

Lecanora ramulicola (H. Magn.) Printzen & P. F. May new to the Iberian Peninsula

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Abstract: Pérez-Ortega, S. & Printzen, C. 2007. *Lecanora ramulicola* (H. Magn.) Printzen & P. F. May new to the Iberian Peninsula. *Bot. Complut.* 31: 27-30.

L. ramulicola is reported from the Iberian Peninsula for the first time. A brief description is provided as well as some data about its ecology and some remarks on closely related species.

Key words: *Lecanora*, Iberian Peninsula, Spain, Salamanca, corticolous, lichens.

Resumen: Pérez-Ortega, S. 2007. *Lecanora ramulicola* (H. Magn.) Printzen & P.F. May novedad para la Península Ibérica. *Bot. Complut.* 31: 27-30.

Se informa por primera vez de la presencia de *L. ramulicola* en la Península Ibérica. Se incluye una breve descripción del taxón así como algunas notas sobre su ecología y especies próximas a este taxón.

Palabras claves: *Lecanora*, Península Ibérica, España, Salamanca, líquenes, epífitos.

INTRODUCTION

While studying species of the *Lecanora varia* group in Spain, several lichen collections were made in different points of the Iberian Peninsula. One of them was identified as *Lecanora ramulicola* (H. Magn.) Printzen & P. F. May, a corticolous and lignicolous species from the *Lecanora symmicta* group that has been overlooked for a long time (Printzen & May 2002). The group of *Lecanora* species with usnic acid (and/or isousnic acid) is a polyphyletic assemblage that includes at least three natural groups (Arup & Grube 1998). The *Lecanora varia* group comprises lignicolous and corticolous species with usnic and/or isousnic acids and lacks oxalate crystals in the amphithecium as well as atranorin; the Iberian taxa with amphithecial cortex were recently revised by Martínez & Aragón (2004). The *Lecanora polytropia* group is a poorly understood group of very polymorphic saxicolous taxa (very rarely found on lignum). It is usually

included in revisions of the *Lecanora varia* group (eg. Printzen 2001, Martínez & Aragón 2004), it clearly belongs to a different clade within *Lecanora* (Arup & Grube 1998). Finally, the *Lecanora symmicta* group comprises species with biatorine exciple composed of radiating, gelatinized hyphae, and which almost always lacks algae. Up to now two species of the group were known from the Iberian Peninsula, namely *L. symmicta* (Ach.) Ach. and *L. aitema* (Ach.) Hepp. (Llimona & Hladun 2001, Pérez-Ortega 2004). Here we report the presence of *L. ramulicola* in the Iberian Peninsula and provide a description based on the Spanish collection mentioned below.

Lecanora ramulicola (H. Magn.) Printzen & P. F. May

Thallus crustose (Fig. 1. A), 0,1-0,4 mm thick, rimose-areolate, strongly warted, partly continuous or endophloeodical. **Prothallus**, if visible, white.

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Recibido: 26 febrero 2007. Aceptado: 26 marzo 2007

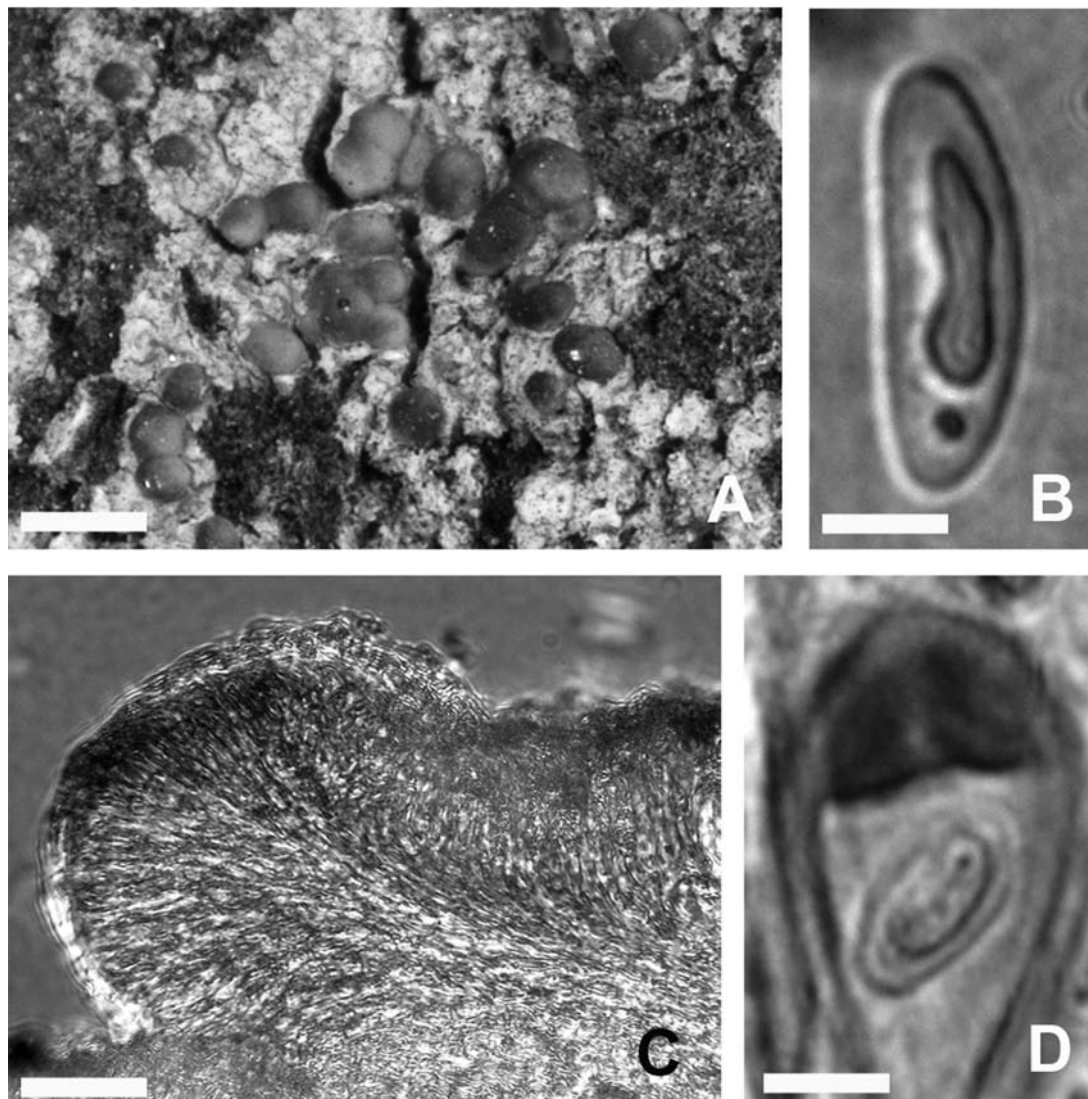


Fig. 1– A. Habitus. B. Ascospore. C. Detail of excipulum. D. Detail of ascus. C & D: in water. D: in lugol after K. B & C: with differential contrast. Scale bars A: 1,3 mm, B: 4 μ m, C: 38 μ m, D: 4 μ m.

Apothecia rounded to irregular, single or more frequently crowded and coalescing, sessile or strongly adnate, 0,3-0,6 mm in diameter; discs yellow cream to dark brown, flat to convex, very rarely pruinose; true exciple present except in very young or old apothecia, colourless within, outer part with the same pigment as in epiphymenium, laterally 33-50 μ m wide, composed of wide, gelatinized, anastomosing radiating hyphae (Fig. 1. C). **Hypothecium** 15-80 μ m high, colourless. **Epiphymenium** yellow brown to orange brown, with coarse granules, dissolving in K but not in N, with

Cinereorufa-green pigment (Meyer & Printzen 2000) and with an unidentified brown pigment turning greenish brown or greyish brown in K. **Paraphyses** moderately branched and anastomosed, 1,2-2 μ m wide. **Asci** clavate, 28-35 x 9-10 μ m, generally *Biatora*-type, but in some asci, a narrow *Lecanora*-type is often found (Fig. 1. D). **Ascospores** simple, 10-15 x 3,5-4,5 μ m (Fig. 1. B). Pycnidia not seen (but see Printzen & May, 2002).

Chemistry: Atranorin and traces of usnic acid detected by TLC.

Studied specimen: **Salamanca.** La Alberca. Crta. de La Alberca a las Batuecas km. 3. Pinar de *Pinus sylvestris* al lado de la carretera., 1126 m. N 40° 29' 0" 3"; W 6° 6' 51". 19-IX09-/2005, S. Pérez-Ortega (Herb. Pérez-Ortega 880).

Ecology: The collection locality belongs to the supramediterranean belt, with a humid ombrotype. The forest is dominated by *Pinus sylvestris* L. Although the climax community corresponds to *Quercus pyrenaica* Willd. (*Holco mollis-Quercetum pyrenaicae* Br.-Bl., P. Silva & Rozeira 1956), it has been reforested in many places by *Pinus sylvestris* and *Pinus pinaster* Ait. (Marcos 1992). These forests house lichen communities belonging to the associations *Pseudevernetum furfuraceae* Almb. 1948, *Usneetosum comosae* Barkman 1952 and *Protoblastenietum russulae* Marcos 1992 (Marcos 1983, 1992). *L. ramulicola* was found together with *Lecanora varia* (Hoffm.) Ach., *Pyrrhospora russula* (Ach.) Haffelner (= *Protoblastenia russula* (Ach.) Räsänen), *Lecanora pulicaris* (Pers.) Ach. and macrolichens such as *Hypogymnia physodes* (L.) Nyl., *H. tubulosa* (Schaer.) Hav. and *Pseudevernia furfuracea* (L.) Zopf.

Remarks: *L. ramulicola* is a species from the *Lecanora symmicta* group which could easily be confused with other members of the group, especially with *L. symmicta* (Ach.) Ach., a relatively common species in the northern Iberian Peninsula (Llimona & Hladun 2001). *L. symmicta* is externally very similar to *L. ramulicola* (Ach.) Ach., but it has a different chemistry (usnic acid, zeorin and xanthonones) as well as longer conidia (Printzen & May 2002). Other characters to distinguish them – even observed under the dissenting microscope – are the yellowish shade of the thallus (due to the presence of larger amounts of usnic acid than in *L. ramulicola*), the more convex apothecia of *L. symmicta* and more frequently branched

and anastomosed paraphyses in *L. ramulicola* (Printzen & May 2002).

L. aitema (Ach.) Hepp. is similar to *L. ramulicola*. This species resembles *L. symmicta* from which is distinguished by very subtle differences like the colour of its apothecia. The chemistry – usnic acid and zeorin in *L. aitema* – is also a good character to separate this species from *L. ramulicola*.

Lecidea hercynica Hauck & Schmull has recently been described from Germany (Schmull & Hauck 2005). It shares most features with *L. ramulicola* such as external morphology of thallus and apothecia. Also anatomically, several characters like epihymenial pigments, ascus size, and ascospores shape and size are similar. According to the description given by Schmull & Hauck (2005) the main differences between these two species, are: 1-) the ascus-type in *L. hercynica* which resembles the *Micarea*-type (Schmull & Hauck 2005), whereas in *L. ramulicola* most asci belong to the *Biatora*-type. However asci with a KI- axial mass reaching the top of the ascus are not rare in *L. ramulicola* (Printzen & May 2002), 2-) Chemistry: atranorin is present in both taxa but *L. hercynica* produces protocetraric acid in addition (Schmull & Hauck 2005), which is lacking in *L. ramulicola*. However, we failed to detect protocetraric acid by TLC in a specimen of *L. hercynica* collected by M. Hauck and studied by us. Another character emphasized by Schmull & Hauck (2005), the constant absence of algal cells in the excipulum, is also common in *L. symmicta* and *L. ramulicola* (Printzen & May 2002).

ACKNOWLEDGEMENTS

SPO is very obliged to the Ministerio de Educación y Ciencia (Spain) for awarding a postdoctoral grant.

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