

Xanthosia eichleri, a new species of Apiaceae from Western Australia

J.M. Hart and M.J. Henwood

John Ray Herbarium, School of Biological Sciences, Macleay Building A12,
The University of Sydney, New South Wales 2006, Australia

Abstract

J.M. Hart and M.J. Henwood. *Xanthosia eichleri*, a new species of Apiaceae from Western Australia. Nuytsia 12 (2): 185–189 (1998). A new species in the Apiaceae, occurring in south west Western Australia, is described as *Xanthosia eichleri* J.M. Hart & M.J. Henwood. A key is provided to *Xanthosia eichleri* and its allies.

Introduction

As a result of a revision of *Xanthosia* and allied genera in the Apiaceae, a previously undescribed species from south west Western Australia is named *Xanthosia eichleri*. This species was first collected by S.W. Jackson at 'Bow River' in 1912. The specimen was deposited in the National Herbarium of NSW where it was placed within *Xanthosia tridentata*, a morphologically similar species from eastern Australia. No further collections of the species were made until 1982 when it was found beside the South Coast Highway between Denmark and Walpole; all subsequent collections have been made since 1990.

Xanthosia eichleri is a member of a morphologically distinctive group comprising five of the twenty species in the genus. The group, here referred to as the *X. tridentata* group, is characterized by fruits which are glabrous, smooth to very minutely papillate and are surmounted by slightly raised, glabrous nectaries. The taxonomic status of this group is currently under investigation. All other species in the genus have more prominent, hirsute to villous nectaries, fruits which are hirsute at least on the summit and are never minutely papillate.

Key to the *Xanthosia tridentata* group

- | | | |
|----|---|------------------------------------|
| 1 | Sepals peltate; eastern Australia | <i>Xanthosia tridentata</i> |
| 1: | Sepals not peltate; Western Australia | 2 |
| 2 | Leaves simple | 3 |
| 2: | Leaves ternately compound | 4 |
| 3 | Umbels simple; petals shorter than the sepals; leaves cuneate,
margins often tridentate | <i>Xanthosia eichleri</i> |
| 3: | Umbels usually compound; petals equal to the sepals; leaves linear,
margins usually entire | <i>Xanthosia ciliata</i> |

- 4 Subshrub to 0.2 m high; umbels simple; peduncles reflexed;
stamens about the same length as perianth; flowers green **Xanthosia fruticulosa**
- 4: Shrub to 1.0 m high; umbels compound; peduncles erect;
stamens longer than the perianth; flowers cream **Xanthosia bungei**

Xanthosia eichleri J.M. Hart & M.J. Henwood, *sp. nov.*

Xanthosia sp. Warren (A.R. *Annels* 1265)

Xanthosiae tridentatae affinis sed folia integra ad tridentata; umbellae simplices cum 2–6 floribus; sepala non peltata, longiora petala; fructus 5–7 nervatus.

Typus: Gladstone Falls, Deep River, Warren District, Western Australia, 31 October 1990, A.R. *Annels* 1265 (*holo*: PERTH 3129217; *iso*: MJP 4553).

Erect, procumbent or decumbent perennial *subshrub* to 0.25 m high, sparsely hirsute, the stem becoming flaky when aged. *Leaves* simple, cauline, petiolate; petiole sheathing, c. 0.8 mm long, ciliate; lamina cuneate, 5–12 mm long, 1–4 mm wide, tridentate or less often entire. *Involucral bracts* 4 or 5, obovate or lanceolate, foliaceous, green, shorter than flowers, 2.1–2.6 mm long, 0.9–1.1 mm wide, apex acute. *Inflorescence* of simple umbels; umbels 2–6-flowered, leaf-opposed, often borne in pairs, pedunculate; peduncles 1.0–3.6 mm long. *Flowers* pedicellate, mostly bisexual, rarely male. *Sepals* 5, lanceolate, 1–1.6 mm long, c. 0.5 mm wide, green, glabrous. *Petals* 5, shorter than sepals, spatulate, the base clawed, 0.7–0.8 mm long, c. 0.4 mm wide, white or cream, the midrib adaxially keeled and forming a bridge with the inflexed appendix. *Stamens* 5, approximately equal to the perianth; filaments c. 0.5 mm long; anthers dorsally attached, c. 0.2 mm long. *Nectaries* 2, slightly raised, c. 0.3 mm high, free from the styles, glabrous. *Styles* 2, upright at male anthesis, spreading at female anthesis, up to 0.5 mm long. *Ovary* bicarpellate, laterally flattened, glabrous. *Male flowers* differ from the bisexual flowers in having an undeveloped inconspicuous ovary, with the styles barely protruding above the nectaries. *Fruit* brown, ovoid, 1.7–1.9 mm long, 1.3–2 mm wide, c. 0.4 mm deep. *Mericarps* glabrous, minutely papillate, ovate or elliptic in transverse section, 5–7 ribbed, the ribs keeled. (Figure 1)

Selected specimens (16 examined). WESTERN AUSTRALIA: Watershed Rd 1.8 km N of Basin Rd, 20 km NW of Denmark, 34°45'21"S, 117°08'10"E, 19 Nov. 1991, A.R. *Annels* 1977 (PERTH); Corner of Break & Nornalup roads, 34°49'18"S, 116°57'52"E, 28 Nov. 1994, A.R. *Annels* 5043 (MJP); Private property 2 km SSW of Mt Lindesay, 34°51'30"S, 117°18'00"E, 28 Oct. 1992, B.G. *Hammersley* 771 (PERTH); Denmark Shire–Centre Break road 5.5 km E from Denmark–Mount Barker road, 34°49'55"S, 117°27'50"E, 1 Oct. 1994, B.G. *Hammersley* 1180 (PERTH); Break Rd, 1 km W of Kent River crossing, 34°50'10"S, 117°03'00"E, 22 Oct. 1994, B.G. *Hammersley* 1234 (PERTH); Gladstone Falls, Deep River, 34°52'50"S, 116°35'11"E, 2 Feb. 1997, J.M. *Hart* 403 (CANB, PERTH, SYD); Gladstone Falls, Deep River, 7 Nov. 1995, J.M. *Hart* 95106 (CANB, MEL, NSW, PERTH, SYD); 2.6 km N of Mitchell River on Denmark–Mt Barker road, 9 Nov. 1995, J.M. *Hart* 95117 (PERTH, SYD); Shannon Rock, 1.2 km by road NW of Shannon River, South Western Highway, Shannon National Park, 8 Dec. 1997, M.J. *Henwood* 498 (SYD); Bow River, Nov. 1912, S.W. *Jackson* (NSW); Between Denmark and Walpole near takeoff to Parry Beach along South Coast Highway, 35°01'S, 117°09'E, 9 Dec. 1982, K.H. *Rechinger* 60181 (PERTH).

Distribution. Western Australia: Menzies and Warren Districts: from Shannon National Park east to Sheepwash Creek National Park and south to the coast. (Figure 2)

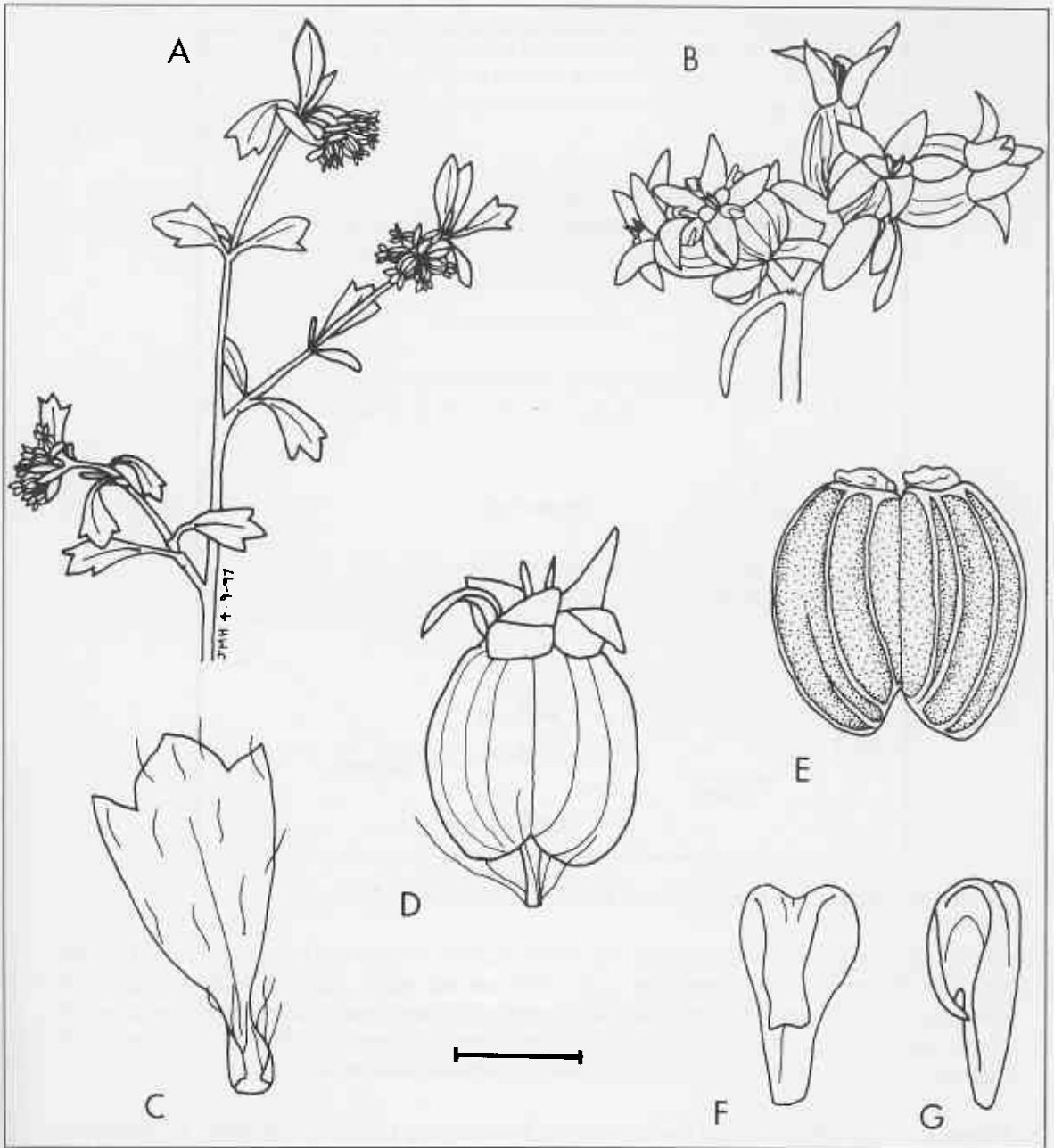


Figure 1. *Xanthosia eichleri*. A – branchlet (scale 10 mm); B – a pair of umbels (scale 2.5 mm); C – leaf with sheathing petiole (scale 3 mm); D – flower, female phase (scale 1 mm); E – fruit, styles shed (scale 1 mm); F, G petals; F – adaxial view showing inflexion, G – side view (scale 0.4 mm). Drawn from *J.M. Hart* 95106 (A–D, F, G) and *J.M. Hart* 403 (E).

Habitat. Sand, sandy loam or granite outcrops mainly in Jarrah–Marri woodland. Most collections are from roadsides.

Phenology. Flowering: October to November. Fruiting: December to February.

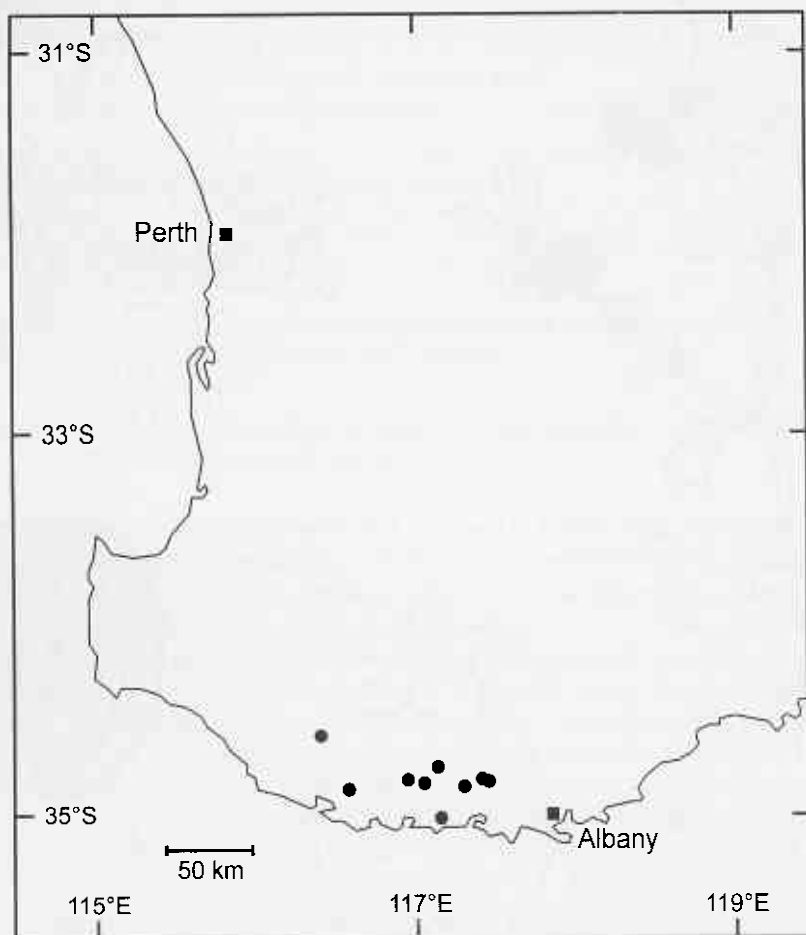


Figure 2. Known distribution of *Xanthosia eichleri* in south west Western Australia.

Conservation status. 2RC- (Briggs & Leigh 1995). Known geographical range restricted to less than 100 km. Three collections have been made within national parks and most collections are from roadsides. The size of the populations within national parks is unknown. The species has no identified threats and is perhaps more common within its range than the current number of collections would suggest. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The specific epithet honours the late Dr Hansjörg Eichler (1916–1992) in recognition of his contribution to the taxonomy of *Xanthosia* and the Australian Apiaceae.

Affinities. *Xanthosia eichleri* is distinguished from *Xanthosia tridentata* by the former's smaller leaves (which are not always tridentate), simple umbels, fruits with fewer ribs and non-peltate sepals. *Xanthosia eichleri* is also similar to *Xanthosia fruticulosa* but differs from it in having simple rather than compound leaves. Fruits of *X. fruticulosa* are smooth with flat ribs, whereas those of *X. eichleri* are minutely papillate with keeled ribs. *Xanthosia ciliata* may be distinguished from *X. eichleri* by its linear leaves, which are very rarely notched. *Xanthosia ciliata* normally has compound umbels, but tightly contracted, simple umbels may be found on individuals with small, entire, linear leaves from the Stirling Range.

Notes. The simple umbels of this species may be misinterpreted as compound umbels, which are more typical of the genus. The umbels of *X. eichleri* are commonly in pairs subtended by a single stem-clasping bract (whereas the number of bracts is equal to the number of rays in all compound umbels in *Xanthosia*) and the involucre bracts surround the flowers in the same manner as in the simple umbels of *X. fruticulosa*.

Xanthosia tridentata is restricted to New South Wales, Victoria and Tasmania and does not occur in Western Australia as stated in the "Flora of New South Wales" (Brooks & Powell 1992).

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