A new species of *Emplectanthus* from eastern South Africa

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The genus *Emplectanthus* N.E.Br. (Apocynaceae—Ceropegieae) has until recently been known from two species in KwaZulu-Natal. Both were discovered by professional botanical collector William Tyrer Gerrard, who was active in this region between 1861 and 1865. He collected *E. cordatus* N.E.Br. near the Tugela River without exact locality or date and *E. gerrardii* N.E.Br. at Qudeni, also without exact date.

Both species are evidently rare, and easily overlooked. *E. gerrardii* has not been collected at Qudeni since, though subsequent collections have been made from other Southern Mistbelt Forest (Mucina & Rutherford 2006) in KwaZulu-Natal at Karkloof and Ngeli (Scott-Shaw 1999). Since Gerrard’s discovery of *E. cordatus* it has only been collected from Scarp Forest (Mucina & Rutherford 2006) on the KwaZulu-Natal coastal escarpment in the vicinity of Eshowe.

Both species are herbaceous climbers with opposite leaves and peduncles lateral at the nodes, bearing one or more fascicles of flowers. The genus has a superficial similarity in appearance to *Tylophora*, but although the corollas are deeply five-lobed with the united part forming a shallow cup, it can be distinguished from that genus “by the presence of a double corona” (Brown 1913).

In February 2006 a botanical expedition funded by the Durban Botanic Gardens Trust visited the Msikaba River in the Eastern Cape. On 3 February a group comprising the author, Prof. Dirk Bellstedt, Gavin McDonald, Geoff Nichols and Dave Raulstone photographed and collected cuttings of a curious and unfamiliar climber in flower in a rocky ravine above the river, at about 270 m a.s.l. and approximately 11 km inland of the coast.

During 2007 the author joined in a botanical expedition by the Mpumalanga Plant Specialist Group, which included a visit to the Mtentu River arranged by Prof. Neil Crouch. On 27 September the author and Prof. Crouch collected a small, sterile example of what was recognizably the same species, at not much more than 50 m a.s.l. along the river. This was returned to cultivation in Durban where by January 2010 it reached a height of approximately 4 m and produced many fascicles of flowers. Closer examination of this flowering material shows the species is best placed in the genus *Emplectanthus*, and that it is distinct from *E. cordatus* and *E. gerrardii*. It is described below.

*Emplectanthus dalzellii* D.G.A. Styles, sp. nov., a speciebus omnibus generis pedunculis brevioribus, corolla omnino badio, lobis interioribus coronae super antheris longioribus, folis basin minus cordatis differt.

**TYPE**: Eastern Cape.—3130 (Port Edward): Mtentu River, Mkambati Nature Reserve, (–AA), 20 February 2010, Styles & Crouch 3442 (NH, holo.; NU, PRE, iso.).

Herbaceous climber with slender stems up to 4 m in height. Leaves opposite, entire, veins often suffused reddish-maroon beneath; petiole 10–18 mm long; blade 35–75 × 13–50 mm, ovate, apex acuminate, base cordate to indistinctly cordate, lacking the deep and prominent sinus of *E. cordatus* and *E. gerrardii*, with sparse, short whitish hairs above and on the margins, glabrous beneath except for a few scattered, sparse hairs along the veins. Inflorescence comprising sessile to subsessile fascicles produced laterally from the nodes, each fascicle comprising up to 8 flowers. Calyx yellowish to horn-coloured, comprising 5 glabrous, lanceolate sepals, each ± 2 mm long. Pedicels slender, 17–21 mm long, with short whitish hairs. Corolla deeply 5-lobed, with united part forming a prominent but short cupular tube, 2–2.2 mm deep and 4–5 mm in diameter, closely fringed at the mouth with short, whitish hairs 0.2–0.35 mm long, that extend to the basal portion of the lobes; lobes 4–5 mm long and 3.5–4 mm wide at base, deltoid-ovate, apex acute. Gynostegium 2.5–2.7 mm in diameter at the base and ± 2.1 mm in height; outer corona lobes ± 0.75 mm long, pouch-like, bifid with each divergence produced into a small, horn-like, reflexed tubercle directed away from the other; inner corona lobes strap-like, 1.4–1.6 mm in height, 0.35–0.45 mm wide at the narrowest basal point, broadening...
Emplectanthus dalzellii. Illustration by Gillian Condy.
terminally to 0.60–0.75 mm, following the anthers before becoming reflexed and produced much above them to cluster and overlap in irregular fashion. The peduncle, pedicels, corolla and corona are all shades of maroon. Pollinarium with pollinia pale yellow, ovoid, up to 260 × 150 µm; corpusculum deep amber, up to 80 × 50 µm. Fruit not seen.

*Emplectanthus dalzellii* has been found flowering from January to early April. All parts exude clear latex when broken off. The flowers emit an odour which is both faintly disagreeable and reminiscent of boiled potatoes. Like *E. cordatus* and *E. gerrardii*, *E. dalzellii* is a species of forest and forest edges.

Coronas of species of *Emplectanthus*, not proportionally sized. From left to right: *E. dalzellii* (Styles & Crouch 3442), *E. cordatus* (from spirit collection by the author from Dlinza Forest, Eshowe) and *E. gerrardii* (Styles 3439). Illustration by Gillian Condy.
Densely wooded habitat of *Emplectanthus dalzellii* along the north bank of the Msikaba River.

*Emplectanthus dalzellii*, cultivated plant showing pendent flowers.
Table 1. Summary of key differences between *E. dalzellii* and other *Emplectanthus* species.

<table>
<thead>
<tr>
<th></th>
<th><em>E. dalzellii</em></th>
<th><em>E. gerrardii</em></th>
<th><em>E. cordatus</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leaf base</strong></td>
<td>Cordate to indistinctly cordate, lacking a prominent sinus.</td>
<td>Deeply cordate with prominent sinus.</td>
<td>Deeply cordate with prominent sinus.</td>
</tr>
<tr>
<td><strong>Length of peduncle</strong></td>
<td>Fascicles sessile to subsessile, where peduncle evident then ≤ 1 mm.</td>
<td>1–8.5 mm.</td>
<td>12–70 mm.</td>
</tr>
<tr>
<td><strong>Length of pedicel</strong></td>
<td>17–21 mm.</td>
<td>6–38 mm.</td>
<td>8–25 mm.</td>
</tr>
<tr>
<td><strong>Hairs in throat of corolla</strong></td>
<td>0.2–0.35 mm long, very shortly fringing the corolla mouth and not extending close to the outer corona lobes.</td>
<td>Longer than <em>E. dalzellii</em>; may extend more-or-less to the outer corona lobes.</td>
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</tr>
<tr>
<td><strong>Corolla lobes</strong></td>
<td>4–5 mm long and 3.5–4 mm broad at the base.</td>
<td>6–7.5 mm long and 3.7–4.4 mm broad at the base.</td>
<td>± 3.3 mm long and ± 2.7 mm broad at the base.</td>
</tr>
<tr>
<td><strong>Corolla tube</strong></td>
<td>2–2.2 mm deep and 4–5 mm in diameter.</td>
<td>1.5–2 mm deep and 5.5–6.5 mm in diameter.</td>
<td>± 1.5 mm deep and ± 3.5 mm in diameter.</td>
</tr>
<tr>
<td><strong>Corolla colour</strong></td>
<td>All parts of the corolla shades of maroon.</td>
<td>Corolla with pale yellow ground colour, usually with maroon markings at least within the cupular tube, rarely almost absent, which may extend variably to more than halfway up the inner petals.</td>
<td>Cupular tube pinkish-maroon, with lighter shade of pinkish-maroon extending part-way up the inner petals, which are thereafter suffused yellow.</td>
</tr>
<tr>
<td><strong>Inner corona lobes</strong></td>
<td>Strap-like, ≥1.4 mm long, broadening terminally, produced considerably above the anthers (± 0.65–0.75 mm) to cluster together and overlap in irregular fashion.</td>
<td>Strap-like, ≤ 1 mm long, not or only slightly broadening terminally, produced above the anthers (≤ 0.3 mm), but not as markedly as <em>E. dalzellii</em>, and not conspicuously clustered.</td>
<td>“Closely applied to the backs of the anthers” and not or hardly produced above them (Brown 1909).</td>
</tr>
</tbody>
</table>
E. dalzellii is likely endemic to the Pondoland Centre of Plant Endemism (Van Wyk & Smith 2001), a region correlating with occurrences of Msikaba Formation sandstone between the coast and about 500 m a.s.l., from about Port Shepstone to Port St Johns. Although forest within the Pondoland Centre is included within Scarp Forest by Mucina & Rutherford (2006), it is at least a distinct subtype, containing many endemic taxa.

E. dalzellii is named in honour of Christopher Gordon Montague Dalzell (b. 21 February 1961). Chris Dalzell has since 1996 been the curator of the Durban Botanic Gardens, and through the Durban Botanic Gardens Trust has been instrumental in providing support to botanical exploration in KwaZulu-Natal and the Eastern Cape.

It should be noted that corolla colour for E. cordatus and E. gerrardii given by Brown (1909, 1913) seem somewhat off-the-mark estimations made from long-dried material.

Material examined

Emplectanthus cordatus

KWAZULU-NATAL.—2831 (Eshowe): Entumeni (CC), Wylie sub Wood 11397 (NU); Eshowe (CD), Haygarth sub Wood 12561 (NH); Hlinza (Dlinza), Eshowe (CD), Moll 2686 (NU). Tugela River without exact locality, Gerrard 1803 (K).

Emplectanthus gerrardii

KWAZULU-NATAL.—2830 (Dundee): Qudeni (DB), Gerrard 2167 (K). 2930 (Pietermaritzburg): Geekie’s Farm, Karkloof, (AD), Manning 362 (NU); forest above Grey Mares Tail Waterfall, Karkloof (AD), Roff s.n. (NU); Karkloof Forest (AD), Styles 3439 (NH).
Boldly marked corollas of *Emplectanthus gerrardii*, Karkloof Forest.

Habitat of *Emplectanthus gerrardii* at Karkloof.
Acknowledgements
Gillian Condy is thanked for the illustrations, Prof. Neil Crouch for providing use of a microscope, Dr Hugh Glen for assistance with the Latin diagnosis and Frank Sokholic for producing the map. Other persons, listed alphabetically, who have also made a contribution towards publication of this new species are: Tony Abbott, Prof. Dirk Bellstedt, Pieter Bester, Gareth Chittenden, Isabel Johnson, Sharon Louw, Sithembiso Majoka, Dr John Manning, Andrew McKay, Gavin McDonald, Mphikheni Ngwenya, Prof. Ashley Nicholas, Geoff Nichols, Dave Raulstone and John Roff.

References


More typically marked corolla of *Emplectanthus gerrardii*, flower removed from a plant and unnaturally posed in order to well show the inner face and corona.
Inside the Dlinza Forest. Photo: Andrew McKay.

Leaf of *Emplectanthus cordatus.*