

***Cochlicopa nitens* (Gallenstein, 1848), a land snail (Mollusca, Gastropoda) new to Finland.**

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The first records of the land snail *Cochlicopa nitens* (Gallenstein, 1848) in Finland are presented. In the years 2011 and 2015 totally 26 specimens were found in Jomala municipality, Åland Island, southwestern archipelago of Finland (WGS84 lat: 60° 10.266' lon: 19° 51.092'). The only known population is living on a small calcareous fen. Data about accompanying molluscs are also given. Among them there are two species listed in the 2010 Red List of Finnish Species: *Vertigo geyeri* (NT) and *Aplexa hypnorum* (DD). The category of *Vertigo lilljeborgi* is in Finland LC, but in the European Red List it is near threatened (NT).

Records

In the year 2011, insects were trapped (Kakko) in Åland with pitfall method. A snail fallen in a trap in a calcareous fen in Jomala municipality proved to be *Cochlicopa nitens* (Gallenstein, 1848), which was not earlier recorded in Finland (Koivunen et al. 2014). In order to get better picture of the occurrence of the species, some members of Finnish expert group of molluscs (Koivunen, Liukko, Ormio) undertook an expedition to the area in July 2015. Molluscs were examined in the Jomala fen mentioned above, as well as in two rich calcareous fens in Eckerö municipality. All of the three fens are preserved in natural condition. Snails were searched from the vegetation and sieved from the wet moss. *Cochlicopa nitens* was found only in the fen of Jomala, Västansunda. In two moss samples of 0.25 m² there were 16 and 7 specimens. Two more individuals were found in the same area by searching

from the vegetation. The location of one sample (45–15) in WGS84 coordinates is lat: 60° 10.266' lon: 19° 51.092'. The location of the other sample (47–15) is 100 m south to it.

Habitat

The fen "Moren" in Jomala, Västansunda lies south to the narrow lake Vargsundet, recently a bay of the Baltic Sea. "Moren" is a narrow, 800 m long and 20–50 m broad fen less than 5 m above the sea level; mainly it is wet, open or semi-open and dominated by *Phragmites australis*. Part of the fen is wet forest dominated by *Alnus glutinosa*. According to Juha Pykälä (Pykälä 1991) the vegetation of "Moren" is very diverse and extremely rich ("extremrikkär"). It is by far one of the most valuable fens in Åland. Records of *Cochlicopa nitens* were made in the treeless part of the fen, sparsely growing low *Alnus glutinosa*

bushes. The snail was not noticed in the forested part of the fen.

The open parts of the fen are rich of vascular plant species. Dominating species around the sample 45–15 are *Phragmites australis*, several *Carex* species and *Epipactis palustris*. Moreover *Dactylorhiza traunsteineri* and *Listera ovata* are abundant. Around the sample 47–15 *Phragmites australis*, *Thelypteris palustris* and *Vaccinium oxycoccus* dominate. Moreover *Epipactis palustris*, *Dactylorhiza incarnata* var. *cruenta* etc. are present.

Table 1. Molluscs accompanying *Cochlicopa nitens* in Västansunda Moren in Jomala. The two 0.25m² samples: 45–15 and 47–15, were taken 17.7.2015. At first they were sifted (8 mm sieve) from the wet moss in field, then drained and finally sifted with 7 different sieves in laboratory. The figures are numbers of individual shells in the sample.

Jomala, Västansunda Moren	Sample 45–15	Sample 47–15
<i>Carychium minimum</i>	25	46
<i>Cochlicopa lubrica</i>	–	3
<i>Cochlicopa nitens</i>	16	7
<i>Cochlicopa</i> sp. (juv.)	–	12
<i>Euconulus praticola</i>	41	39
<i>Fruticicola fruticum</i>	1	–
<i>Nesovitrea hammonis</i>	–	1
<i>Oxyloma elegans</i>	17	–
<i>Punctum pygmaeum</i>	–	31
<i>Succinea putris</i>	–	31
<i>Vallonia pulchella</i>	6	3
<i>Vertigo antivertigo</i>	46	13
<i>Vertigo geyeri</i>	66	23
<i>Vertigo lilljeborgi</i>	–	12
<i>Vertigo substriata</i>	–	1
<i>Vertigo</i> sp. (juv.)	–	29
<i>Zonitoides nitidus</i>	30	22
<i>Aplexa hypnorum</i>*	2	2
<i>Batyomphalus contortus</i> *	15	–
<i>Galba truncatula</i> *	12	1
<i>Valvata cristata</i> *	35	–
<i>Pisidium</i> sp.*	12	1
Individuals total	349	277
Density, individuals/m²	1396	1108

* Aquatic mollusc



Fig. 1. The shell of *Cochlicopa nitens* (left), compared to *C. lubrica* (right), is bigger, more convex and darker brown. The mean dimensions of 5 adult Finnish specimens: height 7.06 (6.9–7.2) mm, breadth 3.24 (3.2–3.4) mm. — Photo Pekka Malinen (published earlier in Koivunen et al. 2014).

Accompanying species

In the locations of *Cochlicopa nitens* totally 20 mollusc species were recorded; 5 of them are aquatic (Table 1). The number of the species is unique for a Finnish peatland habitat. Among the accompanying species *Vertigo geyeri* was classified as Near Threatened (NT) in the 2010 Red List of the Finnish species (Valovirta et al. 2010); it is also included in the Annex II of the Habitats Directive of European Union. *Aplexa hypnorum* was classified as Data Deficient (DD), due to only few records from Finland. *Vertigo lilljeborgi* is also a wetland species, which is typically living in rich fens of northern Finland. It is classified as Least Concern (LC) in Finland, but in the European Red List it is Near Threatened (NT) (Cuttelod et al. 2011).

Distribution and protection status

The distribution of *Cochlicopa nitens* is central and eastern European. It is everywhere a rare inhabitant of calcareous peatlands and wet mead-

ows, sometimes of wet calcareous forests; the locations are scattered. In Sweden it is known from about 40 locations in four different areas; the nearest location to Åland is in Uppland, north to Stockholm. Many locations have been destroyed due to drainage and too heavy grazing. For instance 70% of the populations in Gotland have disappeared during the last 50 years and 30% during the last 10 years (ArtDatabanken 2016).

In Sweden *Cochlicopa nitens* is classified (2010) as Endangered (EN). In Norway the species does not occur. In Germany and Austria it is classified as Critically Endangered (CR), and in Switzerland it is Endangered (EN) (Welter-Schultes 2012). In Estonia it has been classified as Data Deficient (DD) due to few records (Timm 2008). It has been recorded in Hiiumaa (Ormio 2011), Saaremaa (Krausp 1936) and northeastern Estonia (Mänd et al. 1996). In Latvia it is distributed throughout the whole territory, but it is "not frequent" (Rudzīte et al. 2010).

In Finland there are probably rich calcareous fens suitable for *Cochlicopa nitens* nowhere else than in Åland. Most of them have already been drained even there. The only known small location is a nature reserve today, but it hardly can alone safeguard permanent existence of this rare snail in Finnish fauna.

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