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## Free-living *Phycopeltis epiphyton* (Trentepohliaceae) in NE Spain

### Abstract

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*Phycopeltis epiphyton*, a trentepohliaceous green alga forming dark spots on the trunks of *Buxus sempervirens* has been found in NE Spain. Ecology and distribution are discussed.

*Phycopeltis* is a genus of green algae (Trentepohliaceae) commonly found in tropical and subtropical countries, characterized by subaerial habitat.

It lives epiphytically on numerous vascular plants (Suematu 1957, Chapman 1984) or as phycobiont in many lichens (Santesson 1952, Matthews & al. 1989).

In Europe *P. epiphyton* Mill. is found in Germany (Millardet 1870, Printz 1964) and Ireland (Scannell 1965). No mention of this species for the Mediterranean area has been found.

### Description

Thallus monostromatic, composed of regularly radiating branched, coalescent filaments, forming a pseudoparenchymatous, orbicular disc with lobed margins (Fig. 1-2); thalli, overlapping when meeting, dark brown in colour; cells cylindrical, 1.2-2.2 x 3-4.5 µm, broader near the periphery; sporangiate specimens not seen; sexual reproduction by biflagellate, pyriform isogametes 5 µm long, produced in intercalary sessile gametangia similar to the vegetative cells but with single papillate exit pores; rhizoids absent.

The specimens were collected in a deep, shaded ravine in NE Spain: Les Garrigues, Lleida, Catalonia 31TDG5880, 30 May 1991, T. Canals (BCF-A 9885). They were growing on the trunks of *Buxus sempervirens* L., of which the same individuals were bearing whitish subcuticular dots of *Cephaleuros* sp., without sporangia or gametangia, on the abaxial side of their leaves. In the same area lichens of tropical affinity: *Strigula* sp. and *Zamenhoffia* sp. were found.

According to Printz (1962), Scannell (1965) and Good & Chapman (1978 a,b), *Phycopeltis epiphyton* is reported as occurring on evergreen leaves of several species, where it is easily observed, but by ourselves it was only found on the trunks. This means that *P. epiphyton* is a facultatively foliicolous species.

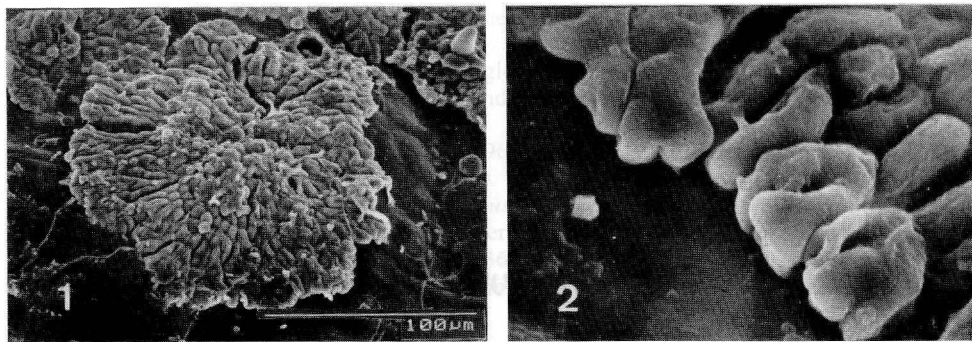


Fig. 1-2. SEM pictures of *Phycopeltis* epiphyton growing on *Buxus sempervirens* trunks.

### References

- Chapman, R. L. 1984: An assessment of the current state of our knowledge of the *Trentepohliaceae*. — Pp. 232-250 in: Irvine, D. E. G. & John, D. M. (ed), Systematics of the green algae. — London.
- Good, B. H. & Chapman, R. L. 1978a: The ultrastructure of *Phycopeltis* epiphyton (*Chroolepidaceae*: *Chlorophyta*). I. Sporopollenin in the cell walls. — *Amer. J. Bot.* **65**: 27-33.
- & — 1978b: Scanning electron microscope observations on zoosporangial abscission on *Phycopeltis* epiphyton (*Chlorophyta*). — *J. Phycol.* **14**: 374-376.
- Matthews, S. W., Tucker, S. C. & Chapman R. L. 1989. Ultrastructural features of mycobionts and trentepohliaceus phycobionts in selected subtropical crustose lichens. — *Bot. Gaz.* **150**: 417-438.
- Millardet, M. A. 1870: De la germination des zygospores dans les genres *Closterium* et *Staurostrum* et sur un genre nouveau d'algues chlorosporées. — *Mém. Soc. Sci. Nat. Strasbourg* **6**: 37-50.
- Printz, H. 1964: Die Chaetophorales der Binnengewässer. Eine systematische Übersicht. — *Hydrobiologia* **24**: 1-76.
- Santesson, R. 1952: Foliicolous lichens. I — *Symb. Bot. Upsal.* **12**: 1-590.
- Scannell, M. J. P. 1965: *Phycopeltis*, a genus of alga not previously recorded from the British isles. — *Irish Nat. J.* **15**: 75.
- Suématsu, S. 1957: Notes on *Cephaleuros* and *Phycopeltis*, parasitic and epiphytic aerial-algae. III. List of infected plants. Observations on sporangia of *Trentepohliaceae*. — *Bull. Fac. Liberal Arts, Wakayama Univ., Nat.Sci.* **7**: 21-29.

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