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MAPPING OF *PELTIGERA* SPECIES IN ROMANIA

Kartierung der *Peltigera*-Arten in Rumänien

by
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Key words: lichens, *Peltigera*, key of identification, distribution, Romania.
Schlagwörter: Flechten, *Peltigera*, Bestimmungsschlüssel, Verbreitung, Rumänien.

Summary: Seventeen species of *Peltigera* are recorded in Romania. A key to the species is provided, distribution maps in UTM grid system (50 x 50 km) for all of them are presented.

Zusammenfassung: In Rumänien wurden siebzehn *Peltigera*-Arten nachgewiesen. Ein Bestimmungsschlüssel der Arten und ihre Verbreitungskarten im UTM Raster-System (50 x 50 km) werden angegeben.

In Romania, the latest lichenological guide book and catalogue of lichen distribution appeared respectively in 1971 (5) and in 1967 (4). So, during the 1980´s and 1990´s, the absence of a new lichenological guide book on modern criteria, as well as the lack of distribution maps for lichen flora became obvious.

Little progress has been done in this field. At present, there is one single full time lichenologist in Romania; there is a stronger interest in the use of lichens as pollution bioindicators than in taxonomic work, and the Romanian territory is incompletely or poorly investigated.

There are no particular mapping projects in Romania. Distribution data concerning lichens have not been previously stored under standardized conditions, and are derived from taxonomic work or from floristic and phytosociological studies. No computer programs have been available for the preparation of distribution maps. A special problem of the Romanian lichenology is the discontinuity of floristic research. As a consequence, the gaps in the maps may indicate the lack of records, and not necessarily the absence of species.

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However, there are some papers which deal with the nomenclature, synonymy, description, chemistry, and ecology of some lichen groups in Romania: *Diploschistes genera* (1), *Stictaceae family* (2) and *Pannariaceae* family (3). At the same time, two species were prepared for the European mapping project: *Synalissa symphorea* and *Gyalecta jenensis*.

The present paper continues these studies, dealing with the geographical distribution of *Peltigera* species; the UTM grid system (50 x 50 km) has been employed.

Romania has a higher number of *Peltigera* species (17 taxa) as compared to 29 species recently recognised for Europe by VITIKAINEN (6). These species vegetate on and among bryophytes, mossy rock outcrops, moss-clad tree bases of the beech - and coniferous forests, rarely on bare soils; often in sheltered humid places.

In Romania the *Peltigera* species are widespread between 800 -2000 m altitude, exceptionally at 350 - 400 m, too. Some of them there are a distinctive old woodland indicator species.

Our study is based on herbarium material, data of the literature and own field investigations. The herbarium material was found in different museums of Romania (CLUJ, SIBIU, BUCUREŞTI, IAŞI) and we also studied the KÖFARAGÓ-GYELNIK's collection of the Natural History Museum of Budapest, Hungary. The key for the Romanian species is based on the VITIKAINEN's one (6).

Key to the Romanian species of *Peltigera*

1. Upper surface tomentose above 2
 - Upper surface not tomentose 7
2. Isidia, soredia, phyllidia present 3
 - Isidia, soredia, phyllidia absent 5
3. Soralia laminal and orbicular ..... ***P. didactyla***
 - Soralia absent, isidiate-phyllidiate 4
4. Isidia laminal, peltate, lobes < 1 cm wide, apothecia rare .... ***P. lepidophora***
 - Isidia (phyllidia) squamulose or coralloid ± vertical, lobes > 1 cm wide, often fertile ..... ***P. praetextata***
5. Thallus bright green when moist, photobiont green, Coccomyxa 6
 - Thallus blue-grey to brown-green when moist, photobiont blue -green, Nostoc 10
6. Lower surface veined 7
 - Lower surface not veined 9
7. Rhizines confluent, veins soon darkened towards thallus centre or smooth 8
 - Rhizines separate, veine erect-tomentose also in thallus centre ..... ***P. membranacea***

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8. Lobes > 1 cm broad and downturned lobe ends, veins and rhizines near margins whitish, rhizine stout, bush like ..... ***P. canina***
- Lobes < 1 cm broad, margins upturned, veins narrow, rhizines soon darkened, squarrosely branched ..... ***P. rufescens***

9. Dense erect tomentum present at margins, bluish or brownish green when wet ..... ***P. malacea***
- Sparse erect tomentum, thallus blue-grey when wet ..... ***P. aphthosa***

10. Lower surface not or diffusely veined, rhizines diffuse, short, under site of apothecia with continuous green cortex 11
- Lower surface with a distinct network of pale or darkened veins, rhizines separate, fasciculate, under site of apothecia with discontinous cortex ..... ***P. leucophlebia***

11. With marginal linear soralia ..... ***P. collina***
- Thallus without soralia 12

12. Lower surface with dark fan-shaped veins and globular cephalodia attached to them, only one rhizine, photobiont green ..... ***P. venosa***
- Lower surface with numerous rhizines and reticulate veining pattern or veins lacking, photobiont blue-green 13

13. Veins white and raised, at least near thallus margin, rhizines pale, simple, lack of lichen substances ..... ***P. degenii***
- Veins flattened or lacking, rhizines fasciculate, darkened, lichen substances present 14

14. Lower surface lacking veins, with small whitish spots, marginal and laminal schizidia prezent, apothecia rare, with flat discs .... ***P. elisabethae***
- Lower surface with various veining patterns, upper part of medulla not scaling off as schizidia 15

15. Veins mostly under 1.5 mm broad, flottened 16
- Veins usually > 2.0 mm broad, elevated 17

16. Rhizines separate, fasciculate, soon blacking, arranged in concentric lines, apothecia with flat discs ..... ***P. horizontalis***
- Rhizines confluent or diffuse when young, not arranged in concentric lines, apothecia with brown saddle-shaped discs ..... ***P. polydactylon***

17. Thallus small - medium sized, 10-(20) cm, bluish to brownish grey, veins reticulated, rhizines diffuse, 3-6 mm long ..... ***P. neckeri***
- Thallus large, 20-(40) cm, grey, greyish blue, veins flattened, rhizines fasciculate, separate, 7-11 mm long ..... ***P. neopolydactyla.***

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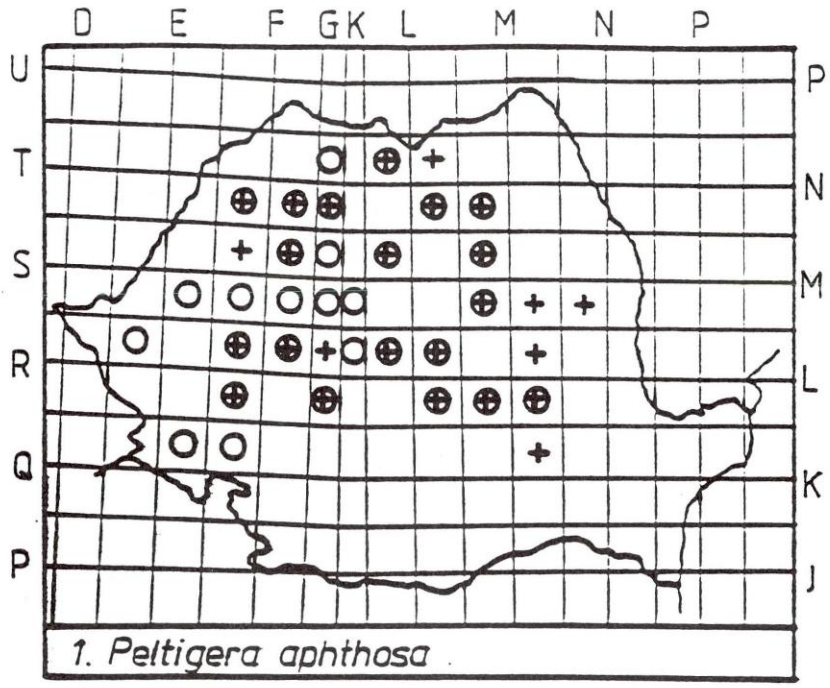
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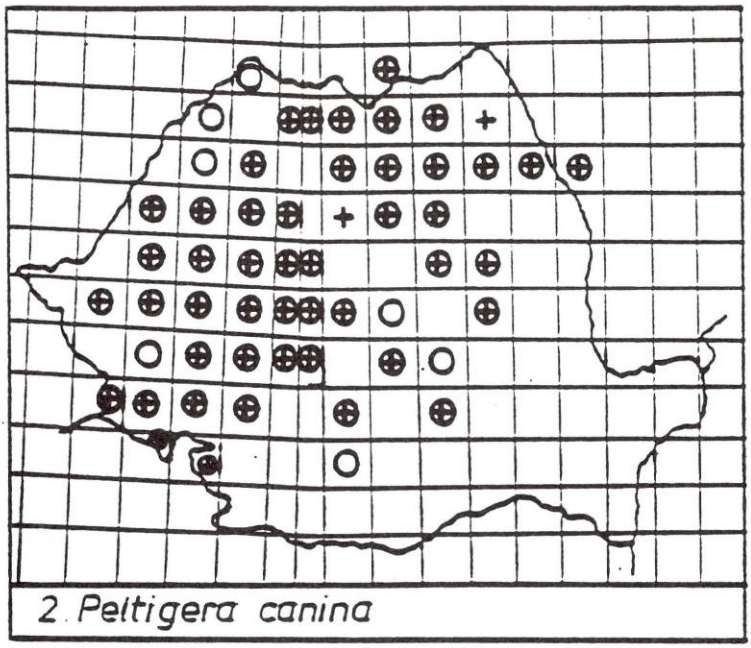
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Fig. 1-17: Distribution of *Peltigera* species in Romania.
O ... before 1959 + ... after 1959

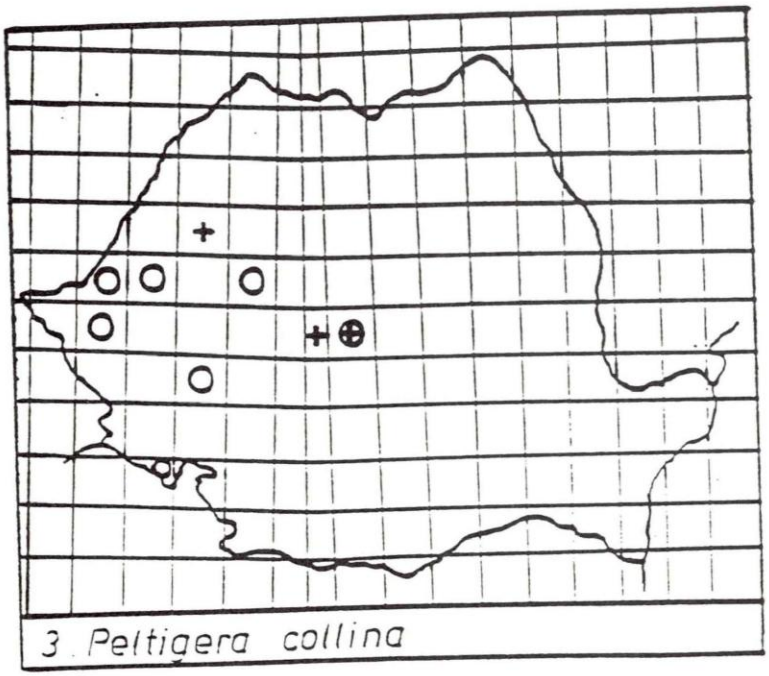


1. *Peltigera aphthosa*

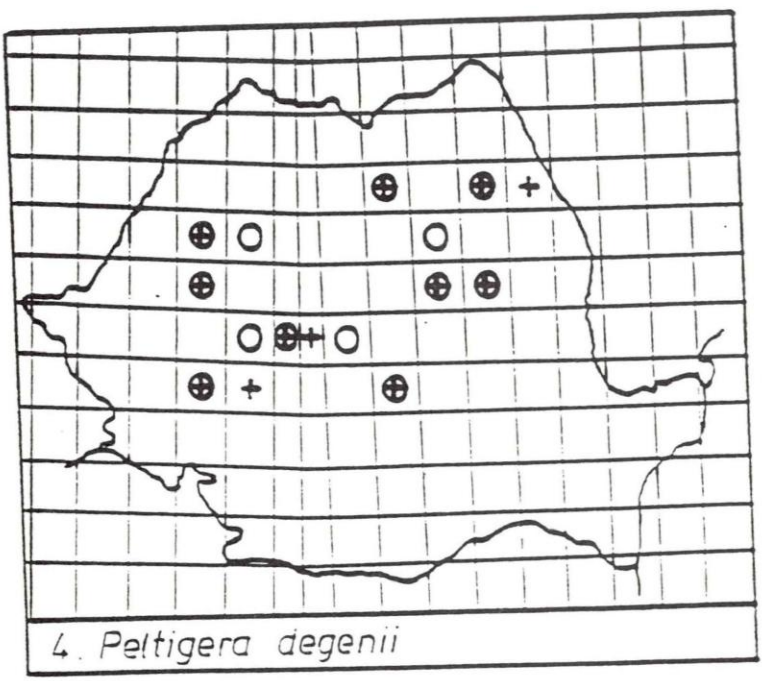


2. *Peltigera canina*

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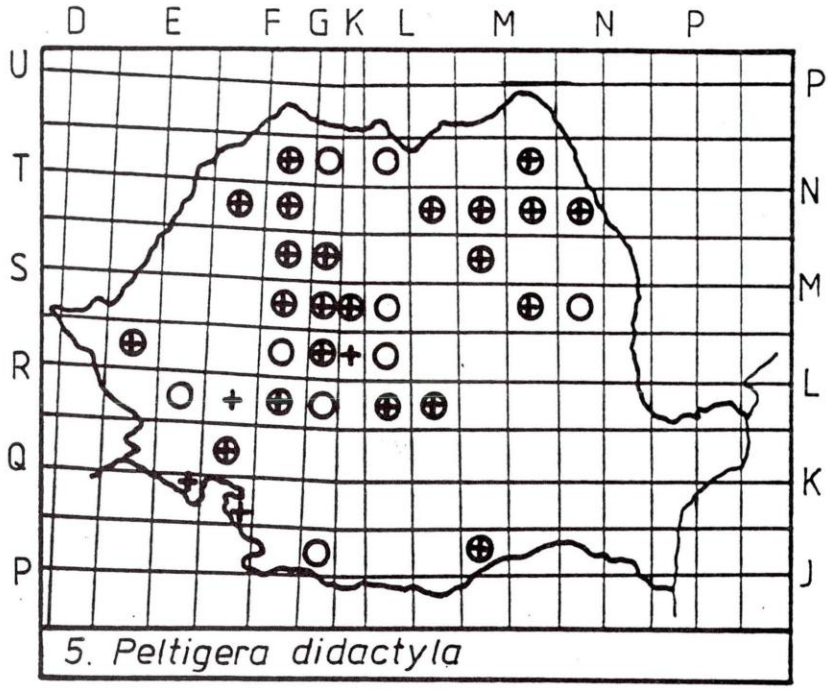


3. Peltigera collina

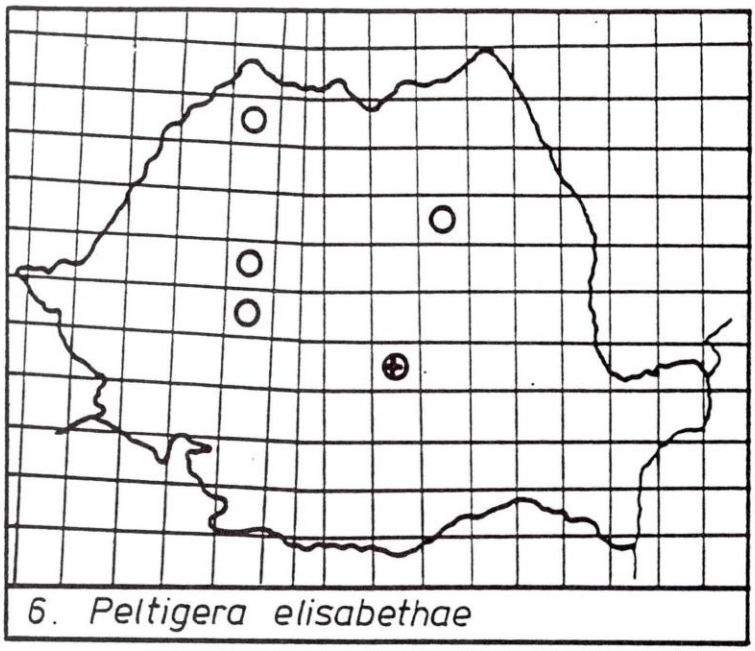


4. Peltigera degenii

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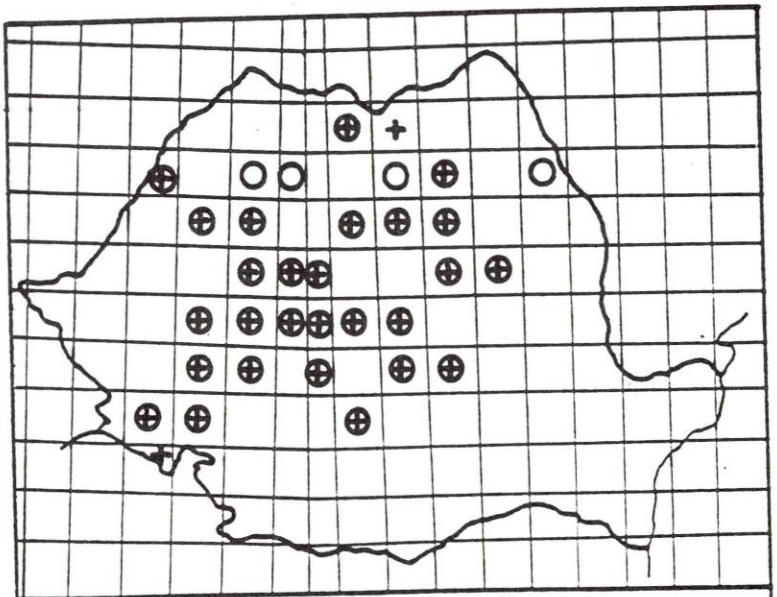


5. *Peltigera didactyla*

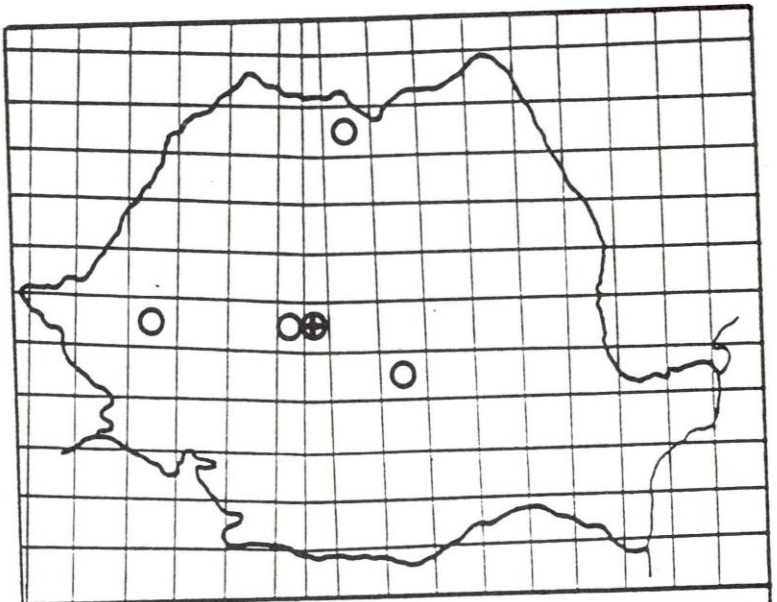


6. *Peltigera elisabethae*

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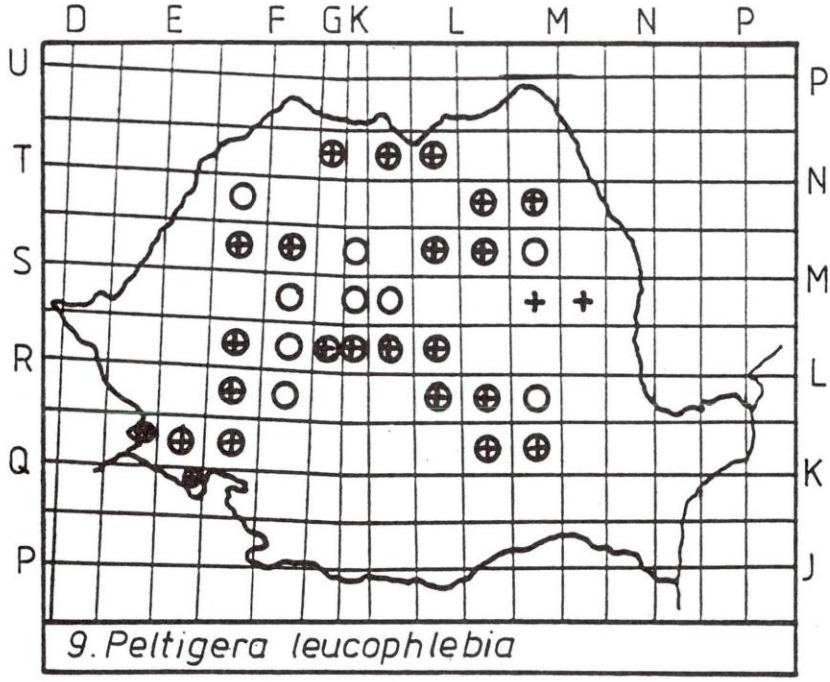


7. Peltigera horizontalis

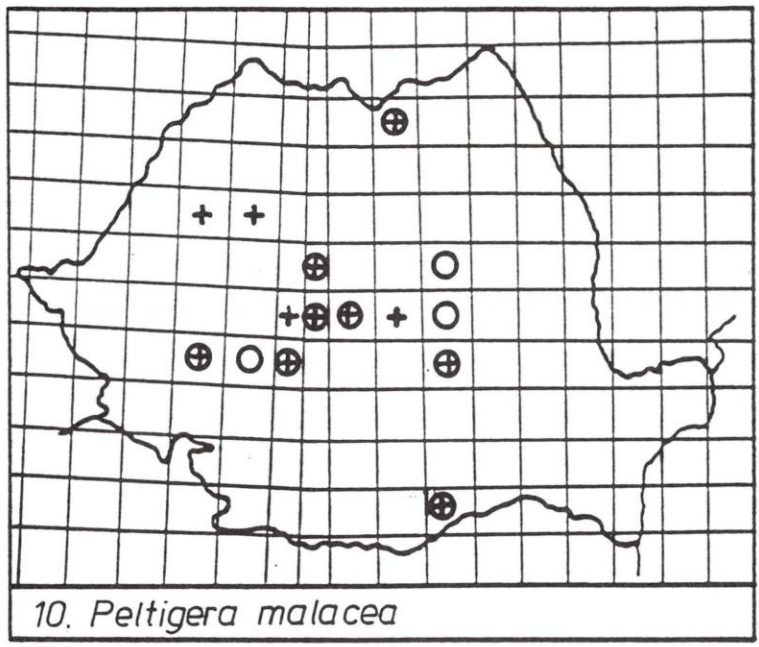


8. Peltigera lepidophora

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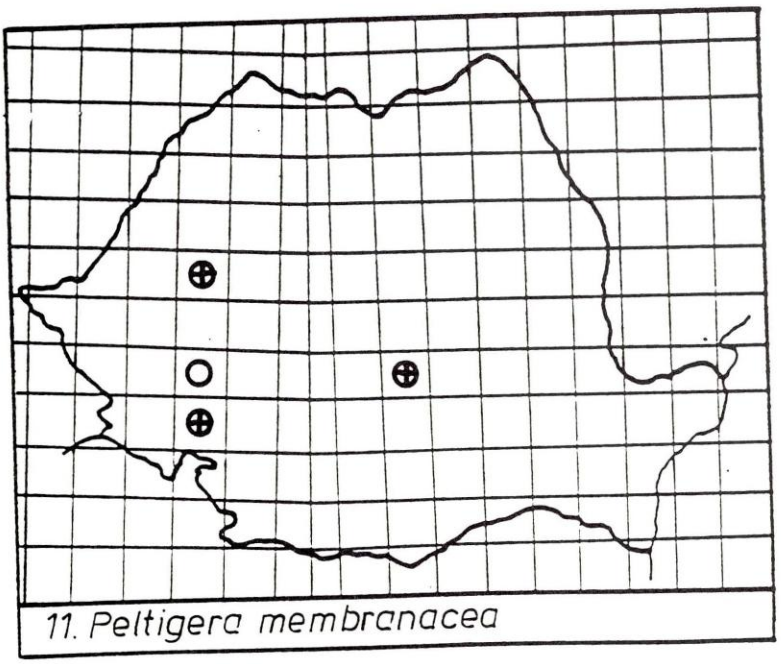


9. Peltigera leucophlebia

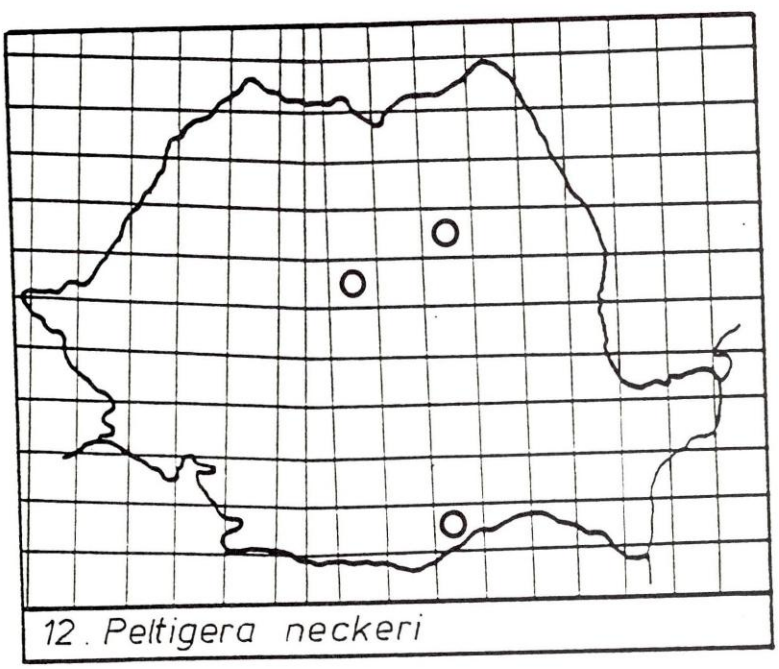


10. Peltigera malacea

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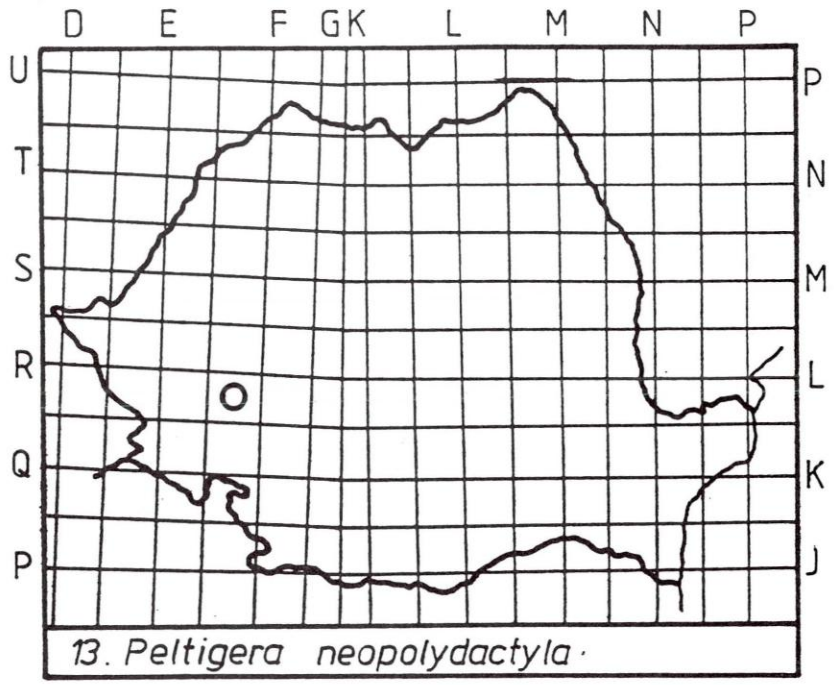


11. Peltigera membranacea

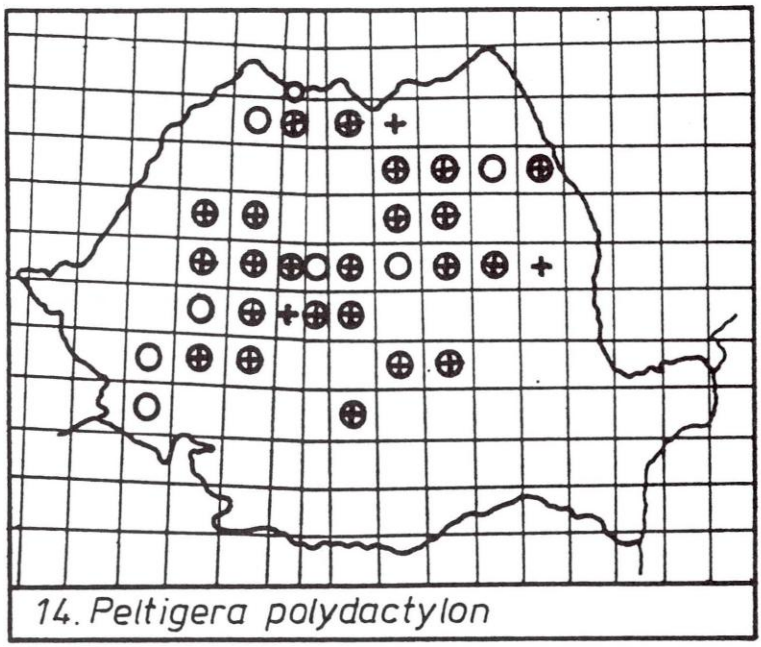


12. Peltigera neckeri

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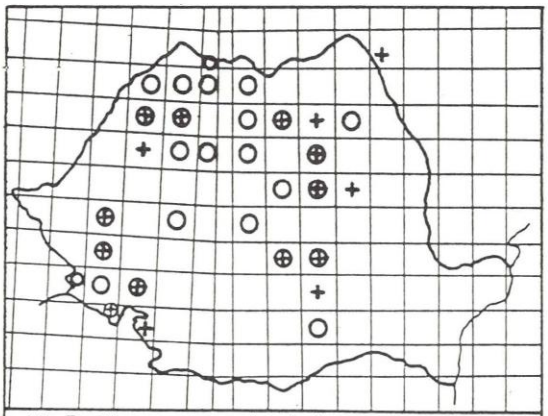


13. Peltigera neopolydactyla ·

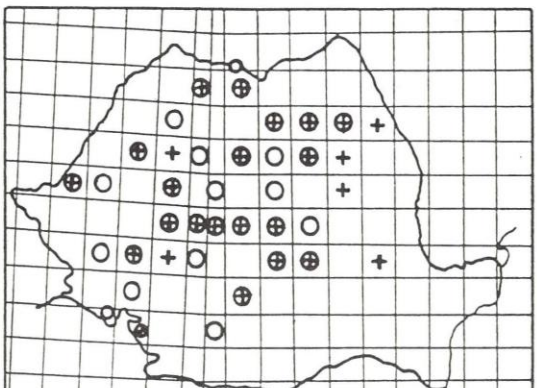


14. Peltigera polydactylon

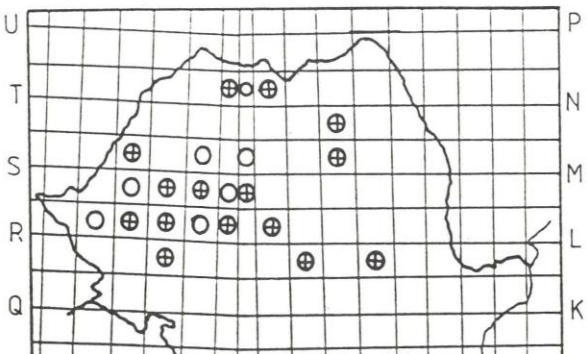
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15. Peltigera praetextata



16. Peltigera rufescens



17. Peltigera venosa

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