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Status of the genus *Eichlerago* (Labiatae)

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Abstract

Conn, Barry J. (National Herbarium of New South Wales, Royal Botanic Gardens, Sydney, NSW, Australia 2000). Status of the genus Eichlerago *(Labiatae).* Telopea *4(4): 649–651. Eichlerago* is reduced to a synonym of *Prostanthera* and the new combination *Prostanthera tysoniana* (Carrick) Conn is made. This species is regarded as belonging to *Prostanthera* section *Prostanthera*. Notes on the habitat, distribution and conservation status are included.

Introduction

Eichlerago was described by Carrick (1977) as a new genus of the Lamiaceae, with close affinities to *Prostanthera*. He concluded that the genus was sufficiently distinct from other labiate genera to be placed in his new monotypic tribe Eichleragineae (within the subfamily Prostantheroideae *sensu* Briquet 1895). However, the features that Carrick used to distinguish this genus from *Prostanthera* are either plesiomorphic or (it is believed) incorrectly interpreted.

The infrafamilial classification used in this paper is based on that of Bentham in Bentham & Hooker (1876), as modified by Erdtman (1945). Hence, the Prostantheroideae *sensu* Briquet (1895) is referred to as the tribe Prostanthereae *sensu* Bentham in Bentham & Hooker (1876), of the subfamily Lamioideae *sensu* Erdtman (1945).

Discussion of Characters

Carrick concluded that the shape of the corolla in *Eichlerago* could be used to distinguish this genus from *Prostanthera*. However, contrary to his interpretation, the 3-lobed abaxial (lower) corolla lip in *Eichlerago* is typical of most species of *Prostanthera* (particularly in *Prostanthera* section *Prostanthera*. Of the fruiting characters that Carrick regarded as diagnostic, only the reduced distal lobing is apomorphic. However, this condition is a convergence that is also found in *Prostanthera queenslandica*. The other fruiting characters that he used include 'fruits dry' and 'fruits indehiscent'. The 'dry' rather than fleshy, fruit condition is a plesiomorphy, characteristic of all Labiatae. It is not known whether the fruits of *Eichlerago* are indehiscent or dehiscent. It is possible that they are a foraminose schizocarp, not dissimilar to those of the Prostanthereae (Conn 1984). Finally, Carrick regarded the position of the style as a diagnostic character. However, the terminal style is also a plesiomorphy. This character distinguishes the Prostanthereae and Ajugeae from the other Labiatae which have a gynobasic style (Conn 1984, Sharma & Singh 1982).

In an evaluation of relationships within the tribe Prostanthereae (Labiatae), *Eichlerago* and *Prostanthera* formed a clade characterised by four synapomorphies (Conn, in press). These characters were: the anther connective extended into a basal appendage, or if appendage absent (in some species of *Prostanthera*) then regarded as a secondary loss; the anther connective cristate with triangular trichomes; the leaves aromatic, or if non-aromatic (in a few species of *Prostanthera*) then regarded as a

secondary loss; and the anther lobe terminating in a basal acumen. *Eichlerago* and *Prostanthera* section *Prostanthera* form the sister group to *Prostanthera* section *Klanderia*. The former clade is characterised by the adaxial lip of the calyx enlarging (often significantly) as the fruit matures. Some enlargement of the calyx has been noted in fruiting material of *E. tysoniana* (*Payne 107* & *126*).

Discussion of Infratribal Classification

Although it is premature to formally recognize infratribal groupings within the Prostanthereae, the current evaluation of the phylogeny of this tribe (Conn, in press) does not support Carrick's interpretation that all genera (apart from *Eichlerago*, which he placed in Eichleragineae) belong in one group (Prostanthereae *sensu* Carrick 1977). Within the Prostanthereae, Conn (in press) recognizes two main groups. One group (the *Prostanthera* clade) consists of *Prostanthera* (including *Eichlerago* and both sections of *Prostanthera*) and *Wrixonia*, with the other group (the *Microcorys* clade) consisting of *Hemiandra*, *Hemigenia*, *Microcorys* and *Westringia*. Therefore, there is even less support for the 'Eichleragineae' than there is for *Eichlerago*.

Conclusion

It is concluded that *Eichlerago* cannot be maintained as a distinct monotypic genus and it is here proposed that it become part of *Prostanthera* section *Prostanthera*.

Taxonomy

Prostanthera *Labill.*, Nov. Holl. Pl. Spec. 2: 18, t. 157 (1806).

TYPE SPECIES: *Prostanthera lasianthos* Labill.

TYPE: 'Van-Diemen', *Labillardière s.n.*, – (n.v.).

Eichlerago Carrick, J. Adelaide Bot. Gard. 1: 115 (1977).

TYPE SPECIES: *Eichlerago tysoniana* Carrick

TYPE: *Tyson 25* (for details refer below).

Prostanthera tysoniana *(Carrick) Conn*, **comb. nov.**

BASIONYM: *Eichlerago tysoniana* Carrick, J. Adelaide Bot. Gard. 1: 115, fig. 1 (1977). HOLOTYPE: WESTERN AUSTRALIA: 'Mt Narryer, Murchison River', *I. Tyson 25*, 1898 (PERTH); iso K.

DESCRIPTION: Refer Carrick (1977).

HABITAT: Open *Acacia brachystachya*-dominated shrubland on shallow (0.5–0.7 m deep) red sandy soils of the sandplain, overlying Permian lateritic-rich plains.

DISTRIBUTION: This rare species is endemic to the Byro–Mt Narryer area of Western Australia.

CONSERVATION STATUS: The Rangeland Survey Team of the Department of Agriculture, Western Australia, have located this species on the Byro, Curbur, Mt Narryer and Muggon pastoral properties (Ray Cranfield pers. comm., 10 June 1991). Its distribution reflects the very geographically restricted interzone of Permian and wash plains, which only occurs on three or four properties in this area (P. Curry in Cranfield pers. comm., 6 September 1991). Therefore the species is confined to an area of about 300 km^2. Although the distribution of this species is restricted, the known populations contain several hundred plants, with seedlings reported as either very common (*Conn 2083*, *Conn 2091–2096* and Cranfield pers. comm., 10 June 1991) or none seen (P. Curry in Cranfield pers. comm., 6 September 1991). Irrespective of the number of seedlings, the percentage that mature in this harsh environment may be very low, particularly because it is heavily grazed by stock and kangaroos.

Although more information about the distribution of this species is now available, the Western Australian Department of Conservation and Land Management consider it to be a 'Priority 1' species. That is, a species under immediate threat and under consideration for declaration as rare flora, but in need of urgent high priority further survey. Therefore, the risk code of 2K (applied by Briggs & Leigh 1988) should be changed to 2V.

OTHER SPECIMENS EXAMINED: WESTERN AUSTRALIA: Austin: 'Upper Murchison R. [River]', *I. Tyson 4*, 1892 (MEL 41916); Byro Station, c. 28 km NW of Mullewa–Gascoyne Junction Road, on road to Woodleigh Station, *Conn 2083*, 11 Sep 1985 (MEL, PERTH), *Conn 2091*, 12 Sep 1985, (AD, CANB, MEL, PERTH), *Conn 2092* [this and all following specimens collected on same day as *Conn 2091*](BRI, MEL, PERTH), *Conn 2093* (MEL, PERTH), *Conn 2094* (MEL, NSW, PERTH, RSA), *Conn 2095* (CANB, MEL, PERTH), *Conn 2096* (AD, CHR, MEL, MO, PERTH), *Conn 2098* (CANB, MEL, NSW, PERTH), *Cranfield 5162*, 21 June 1985 (PERTH); Curbur Station, *Payne 107*, 31 Oct 1985 (PERTH), *Payne 126*, Oct 1985 (PERTH).

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