

## ***Korthalsella arthroclada* (Viscaceae), a new species from south-west Western Australia**

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### **Abstract**

Cranfield, R.J. *Korthalsella arthroclada* (Viscaceae), a new species from south-west Western Australia. *Nuytsia* 14(3): 361–364 (2002). A new parasitic species from the south-west of Western Australia, *Korthalsella arthroclada* Cranfield, is described, illustrated and mapped. The key to the species of *Korthalsella* Tieghem (Viscaceae) in "Flora of Australia" Volume 22 is updated.

### **Introduction**

The new taxon described here is known only from a small population of plants parasitic on several tall *Melaleuca* shrubs fringing a lake south of Geraldton, Western Australia. It was known to be a probable new species for some years prior to its first collection (N.G. Marchant pers. comm.) but its identity could not be determined because it had never been seen in flower or fruit. In December 1992 flowering material was finally observed and material collected. It was subsequently identified as a species of *Korthalsella* Tieghem (Viscaceae).

*Korthalsella* has been revised relatively recently (Barlow 1983) and also covered in "Flora of Australia" (Barlow 1984). The new species is very different from the only named Western Australian representative of the genus, *Korthalsella leucothrix* Barlow, which is parasitic on *Acacia* shrubs. Its closest relative is possibly *Korthalsella grayi* Barlow, which is endemic to the Queensland rainforest.

### **Taxonomy**

Diagnostic characters for the two known Western Australian species of *Korthalsella* along with the Queensland species *K. grayi* are given in Table 1. The three species can be distinguished by both vegetative and floral characters. *K. arthroclada* differs from the other two species in having more numerous shorter basal internodes and an acute apex to the rudimentary leaves. It also differs from *K. grayi* in its shorter flowers and from *K. leucothrix* in its more terete stems and fewer flowers per node.

The different hosts and the geographical distributions of these three species are further evidence of their distinctiveness. *Korthalsella arthroclada* is a parasite known only on *Melaleuca lanceolata* Otto (Myrtaceae) and occurs in a shrubland area that is virtually at sea level. *K. grayi* occurs at altitudes in

excess of 1000 m and is a parasite on the following Queensland rainforest genera: *Elaeocarpus* L. (Elaeocarpaceae), *Symplocos* Jacq. (Symplocaceae) and *Rhodamnia* Jack (Myrtaceae). *Korthalsella leucothrix* is recorded mainly from South Australia but is also known from a few localities in Western Australia where it has been recorded on two host species, *Acacia acuminata* Benth. and *A. craspedocarpa* F. Muell. (Mimosaceae). Its known distribution is further inland than that of *K. arthroclada*.

Table 1. Characters distinguishing *Korthalsella arthroclada* from two similar species.

Character	<i>K. arthroclada</i>	<i>K. grayi</i>	<i>K. leucothrix</i>
stem	terete or slightly compressed	terete or slightly compressed	compressed
number of basal internodes per stem	10–13	7–10	9 or 10
internode length (mm)	5–7	10–20	10–20
rudimentary leaf apex	acute	obtuse	obtuse
number of flowers per node	usually 6	usually 8	c. 20
flower length (mm)	1–1.5	1.5–2	1–1.5

#### Amendment to key to *Korthalsella* species in "Flora of Australia"

For the addition of the new species to the key to *Korthalsella* species given in "Flora of Australia" Volume 22 (Barlow 1984: 141), the last part of the key needs to altered to read:

- 5 Stems compressed-flattened but rounded at edges, widest at apex, up to 3 mm wide; flowers c. 20 in 3 or 4 rows at each node ..... **K. leucothrix**  
 5: Stems terete or slightly compressed, 1–2 mm diam.; flowers usually 6 or 8 per node in 1 row (rarely 2 rows present).  
 6 Flowers 1–1.5 mm long; leaf apex acute ..... **K. arthroclada**  
 6: Flowers 1.5–2 mm long; leaf apex obtuse ..... **K. grayi**

#### *Korthalsella arthroclada* Cranfield, *sp. nov.*

*Korthalsellae grayi* affinis sed internodiis brevioribus, floribus parvioribus differt.

*Typus*: south-west of Eneabba [precise locality withheld], Western Australia, 9 December 1992, R.J. Cranfield & P. Spencer 8700 (*holo*: PERTH 02931990).

Aerial parasitic *shrub* to 7 cm high, much branched with 1 or 2 stems arising from a haustorium attached to a host plants upper branches. *Stems* greenish yellow, erect, with numerous internodes; basal internodes terete or slightly compressed, linear, 5–7 x 1–2 mm and succeeded by shorter nodes 1–5 x 1–1.5 mm, venation obscure. *Rudimentary leaves* opposite, distichous, each pair united and encircling the

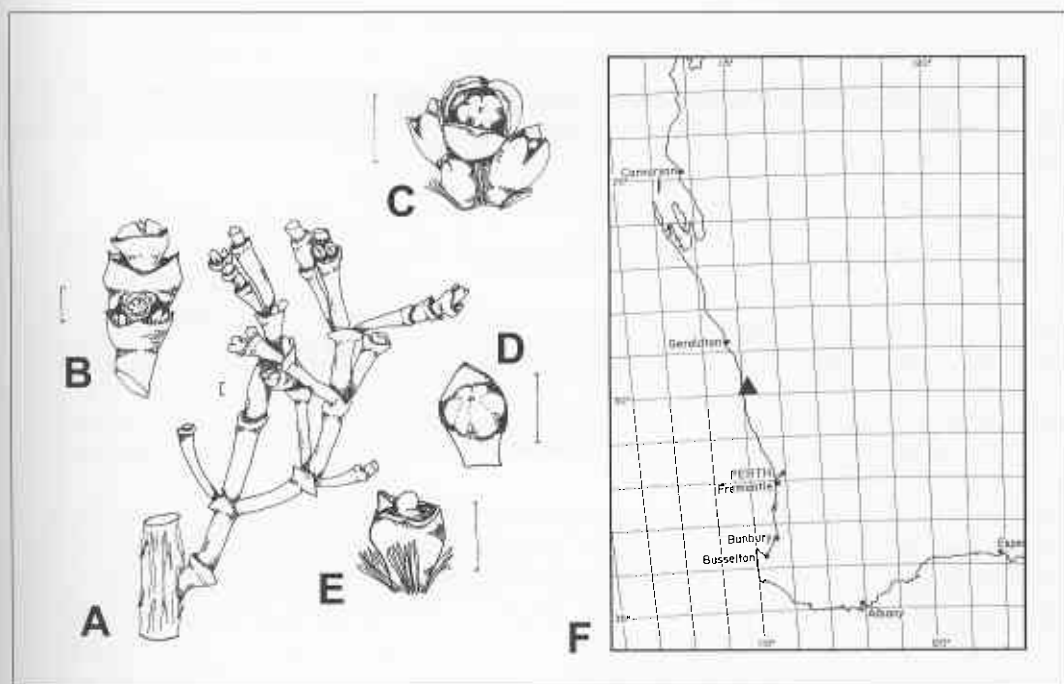


Figure 1. *Korthalsella arthroclada*, all scale bars = 1 mm. A – plant on host stem; B – flowering branch; C – flower cluster; D – male flower dissected; E – female flower dissected; F – distribution map.

node, 0.5–1 mm long, much broader than long, shortly ciliate; apex acute. *Hairs of floral cushion* few, c. 0.5 mm long, white to brown, multicellular, visible at flowering time. *Flowers* produced at every actively growing node, mostly in a single row, sometimes with a second row below the first, each row with a triad in the axil of each leaf, a male flower in centre of triad and a female flower on each side. *Male flower* globose, c. 0.5 mm diam., with a short stipe; tepals 3, triangular, c. 0.5 mm long; anthers 3, 2-locular, united into a synandrium with a common apical pore. *Female flowers* ellipsoid, 1–1.5 x c. 0.5 mm; tepals 3, c. 0.5 mm long, persistent at the top of the ovary; style short c. 0.25 mm long. *Fruit* not seen. (Figure 1A–E)

*Distribution.* Known only from one locality near Eneabba, Western Australia (Figure 1F). This locality is in the South West Botanical Province and is within the Geraldton Sandplains biogeographic region (Thackway & Cresswell 1995).

*Habitat.* Parasitic on *Melaleuca lanceolata*, which forms an open tall shrubland fringing a brackish lake. The soil is white sandy clay.

*Flowering time.* December.

*Conservation status.* Conservation Codes for Western Australian Flora: Priority One. This species is known only from the type area and restricted to a few tall host shrubs. Additional surveys are required to determine whether this species warrants endangered status or is indeed more common than presently thought.

*Etymology.* From the Greek words *arthro* (jointed) and *clados* (branch).

### Acknowledgements

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### References

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