

On the identity of *Arrenurus affinis* and *Arrenurus compactus* (Acari: Hydrachnellae)

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Abstract: The study of a large collection of *Arrenurus*-species from moorland pools in The Netherlands revealed that females of *A. affinis* and *A. compactus* have not always been illustrated correctly in the literature. *A. compactus* is for the first time recorded from The Netherlands.

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Introduction

In a number of moorland pools in the provinces of Drenthe and Friesland, The Netherlands, we collected two interesting *Arrenurus*-species. The males could easily be identified as *A. compactus* Piersig and *A. affinis* Koenike. The first species is new to the Dutch fauna, the second is very rare (Davids, 1979). However, females of *A. affinis* and *A. compactus* could not be identified with the key of Viets (1936). In almost all moorland pools *A. affinis* males were the most abundant, while *A. compactus* males were rare. Within the genus *Arrenurus*, males are usually outnumbered by females. So, it was very likely that females of both species were present in these pools. We supposed that the most common *Arrenurus*-female belonged to *A. affinis*, and the rare one to *A. compactus*. To verify this assumption, we have compared our females with original descriptions in the literature.

Arrenurus affinis

Koenike (1887) described the male as well as the female of *A. affinis*. The description and the illustrations of the male agree with our specimens. Koenike's illustration of the female of *A. affinis* shows short and broad acetabular plates and distinct postero-lateral corners of the body. The colour of the body is red. The illustration of Viets (1936) shows less distinct

postero-lateral corners of the body. Compared to the original illustration by Koenike, Viets illustrated the acetabular plates more straight and longer; also the distance between the fourth coxae is smaller.

Our most common female, which we assigned to *A. affinis*, is quite different from the descriptions of Koenike (1887, 1909) and Viets (1936). The rounded postero-medial corner of the fourth coxa is most characteristic for our female. The acetabular plates are long, but vary considerably in shape and length (figs. 1 and 2). The postero-lateral corners of the body are absent, and the colour of the body is green or brownish (as in our male). Compared with Koenike's illustration the distance between the fourth coxae is larger, and much larger compared with Viets (*op. cit.*). The female of fig. 1 measures 1232 μ in length and 1080 μ in width.

Other (original) illustrations of the female of *A. affinis* in the literature are very scarce, probably due to the rarity of the species. Piersig's (1897-1900) illustration agrees surprisingly well with our females. The acetabular plates are long, the distance between the fourth coxae is larger, and there are almost no postero-lateral corners of the body. However, the postero-medial corners of the fourth coxae are not as rounded as in our specimens. The illustrations of Soar & Williamson (1929) and Angelier (1953) show short acetabular plates,

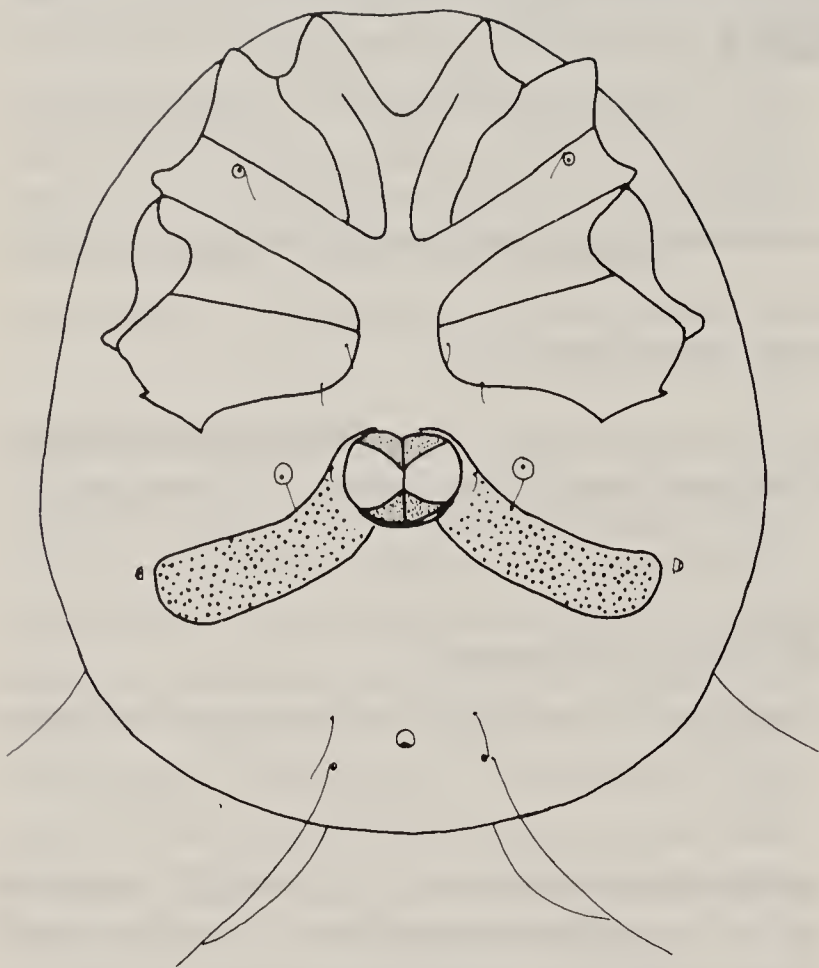


Fig. 1. *Arrenurus affinis*, female, ventral view.

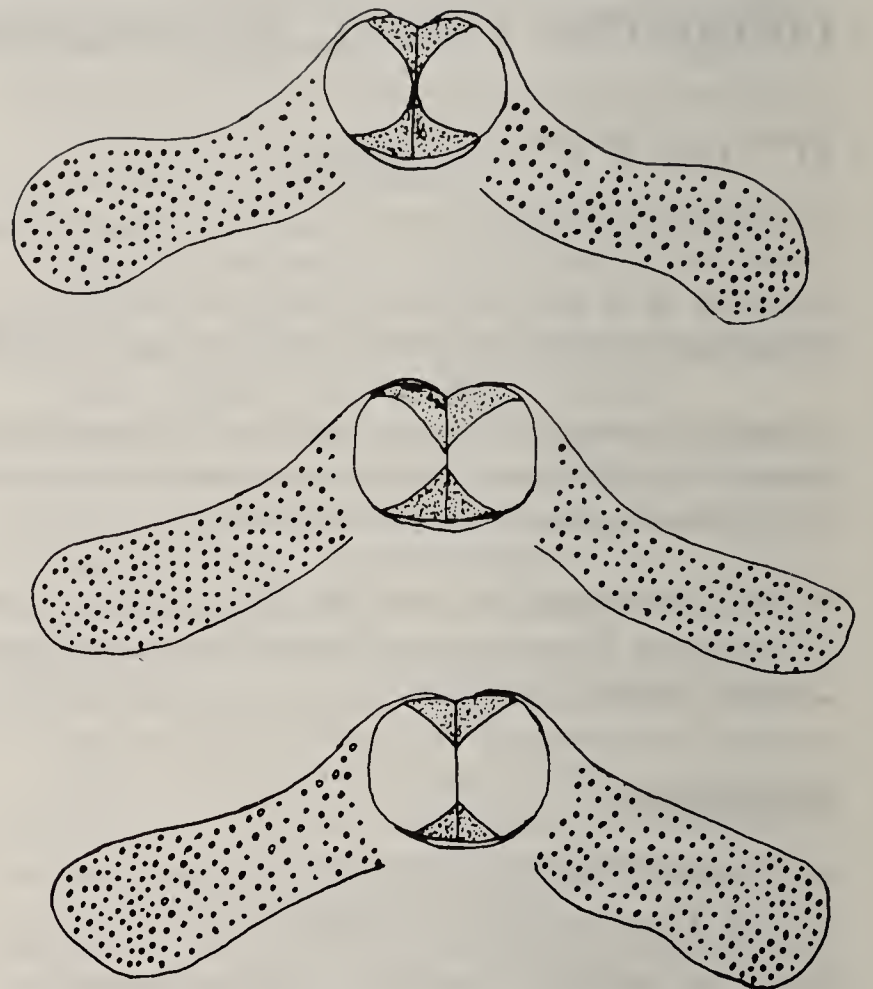


Fig. 2. *Arrenurus affinis*, female, variation in acetabular plates.

as in the original description of Koenike (1887). The illustrations of Soar & Williamson show the rounded postero-medial corners of the fourth coxae. Lundblad (1929) took pictures of females of *A. affinis*, but only his fig. 33 agrees with our *A. affinis*.

Arrenurus compactus

Piersig (1894) described and illustrated only the male of *A. compactus*. Later, he also described and illustrated the female (Piersig, 1897-1900). Both male and female agree with our specimens (figs. 3 and 4).

Viets (1914) illustrated the female with short acetabular plates which are more or less club shaped. Later, the female was illustrated with longer and more contracted acetabular plates, so that the acetabular plates are more clearly club shaped (Viets, 1936).

The females of *A. compactus* in our collection have broad acetabular plates, which are hardly contracted medially and therefore not club shaped. There are almost no postero-lateral corners of the body. The colour of the body

of both male and female is green or brownish. The female of fig. 4 measures 1176 μ in length and 1032 μ in width.

Our specimens agree with the descriptions and illustrations of Bader (1975) and Casagne-Méjean (1966), who both collected males and females.

So far, the species has been recorded from the following moorlands pools (Amersfoort coordinates in brackets): Schurenberg (x: 225.50; y: 538.20), Kliplo (x: 225.90; y: 539.10), Brandeven (x: 214.90; y: 536.80), Davidsplas-sen Noord (x: 221.80; y: 536.00), Zandveen (x: 225.90; y: 538.30), Diepveen (x: 225.90; y: 537.30), Poort II (x: 225.50; y: 538.50), Lange Veen (x: 225.20; y: 537.10), all near Dwingeloo, province of Drenthe, and Witte Meer, south of Beetsterzwaag (x: 202.90; y: 563.52), in the province of Friesland.

Discussion

Probably the original description of Koenike (1887) of the female of *A. affinis* was not correct. Koenike received a male and a female,

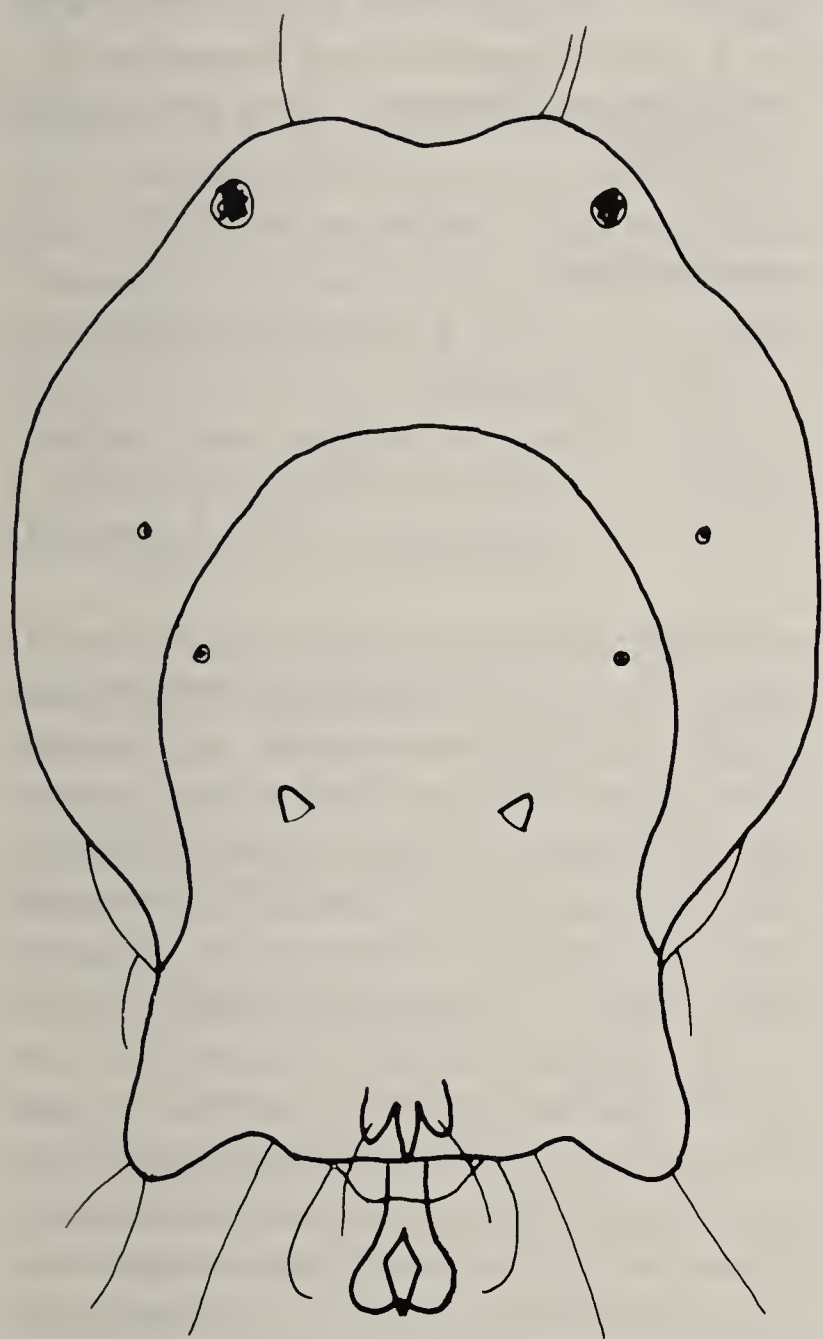


Fig. 3. *Arrenurus compactus*, male, dorsal view.

and assigned them to one species. However, the acetabular plate of Koenike's female of *A. affinis* has more similarity with the acetabular plate of *A. compactus*. Unfortunately, we have not been able to examine the type material of Koenike.

Both species can be found on the same locality, as shows our study. Schwoerbel & Sepasgozarian (1977) also collected both species on one locality, but did not attempt to identify the females.

The original description of the female of *A. compactus* by Piersig (1897-1900) was correct, but later authors, like Viets (1914, 1936), did not illustrate the species in a proper way.

Schwoerbel & Sepasgozarian (1977) stated that both species are close to each other, and might be conspecific. We do not agree with this opinion. From our study it is clear that the two

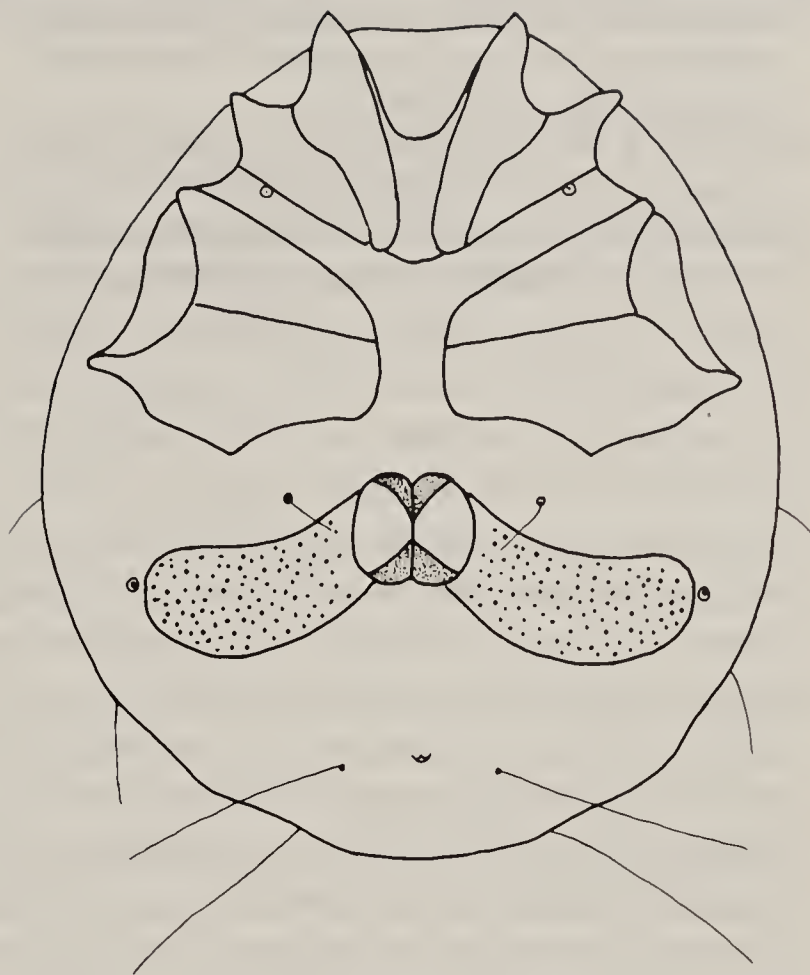


Fig. 4. *Arrenurus compactus*, female, ventral view.

species are not close, and can easily be identified, male as well as female.

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