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Notes on Geographic Distribution

Peterjamesia circumscripta (Leight.) D. Hawksw. (Roccellaceae: Ascomycota): First record to continental South America

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Abstract: *Peterjamesia circumscripta*, previously known from Australia, Europe, North Africa, North and Central America, and Galapagos Islands was collected in southern Brazil. This is the first record of this species in continental South America.

Peterjamesia D. Hawksw. (Roccellaceae) is a genus within lichenized fungi with two species, characterized by having a crustose thallus, absence of an upper cortex with the upper surface consisting of a gelatinous layer with randomly interwoven hyphae; ascomata perithecioid not arranged in stroma-like structures and without carbonized parts; dark, narrowly ellipsoid ascospores constricted around at least one septum; wide paraphysoids without widened tips, and a hyaline hypothecium densely filled with calcium oxalate crystals (Sparrius 2004).

Peterjamesia circumscripta (Leight.) D. Hawksw., the genus type species, is reported from Australia (Archer and Elix 2003), Europe, North Africa (Torrente and Egea 1989), North and Central America (Egea and Torrente 1995; Sparrius 2004), and Galapagos Islands (Aptroot and Sparrius 2008), while *P. sorediata* (Sparrius, P. James and M. A. Allen) D. Hawksw. is known only from Europe and northwestern Africa (Sparrius *et al.* 2005). The first is cited for both, temperate and tropical areas (Sparrius 2004; Aptroot and Sparrius 2008), while the last is cited only for temperate areas (Sparrius *et al.* 2005).

Peterjamesia circumscripta was found during a survey of saxicolous lichens on rocky shores in southern Brazil, always in the wave protected side of rocks in shady places. The specimens were deposited in the JOI and UPCB herbaria.

The specimens were examined using standard stereo- and light microscopy techniques. Sections of the thalli and ascomata were mounted in water and Lugol's solution (I). Chemical constituents were identified by thin layer chromatography using solvent system C, according to Culberson and Ammann (1979) and Elix and Ernst-Russell (1993).

Peterjamesia circumscripta (Leight.) D. Hawksw., *Lichenologist* 38(2): 187. 2006.
Basionym: *Sagedia circumscripta* (Taylor) Leight., Brit. Angiocarp. Lich.: 24, 73, plate 8, fig. 2. 1851 (fide Arcadia 2011).
Synonyms: see Sparrius (2004) and Hawksworth (2006).

Thallus crustose, saxicolous, continuous, rarely cracked, whitish to grayish, up to 18 cm in diameter, 170–310 µm thick, algal layer 40–60(–85) µm thick, medulla white to ochraceous, 80–270 µm thick, upper surface smooth verrucose, frequently pruinose, black prothallus often present; cortex absent, gelatinous layer 10–15(–18) µm thick, medulla white, frequently inspersed with calcium oxalate crystals. Ascomata perithecioid, up to 0.4 mm in diameter, immersed, rounded to slightly elongated, frequently arranged in lines; thalline margin absent, disc black, frequently white pruinose; proper excipulum 10–18 µm thick, brown above, pale below, with hyaline crystals, hymenium hyaline, 100–175 µm high, I+ dark blue, paraphysoids branched, asci cylindric to clavate, I+ reddish, 8–spored; ascospores brown, oblong-fusiform, 17–25 × 5–8(–10) µm, 4–7 septate, often constricted around septa, tapering to one end, I–. Conidiomata not seen.

Spot tests: Thallus K– or K+ dirty yellow, C–, KC–, P+ deep golden yellow ,UV–; secondary metabolites: psoromic acid (TLC).

Material examined: BRAZIL. **Santa Catarina**: Municipality of São Francisco do Sul, Morro da Enseada, 26º13'44'' S, 48º29'54'' W, 4-IX-2009, *E. Gumboski 1680*, *1681*, *1688* (UPCB), 26º13'37'' S, 48º29'49'' W, 22-IX-2011, *E. Gumboski 2665*, *2666*, *2673*, *2674*, *2680*, *2702*, *2705*, *2709*, *2714* (JOI), Municipality of Penha, 26º48'22'' S, 48º35'48'' W, 25-X-2011, *E. Gumboski and F. Beilke 2973*, *2987*, *3011*, *3013* (JOI). **Rio Grande do Sul**, Municipality of Torres, Morro do Farol, 29º20'43'' S, 49º43'39'', 11-XI-2011, *E. Gumboski, S. Eliasaro and F. Beilke 3059*, 3093, *3097*, *3119* (UPCB).

Peterjamesia circumscripta is found within mosaics of other crustose lichens. Specimens of *Buellia* s. lat, *Caloplaca* and *Opegrapha* appear to be the most frequent around the

species. In field, *Peterjamesia* can be differentiated from the others lichens by the numerous ascocarps that are minute and usually aggregated into lines.

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