

THE LICHEN SPECIES *ENDOCARPON PSORODEUM* (NYL.) BLOMB. & FORSS. IN NORTHERN ESTONIA

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Abstract. The rare for Estonia lichen species *Endocarpon psorodeum* (Nyl.) Blomb. & Forss. was found on limestone rocks and erratic boulders in the Kostivere karst field and limestone outcrops of the Vasalemma quarry, Northern Estonia. In the Kostivere karst field *E. psorodeum* has locally high frequency and dominates in epilithic lichen groupings.

Key words: epilithic lichens, *Endocarpon psorodeum*.

The original description of *Endocarpon psorodeum* (Nyl.) Blomb. & Forss. was published by the Finnish lichenologist E. Vainio (1921). This publication also contains the synonymy and notes on the ecology and distribution of this lichen species. According to Vainio *E. psorodeum* was distributed in Karelia and Finland and found on sun-exposed and temporarily inundated granitic and quartzitic rocks and schists on the banks of the Ladoga and Onega lakes.

According to J. Poelt (1974) and V. Wirth (1987) the main distribution area of *E. psorodeum* is Fennoscandia and the main substrate, slightly calcareous silicate rock faces.

In Estonia *E. psorodeum* was first found by the Canadian lichenologist I. Brodo who in 1975 made a short visit to the Kostivere area (Fig. 1). These specimens were identified by Ms. T. Piin.

Later *E. psorodeum* was found in the Kostivere karst field by Dr. L. Martin and the author in 1986. During the lichen inventory of the limestone outcrops in this area it was found that *E. psorodeum* occurred not only on limestones but also on erratic granitic boulders. This lichen species prefers sun-exposed, temporarily inundated habitats.

The Kostivere karst field is the largest karst area in Estonia. It covers a 2.5 km stretch of the underground stream of the Jõelähtme River (Heinsalu, 1977). The Kostivere limestones are referred to the medial and upper parts of the Lasnamäe horizon (Rõõmusoks, 1983).

In July 1990 I studied the epilithic plant groupings in the Kostivere karst field. For this purpose 100 randomly distributed sample plots were chosen on an area of 300 m². A 20×20 cm sample quadrat with a 2×2 cm grid was used for grouping description. For every sample plot general habitat information including location on the relief, rock size,



Fig. 1. The location of the investigated regions.

Table 1

General frequency of the lichen species found in plant groupings associated with *Endocarpon psorodeum* in the Kostivere karst field

Species	Frequency, % of sample plots	Species	Frequency, % of sample plots
<i>Endocarpon psorodeum</i>	89	<i>Placynthium nigrum</i>	9
<i>Caloplaca lactea</i>	29	<i>Verrucaria murorum</i>	6
<i>Collema fuscovirens</i>	21	<i>Dermatocarpon miniatum</i>	5
<i>Ionaspis rhodopis</i>	16	<i>Aspicilia calcarea</i>	5
<i>Psorotichia schaereri</i>	11	<i>Staurothele ruja</i>	2
<i>Aspicilia contorta</i>	10		

aspect and slope of the particular surface and surrounding vegetation was entered on an observation form. For every sample quadrat the species composition and coverage of each noted species were registered. Coverage was estimated also for the algae and mosses occurring in the sample quadrat.

In the territory studied *E. psorodeum* was found on 89 sample plots. Table 1 shows general frequency (in per cent) of other lichens found in plant groupings associated with *E. psorodeum*. The average coverage of lichens, mosses and algae on sample plots at which *E. psorodeum* was found is presented in Fig. 2. Fig. 3 shows the average coverage of lichen species of the same sample plots. As the Figures show, algae and mosses predominate in these plant groupings, and *E. psorodeum* is the dominant lichen species. The plant grouping of the Kostivere limestone substrate is presented in Fig. 4.

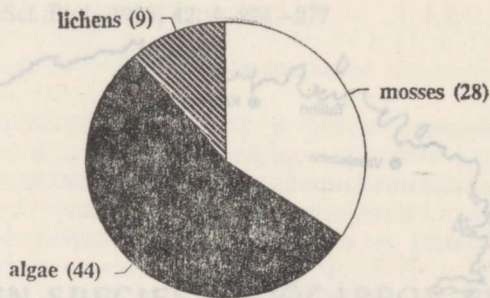


Fig. 2. The average coverage of mosses, algae and lichens in sample plot at Kostivere, %. Variation coefficients have the following values: for mosses — 89%, algae — 61%, lichens — 139%.

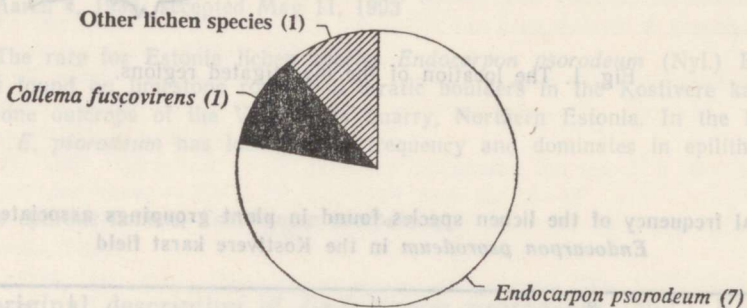


Fig. 3. The average coverage of lichen species in sample plot at Kostivere, %. Variation coefficients have the following values: for *Endocarpon psorodeum* — 171%, *Collema fuscovirens* — 460%, other lichen species — 330%.

Table 2

Plant groupings of sample plots in the quarry of Vasalemma

Species	Coverage, %		
	Sample plots		
	No. 455	No. 463	No. 484
Mosses	12	15	13
Algae	86.5	84	76
<i>Endocarpon psorodeum</i>	0.5	1	+
<i>Placynthium nigrum</i>	—	+	—
<i>Ionaspis rhodopis</i>	—	—	10
<i>Verrucaria nigrescens</i>	—	—	1
<i>Sarcogyne regularis</i>	+	—	+

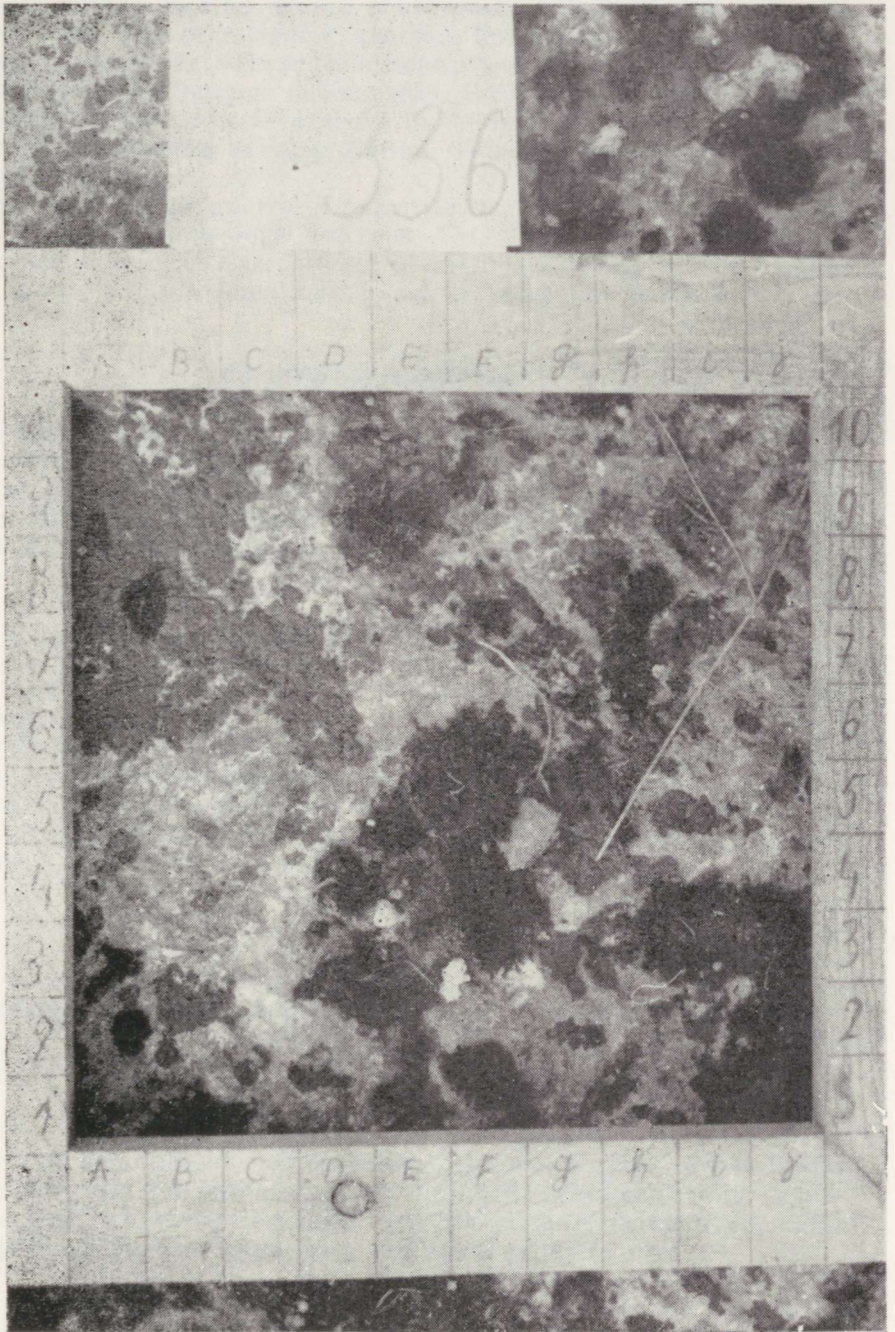


Fig. 4. The plant grouping of the Kostivere limestone substrate. *E. psorodeum* is dominant in this plant grouping.

The plant groupings on limestones in the quarries of Vasalemma (Fig. 1), a village located 40 km south-west of Tallinn, were studied in August 1990. The investigated quarries formed as a result of the excavation of limestone. These limestones pertain to the Vasalemma packet of the Oandu horizon (Rõõmusoks, 1983). 100 sample plots were chosen by the method described above in the quarry located 2 km north-west of the Vasalemma railway station. This quarry has not been exploited since 1955.

In the investigated quarry *E. psorodeum* was also found on sun-exposed, inundated limestone outcrops. This lichen species was found on 3 sample plots. The descriptions of plant groupings of the sample plots on which *E. psorodeum* was found are given in Table 2.

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PÕHJA-EESTIS

Marina TEMINA

Haruldast samblikuliiki *Endocarpon psorodeum* leiti Põhja-Eestis Kostivere karstiala lubjakividelt ja erraatilistelt rahnudelt ning Vasalemma karjääri lubjakivipaljanditelt. See liik domineerib Kostivere karstiala lubjakivipaljanditel kasvavates samblikukooslustes.

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В СЕВЕРНОЙ ЭСТОНИИ

Марина ТЕМИНА

Редкий лишайниковый вид — *Endocarpon psorodeum* был найден в Северной Эстонии на известняках и эрратических валунах Костиверского карстового поля, а также на известняковых обнажениях Вазалеммаского карьера. Этот вид доминирует в лишайниковых группировках на известняках Костиверского карстового поля.