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NEW DATA ABOUT *PYRENOPSIS PLEIOBOLA* NYL. AND *PYRENOPSIS SUBAREOLATA* NYL. IN FENNOSCANDIA FROM THE Khibiny MOUNTAIN RANGE

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The lichen species *Pyrenopsis pleiobola* and *P. subareolata* are reported as new to the Murmansk Region of Russia; both species were recorded in the Khibiny mountains – these are the world’s northernmost findings. Our record of *P. pleiobola* is the 5th record of this species worldwide.

Keywords: lichens; new records; rare species; Murmansk Region; *Pyrenopsis*

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А. В. Мелехин. НОВЫЕ ДЛЯ ФЕННОСКАНДИИ ДАННЫЕ О НАХОДКАХ *PYRENOPSIS PLEIOBOLA* NYL. И *PYRENOPSIS SUBAREOLATA* NYL. ИЗ ХИБИН

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Приводятся сведения о находках редких в Фенноскандии видов лишайников *Pyrenopsis pleiobola* (новый для Мурманской области) и *P. subareolata* (новый для России). Оба вида собраны в Хибинском массиве, таким образом, это самые северные находки в мире. Данная находка *P. pleiobola* – пятая в мире.

Ключевые слова: лишайники; новые находки; редкие виды; Мурманская область; *Pyrenopsis*

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Introduction

Pyrenopsis pleiobola Nyl. was first described in 1873 from Lake Onego shores [Jørgensen, 2007]. Since then, it was found in Sweden and Finland also in the 19th century and long remained known from 3 locations only. The only known modern record of this species is the 2015 finding from Sweden (leg. Hermansson J.) [Liljeblad, 2024].

Pyrenopsis subareolata Nyl. is a more common species: it is widespread in North America [Schultz, 2009], British Isles, Fennoscandia, Greenland and many European countries [Smith et al., 2009], and is also known for southern regions such as the Canary Islands [Schultz, Boom, 2007] and Vietnam [Vo et al., 2020].

The two species have similar ecology – they grow on wet surfaces of different rock substrates but never north of the Arctic Circle.

We found *P. pleiobola* and *P. subareolata* during a field survey of the lichen flora of the Khibiny mountains in summer 2023.

Specimens were deposited to the KPABG herbarium. The nomenclature follows Nordin et al. [2022].

The species

Pyrenopsis pleiobola Nyl. (Fig. 1). Khibiny mountains. Western slope of Mount Rasvumchorr; 67.62732N, 33.78374E, elev. 567 m; small wet cliff bordering birch forest. 27.07.2023 (KPABG(lichens)-20962).

This is the 5th known location of this species globally and the northernmost record in Fennoscandia. New to the Murmansk Region.

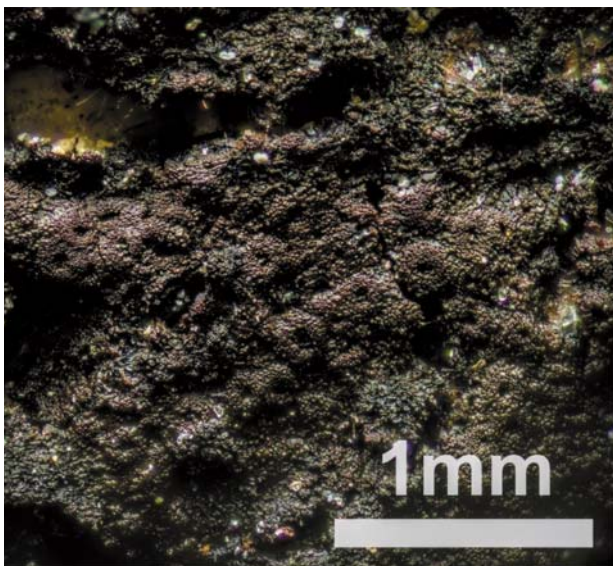


Fig. 1. *Pyrenopsis pleiobola* from the Khibiny mountains

Pyrenopsis subareolata Nyl. (Fig. 2). Khibiny mountains. Southern slope of Mount Rasvumchorr; 67.62479N, 33.78477E, elev. 617m; wet cliff bordering birch forest. 27.07.2023 (KPABG(lichens)-20986).

This is the northernmost and easternmost record in Fennoscandia. New to the Murmansk Region and to Russia in general.

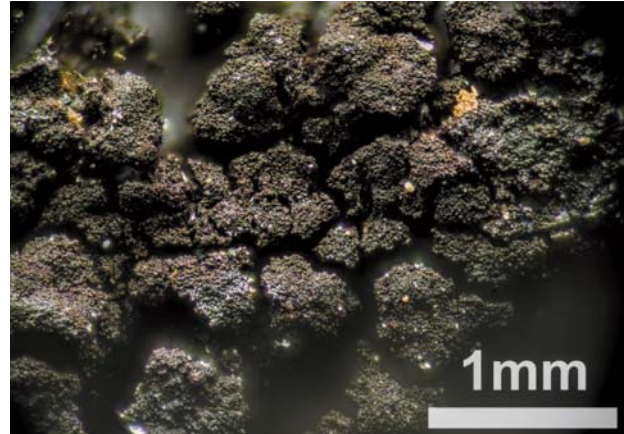


Fig. 2. *Pyrenopsis subareolata* from the Khibiny mountains

Discussion

The species were encountered much farther north than previous southern records: more than 100 km for *Pyrenopsis subareolata* and more than 500 km for *P. pleiobola*, but this can be explained both by microhabitat conditions (very warm, exposed surfaces (in summer)), and the site condition (both records were made 280 meters apart in sites protected from strong winds by relief and thick snow cover (in winter)). Also, water habitats are known for their dampening effect.

Pyrenopsis pleiobola differs from the similar *P. grumulifera* (also polysporous) in having no paraphyses, having smaller and subglobose $3-5 \times 2-3 \mu\text{m}$ spores, 16–32 per ascus (instead of ellipsoid $5-8 \times 2-4 \mu\text{m}$, up to 64 per ascus) and brown, shining and thinner thallus. Polysporous *Cryptothele* species have bigger ($7-9 \times 4-5 \mu\text{m}$) ellipsoid spores, black thallus and strongly closed perithecioid apothecia.

Pyrenopsis subareolata differs from the similar *Cryptothele rhodosticta* (Taylor) Henssen and the rest of 8-spored *Pyrenopsis* species with perithecioid apothecia in having its hymenium show a green reaction in J.

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