

New and rare water mites from The Netherlands (Acari: Hydrachnellae)

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Abstract: Five new species of water mites are recorded for The Netherlands: *Sigthoria nilotica*, *Tiphys bullatus*, *Teutonia cometes*, *Tartarothyas romanica* and *Arrenurus nagysalloensis*. Two of these species, *Arrenurus nagysalloensis* and *Tartarothyas romanica*, are very rare. A detailed description is given of the male of *A. nagysalloensis*. It is concluded that the female of the species, as described by Szalay (1934), is a junior synonym of *A. globator*.

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Introduction

This is our second paper on water mite species new to the Dutch fauna, the first being published by Smit & Van der Hammen (1990). Five species new for The Netherlands are reported, two of them are very rare.

For all sampling-localities the Amersfoort coordinates are given. The species are deposited in the collection of the first author.

New species for the Dutch fauna

Sigthoria nilotica (Nordenskiöld)

The record of this species is most surprising. *Sigthoria nilotica* has been reported from Africa (Kenya, Ghana, Liberia, Sudan, Uganda), Asia (Burma, India, Indonesia) and Australia (Harvey, 1990), making this record the first outside the tropics. Almost all records came from lentic habitats.

The species (a female) has been collected in a ditch in the Polder de Gealanden, south of Erneoude, province of Friesland (coordinates x: 195.27; y: 569.41).

Tiphys bullatus (Thor)

This species has been found in many European countries (Viets, 1978). The first Dutch record comes from the Hunze, a regulated lowland

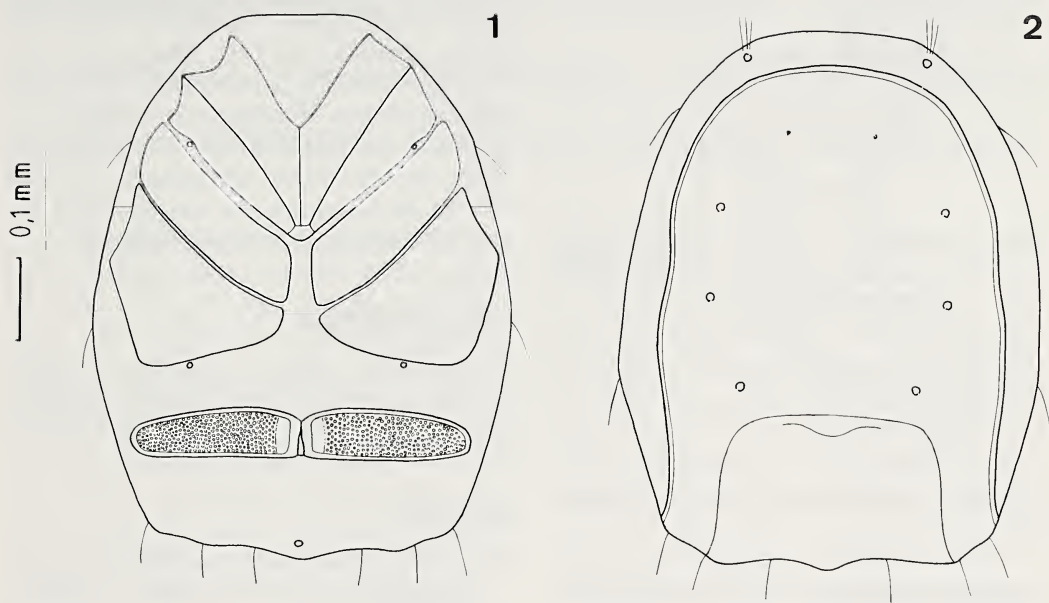
stream, in the province of Drenthe (coordinates x: 251.06; y: 562.05).

Teutonia cometes (Koch)

Like the previous species, *Teutonia cometes* is widespread in Europe, and occurs in the surrounding countries (Viets, 1978), so its occurrence in The Netherlands is not a real surprise. This rheophilic species was collected in three streams, i.e. the Eerbeekse Beek (coordinates x: 199.15; y: 455.25), Verloren Beek (x: 195.85; y: 482.79) and Roode Beek (x: 192.95; y: 477.95), all in the province of Gelderland.

Tartarothyas romanica Husiatschi

Very few locations of this species are known to science. *Tartarothyas romanica* is described from a spring in Rumania (Husiatschi, 1937). Motas & Tanasachi (1962) reported two more springs as locations in Rumania. Lundblad (1962) collected the only Swedish specimen also in a spring. Recently, Schwoerbel (1991) collected a large number of specimens in a spring near the Mindelsee. Our specimen, a female, has been collected in the Kasteelse Loop, a regulated stream near the village of Mierlo, province of North Brabant (coordinates x: 172.85; y: 383.65).



Figs. 1-2. *Arrenurus nagysalloensis*, male. 1, ventral view; 2, dorsal view (scale 0.1 mm).

Arrenurus (Truncaturus) nagysalloensis Szalay

Szalay (1934) described *Arrenurus (Truncaturus) nagysalloensis* from a spring near Nagysallo (Kom. Bars), Hungary. Until now, this was the only locality where the species has been found. The record from Láska (1955) refers to the same place as the type-locality, which is nowadays situated in Czechoslovakia.

In 1988 we found a male *Arrenurus* in a ditch near Naarden, province of North Holland (coordinates x: 144.73; y: 480.30), which we identified as *A. nagysalloensis*.

We have tried to find the holotype of *A. nagysalloensis*, but failed to trace the collection of Szalay. As the original description of the species is rather poorly documented, we give a more detailed one. Szalay described a female from the type-locality, which he assigned to *A. nagysalloensis*. However, in our opinion this is not the female of *A. nagysalloensis*. Females of the subgenus *Truncaturus* have little if any pigmentation on the genital lips (Viets, 1936). The female in Szalay's description has an extensive pigmentation; the posterior pigmentation is larger than the anterior. In our opinion

this female actually belongs to *A. globator* (Müller).

Description of *Arrenurus nagysalloensis*
(figs. 1-3)

Male: Body 669 μm in length, 543 μm in width; dorsal furrow incomplete, ending on sides near posterior end of body; cauda not set off from remainder of body; anterior end of body straight; dorsal shield 446 μm in width with three pairs of glandularia. Dorsal shield with a small indentation near the middle; posteriorly with a large concavity; posterior margin of body with two small indentations; fourth coxae almost without a medial margin; acetabular plates not extending to lateral side of body; excretory pore located near posterior margin of body; dorsal lengths of the palp segments: PI 36 μm , PII 84 μm , PIII 53 μm , PIV 81 μm and PV 34 μm ; PIV narrowing posteriorly with a slightly convex ventral margin; PIV with two thickened setae near dorsal margin; large antagonistic bristle inserted near ventral margin; medial surface of PII with one seta.

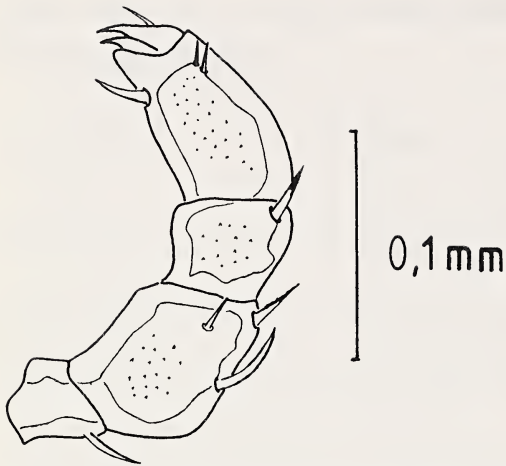


Fig. 3. *Arrenurus nagysalloensis*, male, palp (scale 0.1 mm).

The diagnostic characters of the male of *A. nagysalloensis* are the form of the posterior margin of the body, the lacking of a medial margin of the fourth coxae, and form of PIV. Differences with the original description of Szalay are the chaetotaxy of the legs (our specimen bears more swimming setae), the larger gonopore, the concavity on the dorsal shield and the chaetotaxy of the palp (the second palp segment of Szalay's specimen bears laterally three setae). Of these, the most striking difference is the large concavity in the dorsal shield, which is not mentioned by Szalay. However, this character is easy to observe in lateral view, but difficult in dorsal view. Probably Szalay made a slide of the dorsum, which might explain why he did not see this character. We consider the other differences of minor importance.

Discussion

The distribution of *A. nagysalloensis* and *Tartarothyas romanica* is puzzling us. Of the first species, we only found one male, in spite of an intensive sampling activity in the same and following years. Up to now only two locations are known: one in eastern Europe and one in The Netherlands. It might be the result of limited research activity, but this is not true for The Netherlands. The same phenomenon has

also puzzled other water mite workers. Viets (1957) wrote (about *Krendowskia latissima* Piersig, another very rare water mite): "Bei solch sporadischem Vorkommen erheben sich folgende Fragen: Welches ist der wirkliche Lebensraum des Tieres? Ist das Tier wirklich so selten, wie die Funde aufzuzeigen scheinen? Wie ist die Erhaltung der Art gewährleistet, und wie finden sich die Geschlechter?"

Acknowledgements

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References

- HARVEY, M. S., 1990. A Review of the Water Mite Family Anisitsiellidae in Australia (Acarina). – *Invertebr. Taxon.* 3: 629-646.
- HUSIATINSCHI, A., 1937. *Tartarothyas romanica*, eine neue Hydracarinart aus der Bukowina (Rumänien), nebst Bemerkungen über den Reliktcharakter der Gattung. – *Zool. Anz.* 117: 206-210.
- LÁSKA, F., 1955. Príspevek k poznání slovenských vodulí (Hydrachnellae) a dosavadní znalosti fauny vodulí slovenských vod. – *Biologia, Bratislava* 10: 417-429.
- LUNDBLAD, O., 1962. Die Hydracarin Schwedens. II. – *Ark. Zool.* 14: 1-635.
- MOTAS, C. & J. TANASACHI, 1962. Beschreibung einiger Hydrachnellen aus Rumänien, nebst Verzeichnis der bis jetzt gefundenen Formen von Hydrachnellen, Poroalacariden, Halacariden, Stygothrombiiden und Oribatiden (Acari). – *Annl. hist. nat. Mus. natn. hung.* 54: 433-472.
- SCHWOERBEL, J., 1991. Eine interessante Wassermilbenfauna in Quellen am Mindelsee. – *Veröff. Naturschutz Landschaftspflege Bad.-Württ.* 66: 409-413.
- SMIT, H. & H. VAN DER HAMMEN, 1990. Nieuwe watermijten voor de Nederlandse fauna (Acari: Hydrachnellae). – *Ent. Ber., Amst.* 50: 93-96.
- SZALAY, L., 1934. Eine neue Hydracarina aus der Gattung *Arrenurus* Dugès. – *Zool. Anz.* 107: 64-66.
- VIETS, K., 1936. Wassermilben oder Hydracarina (Hydrachnellae und Halacaridae). – *Tierw. Dil.* 31: 1-288; 32: 289-574.
- VIETS, K., 1957. Neue Wassermilben (Hydrachnellae, Acari) von Borneo, Indonesia. – *Abh. naturw. Ver. Bremen* 35: 8-23.
- VIETS, K. O., 1978. Hydracarina. – In: *Limnofauna Europaea* (J. Illies ed.): 154-181. G. Fischer, Stuttgart.