

# The gall mites *Vasates quadripedes* and *Cecidophyopsis psilaspis* (Acari: Eriophyidae) new to Denmark

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## Abstract

We report the first records from Denmark of the gall mite species *Vasates quadripedes* Shimer, 1869 and *Cecidophyopsis psilaspis* (Nalepa, 1893). *V. quadripedes* is native to North America and forms pouch galls on leaves of some American species of maple. In Europe, it has been found on planted silver maple, *Acer saccharinum* L., only. The species has spread across Europe in recent years. *C. psilaspis* forms bud galls of species of *Taxus* – in Europe only the native *Taxus baccata* L. The species is native to Europe and has been introduced to North America.

## Dansk sammendrag

De første dokumenterede fund af galmiderne *Vasates quadripedes* Shimer, 1869 og *Cecidophyopsis psilaspis* (Nalepa, 1893) beskrives kort. *V. quadripedes* er hjemmehørende i Nordamerika og danner punggaller på blade af visse amerikanske arter af løn. I Europa er den kun fundet på *Acer saccharinum* L. i parker. Artens udbredelse i Europa er ekspanderet kraftigt i de senere år. *C. psilaspis* danner knopgaller på taks (*Taxus*). Arten er hjemmehørende i Europa og indført til Nordamerika, men har altså ikke hidtil været kendt fra Danmark.

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The study of eriophyoid mites in Denmark was initiated by the famous naturalist, professor Japetus Steenstrup, who gave a lecture on tree-inhabiting gall mites at the 7th Scandinavian Scientist Conference in Christiania (Oslo) 14 June 1856 (Steenstrup 1867). He did not describe any species, but mentions in the printed summary, mite galls on most of the major tree genera in the form of pouches, rolls, bulches and erineae. A mite gall herbarium had been collected by himself and the amateur naturalist Caroline Rosenberg during the years 1854-1855 and a monograph been planned. The latter never surfaced, however. Despite the head start, few individuals continued the endeavour, of those who did are most notably Sofie Rostrup (1897), Kai Henriksen (1944) and E.B. Hoffmeyer (1948). Since then, silence has prevailed about the Danish eriophyoid mite fauna. Here we provide records of two species not documented before, one species which is native to Europe and one species which is introduced from North America together with its host plant.

*Vasates quadripedes* Shimer, 1869

Locality and date: Universitetsparken in Copenhagen, 02-07-2012, leg. HHB, det. GS.

Host plant: Planted silver maple, *Acer saccharinum* L. (Sapindaceae). Galls: Rounded pouch galls with a rather narrow neck, surface bulgy and shiny; colour from leaf green over pale yellowish green to reddish (Fig. 1). The opening towards the leaf abaxial side



Fig. 1 Close-up of pouch galls of *Vasates quadripedes* on the upperside of a leaf of silver maple, *Acer saccharinum*.



Fig. 2 Gall appearance of leaf lowerside with pouch aperture covered by unicellular hairs.

covered densely with unicellular hairs (Fig. 2). Galls gregariously in the leaf blade, but mainly along the major veins (Fig. 3). Morphology of the mites was fully in accordance with the description given by Keifer et al. (1982). The galls contained both protogynous females (Fig. 4) and deutogynous females (Fig. 5), which are morphologically and behaviourally distinct, in that deutogynes have amber colouration and move more readily and rapidly when galls are cut open, whereas the protogynes are milky-white in colour and only observed inside galls (Ellis & Ulenberg 2005). Deutogynes are more resistant to adverse conditions than protogynes and they constitute the overwintering stage in the species having this dimorphism and living on deciduous trees (Manson &

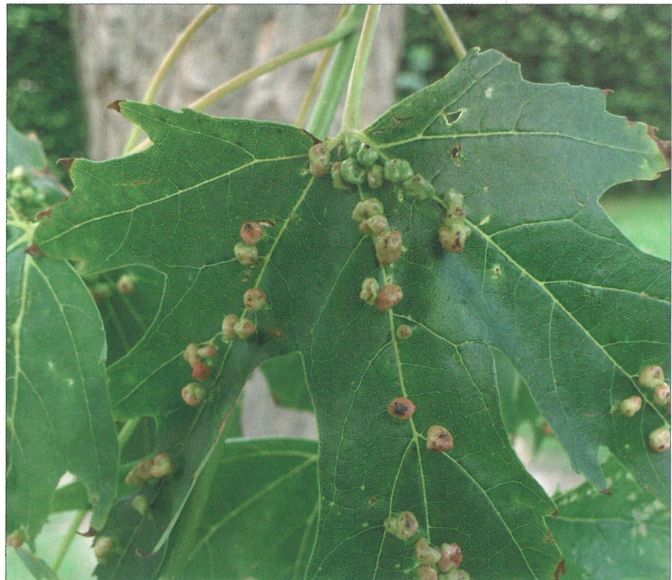


Fig. 3 Galls on a silver maple, *Acer saccharinum*, leaf.

Country	Year of first find	Reference
Latvia	1957	Shevtchenko & Rupais (1964)
Estonia	?	Fauna Europaea
Lithuania	?	Fauna Europaea
Hungary	1976	Ripka (2007)
Serbia	1993	Petanović(1993)
Netherlands	1999	Ellis & Ulenberg (2005)
Poland	1999	Soika & Łabanowski (1999)
Luxemburg	2000	Lambinon, Schneider & Feitz (2012)
UK	2002	Wurzell (2002)
Denmark	2012	this paper

Table 1. European distribution data for *Vasates quadripedes* Shimer, 1869 with year of first record.

Oldfield 1996, Marshall et al. 1998). This species is – like its host plant – native to North America and has been introduced to Europe. It was first found in Latvia in 1957 and has since then been recorded in several countries (Table 1).

*Cecidophyopsis psilaspis* (Nalepa) 1893

Locality and date: Assistens Kirkegård, Copenhagen, 12-06-2012, leg. HHB, det. GS.

Host plant: Planted English yew *Taxus baccata* L. (Taxaceae). Galls: Swellings of buds – known as »big buds« – mainly male strobilus buds (Fig. 6). Deformation of needles was not observed, but has been reported elsewhere (Łabanowski & Soika 2000). Morphology of the mites was fully in accordance with the description given by Łabanowski & Soika (2000). Both gall mite and host plant are native to Europe, but the mite species has not been recorded in Denmark previously. This is most likely due to under-recording as the species has been known from Malmö, 25 km from the here reported sites, at least since 1953 (Wahlgren 1953).

In addition to the mentioned find, galls of the species were found 11-06-2012 in the park-like residential area »De Gamles By«, also in central Copenhagen.

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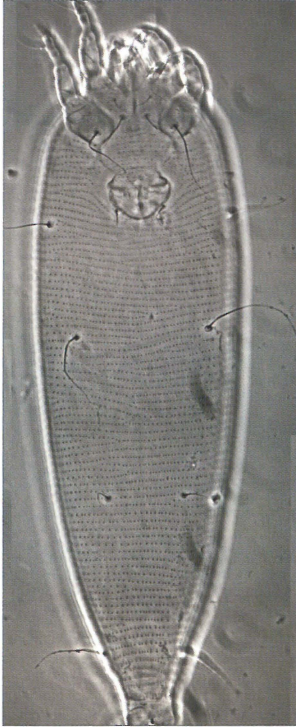


Fig. 4 *Vasates quadripedes* ventral view of protogynous female.

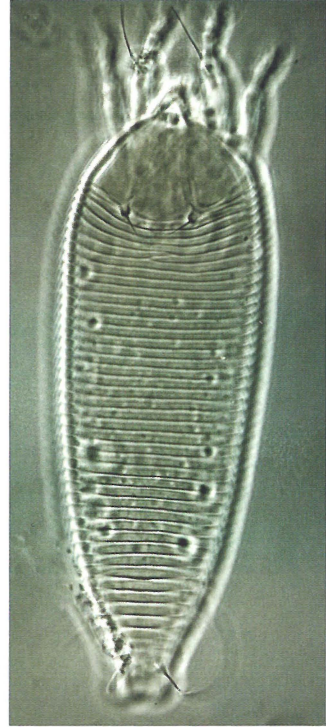


Fig. 5 *Vasates quadripedes* dorsal view of deutogynous female.

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Fig. 6 *Cecidophyopsis psilaspis* galls in buds of *Taxus baccata*. Inset cross section of entire gall.