

A European record of *Verrucaria marinomuralis* (lichenised *Ascomycetes*, *Verrucariales*)

OTHMAR BREUSS

Naturhistorisches Museum Wien

Botanische Abteilung

Burgring 7

A-1010 Wien, Austria

Email: obreuss@bg9.at

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Abstract: *Verrucaria marinomuralis*, a maritime species of the sea-spray zone, previously known from Japan, is reported from seashore rocks in Brittany, France.

Zusammenfassung: *Verrucaria marinomuralis*, eine aus Japan beschriebene maritime Art der Spritzwasserzone, wird von Küstenfelsen der Bretagne, Frankreich, gemeldet.

The summer field meeting 2006 organized by the Dutch Bryological and Lichenological Society (BLWG, Bryologische en Lichenologische Werkgroep van de Koninklijke Nederlandse Natuurhistorische Vereniging) was held in Brittany, Dept. Finistère, France. 511 lichen taxa were recorded during the two-week meeting including several rare or otherwise remarkable taxa (APTROOT & al. 2007). Collections by the author are not included in this report. Among the most interesting records was a *Verrucaria* species found on seashore rocks that showed similarities with *Verrucaria muralis* ACH. and evidently represents *V. marinomuralis* HARADA.

Verrucaria muralis is a common species on calcareous rocks and walls. Its distribution is almost cosmopolitan and its altitudinal range extends from the lowlands to the sub-alpine zone. However, the species is largely misunderstood in the literature and often defined in a much too broad circumscription. Many herbarium specimens revised by the present author were found to differ from typical samples in different ways and may belong to other taxa (BREUSS 2008 a).

A detailed analysis of the type material of *Verrucaria muralis* in connection with Japanese collections was provided by HARADA (1996), good descriptions and illustrations were also provided by FRÖBERG (1989). BREUSS (2008 b) described the species on the basis of North American material. Typical features of *Verrucaria muralis* include a thin epilithic greyish thallus, medium-sized hemispherically protruding perithecia, subglobose pale exciples with a well developed involucrellum of medium thickness that usually reaches down to the middle part of the perithecium (rarely deeper), sparsely branched-anastomosing periphyses of c. 30-50 µm length, and spores measuring 18-25 × 8-13 µm.

HARADA (1995) described a superficially similar species from non-calcareous sea-side rocks in the splash zone or above in central Japan as *Verrucaria marinomuralis*. Like in *Verrucaria muralis*, the thallus of *V. marinomuralis* is thinly epilithic, greyish and more or less rimulose. The spores are equally sized in both species. Besides being ecologically different, *Verrucaria marinomuralis* differs from *V. muralis* in having slightly thicker exciples and noticeably thicker involucrella; thus the perithecia are larger in surface view as compared with those of *V. muralis*.

The specimen collected during the BLWG field meeting in France agrees very well with the description of *Verrucaria marinomuralis* in HARADA (1995). Dra MARÍA PRIETO (Madrid) kindly performed a comparative molecular analysis and found the specimen to differ from samples of typical *V. muralis*. Unfortunately, the type material of *Verrucaria marinomuralis* was not available for comparison; repeated loan requests were not replied by CBM herbarium officials (PRIETO, pers. com.). However, from the features described above and the particular habitat it may be concluded that the French specimen corresponds to *Verrucaria marinomuralis*.

Specimen examined: France, Dept. Finistère, Presqu'île de Crozon, Landévennec, on coastal rocks, 26.7.2006, O. BREUSS 25.689 (LI). Accompanying species include *Caloplaca marina* WEDD., *C. thallincola* (WEDD.) DU RIETZ, *Lecanora actophila* WEDD., *L. helicopsis* (WAHLENB.) ACH., *Lichina confinis* (O. F. MÜLL.) C. AGARDH, *Opegrapha confluens* (ACH.) STIZ., *Ramalina cuspidata* NYL., *Rinodina interpolata* (STIRT.) SHEARD, and *Hydropunctaria maura* (WAHLENB.) KELLER, GUEIDAN & THÜS.

Though very close to *Verrucaria muralis* in external appearance, *V. marinomuralis* is regarded as a distinct species primarily due to its different habitat preference. *Verrucaria muralis* occurs mostly on calciferous substrata usually in dry places, rarely on surfaces at time wetted by seeping freshwater or spray of waterfalls, whereas *V. marinomuralis* grows on siliceous coastal rocks in the supralittoral belt.

Previously *Verrucaria marinomuralis* was known only from few collections on the Pacific coast of central Japan (HARADA 1995, 1996). The occurrence in Europe (or elsewhere outside Japan) is not surprising in light of the poor knowledge of *Verrucaria* in general and of maritime species in particular. Several reports of *Verrucaria muralis* from maritime habitats may belong to this species.

MARÍA PRIETO (Universidad Rey Juan Carlos, Madrid) is warmly thanked for conducting molecular analyses of several samples.

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