can be seen in the photos below, plate number (4).

Geographic distribution: *Akimerus berchmansi*, a rare Cerambycid from oak forests found in Turkey and Syria, was described from the Turkish province of Hatay by Josef Breit in 1915. The main focus of occurrence is in the eastern region of Turkey. Personally, of the many samples I could compare, all were from the Turkish region, I have never seen pieces from Syria.

Remark on bionomy: The biology of the species is unknown, but with a high probability it will be very similar to the sister species *Akimerus schaefferi* Laicharting, 1784. All adult imagos fed on the nutrient plant (*Quercus* sp.).

Note: I revised the entire genus based on pieces in my collection and data from some colleagues.

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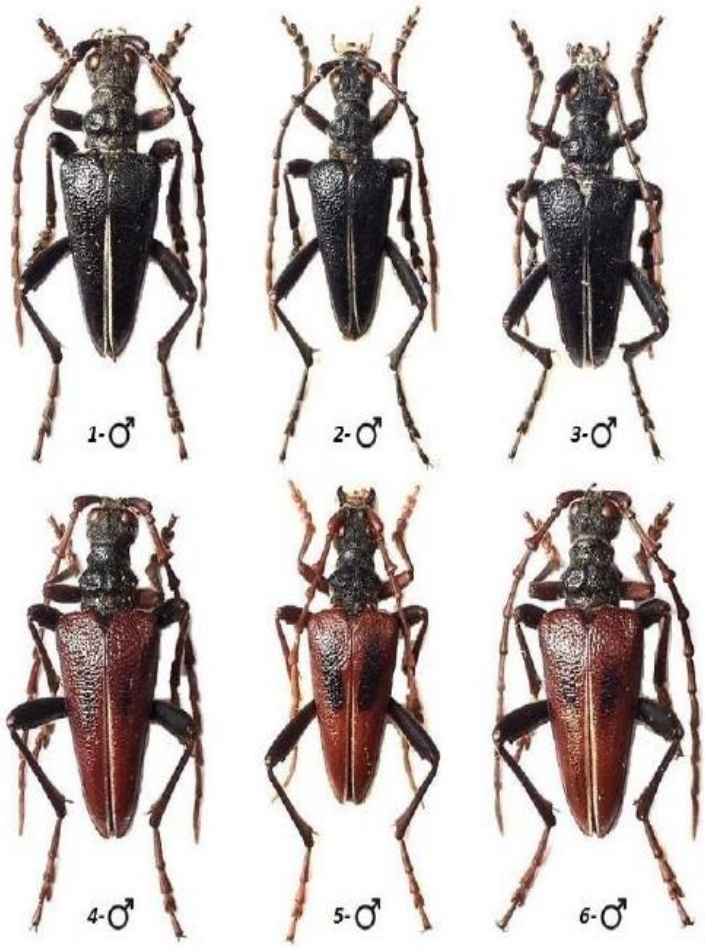
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Akimerus berchmansi Breit 1915

(Males)



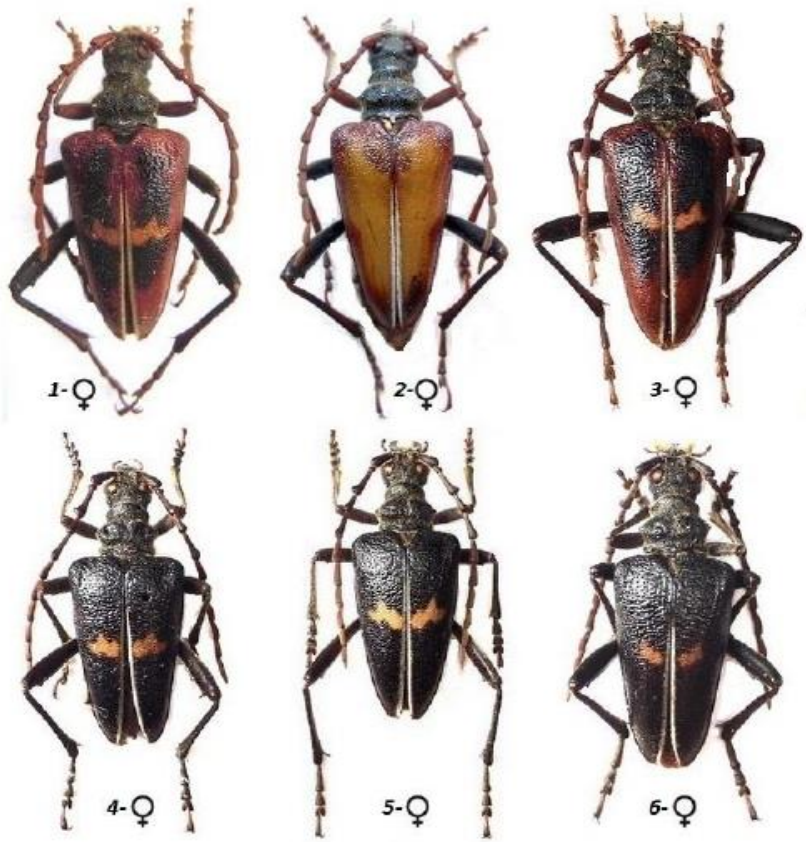
1 - *A. berchmansi*, - Turkey, Mus Bingol - Karabey.
2 - *A. berchmansi*, - Turkey, Bugłan Gecidi, Solhan prov.
3 - *A. berchmansi*, - Turkey, Bugłan Gecidi, Esmetas.
4 - *A. berchmansi*, - Turkey, Mus Bingöl, Karabey.
5 - *A. berchmansi*, - Turkey, Erzurum prov.,Konakli.
6 - *A. berchmansi*, - Turkey, Bingöl , 30 km E Bingöl.

(3)

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Akimerus berchmansi Breit 1915

(Females)



1 - *A. berchmansi, - Turkey, Buglan Gecidi, Esmetas.*
2 - *A. berchmansi, - Turkey, Bingöl, 30 km E Bingöl (photo G.Sama)*
3 - *A. berchmansi, - Turkey, Erzurum prov.,Konakli.*
4 - *A. berchmansi, - Turkey, Buglan Gecidi, Esmetas.*
5 - *A. berchmansi, - Turkey, Murat - Solhan.*
6 - *A. berchmansi, - Turkey, Bingöl Mus, Karabey.*