



Putterlickia neglecta (Celastraceae), a new species from southern Africa

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Abstract

Putterlickia neglecta, a new species here described and illustrated, is known from South Africa (Mpumalanga and north-eastern KwaZulu-Natal), Swaziland and southern Mozambique. It is considered a near-endemic to the Maputaland Centre of Endemism. Plants grow as a shrub or small tree in savanna and thicket, or in the understory of inland, coastal and dune forests. Vegetatively it superficially resembles *P. verrucosa*, the species with which it has hitherto most often been confused. Both species have stems with prominently raised lenticels, but *P. neglecta* differs from *P. verrucosa* in having sessile to subsessile leaves with mostly entire, revolute leaf margins, flowers borne on pedicels 8–15 mm long, with petals up to 6 mm long and spreading or slightly recurved. *Putterlickia verrucosa* has leaves with distinct petioles, spinulose-denticulate margins, much smaller flowers borne on pedicels up to 4 mm long, with petals up to 2 mm long and erect or slightly spreading. The relatively large flowers of *P. neglecta* resemble those of *P. pyracantha*, but the latter differs in having stems with obscure or sunken lenticels, leaf margins entire or spinulose-denticulate and inflorescence axes as well as pedicels usually reddish. A comparative table to distinguish among the five currently recognized species of *Putterlickia* is provided.

Key words: Celastroideae, classification, evolution, *Gymnosporia*, Maputaland Centre of Endemism, lenticels, morphology, nomenclature, paraphyly, phylogeny, taxonomy

Introduction

The genus *Putterlickia* Endlicher (1840: 1086), a distinctive monophyletic group (Simmons *et al.* 2008; McKenna *et al.* 2011) confined to southern Africa, has in recent years been treated as comprising four species (Jordaan & Van Wyk 1998: 322; Archer & Jordaan 2003: 360). It is distinguished from *Gymnosporia* (Wight & Arnott 1834: 159) Hooker (1862: 359, 365), its closest ally, by having bisexual flowers, (4–)6–10 ovules per locule, capsules longer than 10 mm, and the stems of most species covered by distinct lenticels which are wart-like, raised, elliptic in outline and usually transversely divided in the middle (Fig. 1A). *Gymnosporia* has the flowers mainly functionally unisexual, always with two ovules per locule, capsules shorter than 10 mm, and when lenticels are present on the stems, they are relatively small, pale-coloured circular dots, as in *G. nemorosa* (Ecklon & Zeyher 1834/35: 120) Szyszylowicz (1888: 35) (Fig. 1B). Anatomically the leaf blades of *Putterlickia* are quite different from those of *Gymnosporia* (Jordaan 1995). A possible anatomical distinction between the pericarp of *Putterlickia* and *Gymnosporia* has been reported by Savinov (2006), but this was based on a rather limited survey; sampling of more species is required to confirm the claimed distinction.

In phylogenetic trees derived from molecular studies, *Putterlickia* is apparently embedded within *Gymnosporia* (Simmons *et al.* 2008; McKenna *et al.* 2011). If this is confirmed by more extensive sampling of taxa and genes, then the recognition of *Putterlickia* would render *Gymnosporia* (as currently circumscribed) paraphyletic. To avoid a paraphyletic *Gymnosporia* (ca. 125 species), proponents of the phylogenetic school of classification have suggested that *Putterlickia* (five species) be subsumed in *Gymnosporia* (Simmons *et al.* 2008; McKenna *et al.* 2011). However, such a step would have major nomenclatural implications. Valid publication of the genus name *Putterlickia* (Endlicher 1840) predates that of *Gymnosporia* (Hooker 1862), a conserved name, though not explicitly so against *Putterlickia*. Consequently, *Putterlickia* will have priority as name for the combined genus. On the other hand, it has been convincingly argued that paraphyly is an evolutionary stage of monophyletic (s.l.) taxa that needs to be taken