

they remain as narrow as those at Sassafras (i.e. the undersurface of the leaf is not visible on dried specimens because of the revolute margins, although on living material they are not as inrolled). Extending south from Jervis Bay (subsp. *caleyi*), the trend is for leaves to be longer, and also broader, (i.e. with undersurface of leaves visible on dried specimens) so that at the southern extent of the range (Lake Durras) the leaves are almost lanceolate. In this regard, the boundary between these two subspecies appears somewhat arbitrary. The distinction drawn here correlates with a distinction in the substrate (subsp. *leptophylla* is almost restricted to Nowra Sandstone, subsp. *caleyi* is found only on Conjola Formation sediments). Other ecological factors such as habitat (vegetation) and rainfall possibly also correlate with the distribution of these two subspecies, although these need to be further investigated.

The locality of one specimen (Georges River, *Deane*, NSW 22020), is probably incorrect. This specimen is clearly subsp. *leptophylla*, and was probably collected in the vicinity of Nowra.

SELECTED SPECIMENS: NEW SOUTH WALES: Central Coast: 1.7 miles [2.8 km] W along Illaroo Rd, Nowra (N side of the river), 34°52'S 150°35'E, *Coveny 3964 & Bisby*, 10 Mar 1972 (NSW); Nowra Nth., *Constable*, 8 Dec 1950 (NSW 16436); Burrier, Shoalhaven River, left bank, *Rodway*, Feb 1923 (NSW 38756). South Coast: Nowra, *Rodway*, 3 Mar 1934 (NSW 38755, K (Rodway 1268)); Falls Creek, *Rodway*, Feb 1923 (NSW 38740); c. 1.5 km from Currarong Rd along Lighthouse Rd to Pt Perpendicular, Beecroft Peninsula, 35°02'S 150°49'E, *Krauss 239*, 7 May 1990 (NSW); 1 km NE of Honeymoon Bay on road to Lighthouse Rd, Beecroft Peninsula, 35°03'S 150°48'E, *Krauss 241*, 8 May 1990 (NSW); 1 km from Lighthouse Rd on road to Beecroft Hill, Beecroft Peninsula, 35°04'S 150°51'E, *Krauss 244*, 8 May 1990 (NSW); Nowra to Sassafras, c. 10 miles [17 km] SW of Nowra, *Salasoo 3117*, 9 Jan 1966 (NSW 90217); Tianjara Falls, c. 35 km SW of Nowra on Nowra-Nerriga road, 35°07'S 150°20'E, *Krauss 212 & Howitt*, 7 Apr 1990 (NSW); 4 km along Twelve Mile Rd from the Nowra-Nerriga road, 35°09'S 150°21'E, *Krauss 214 & Howitt*, 7 Apr 1990 (NSW). Southern Tablelands: Nerriga, between Nerriga and Towga above The Jumps, *Walker 1145*, Oct 1963 (NSW 69307, ex CANB); 2 miles SSW of Ettrema Trig., near Dogleg Ck, Ettrema Plateau, *Johnson & Briggs 3011*, 15 Mar 1969 (NSW); near Ettrema Ck, *Olsen 2435*, 28 Jan 1975 (NSW); Mt Bulee, 7 miles [11 km] NE of Nerriga, Pigeon House Range, *Constable*, 28 Oct 1957 (NSW 46253); Nerriga, Nowra-Braidwood Rd, *Boorman*, Jan 1915 (NSW 20946); Nerriga-Braidwood Rd, E of Endrick River crossing, *Blaxell 103*, 8 Dec 1968 (NSW); Sassafras, 10 miles [17 km] NE of Nerriga, *Constable*, 9 Mar 1961 (NSW 53914); c. 17 miles E of Nerriga along Braidwood-Nowra Rd, 35°08'S 150°16'E, *Hartley 14272*, 25 Mar 1975 (NSW, ex CANB).

7. *Persoonia mollis* R. Br. subsp. *livens* S. Krauss & L. Johnson, subsp. nov.

Subspecies *leptophylla* similis sed foliis liventi-viridibus pagina inferiore dense villosa distinguitur.

HOLOTYPE: NEW SOUTH WALES: Southern Tablelands: Lower Boro, 28 km N of Braidwood, 35°10'S 149°16'E, *P. Kodala 4076*, Jan 1989 (NSW).

ISOTYPE: CBG.

Small to medium-sized, erect, branching but compact, obconical shrubs 0.5–1.5 m high. *Young stems* silky-pubescent. *Leaves* grey-green, rigid, linear-filiform to linear, truncate to acute, 1.5–3 cm long, 0.08–0.2 cm broad, densely villous on the undersurface when young and often also when mature, the hairs pale, c. 0.5 mm long, closely appressed to the leaf undersurface, the midvein obscure, the margins extremely revolute to the extent that on dried specimens the undersurface is wholly or partly obscured. *Buds* silky-pubescent, the hairs c. 0.5 mm long, weakly spreading. Figure 2.

DERIVATION OF EPITHET: From the Latin *livens*, becoming leaden-green, from the greyer-green appearance of the foliage in contrast to the brighter green of subsp. *leptophylla*. The 'i' is pronounced long; in the English pronunciation this is as in 'alive'.

FLOWERING PERIOD: Late December to March.

HABITAT: In dry sclerophyll eucalypt woodland with an open shrubby scleromorphic understorey on pale sandy to stony loams derived from (Ordovician) meta-sediments or conglomerate.

DISTRIBUTION: In an area roughly bounded by Penrose, Goulburn and Braidwood, west of the Sydney Basin sandstones.

CONSERVATION STATUS: not rare.

NOTES: In the Penrose–Wingello area this subspecies hybridises with subsp. *ledifolia* (see under the latter subspecies).

Along the western edge of the Budawang Range subsp. *livens* is parapatric with subsp. *budawangensis*. This boundary apparently correlates with a geological boundary, although this needs to be confirmed. *P. mollis* subsp. *budawangensis* is apparently restricted to (Upper Devonian) Merimbula Formation sandstone, whereas subsp. *livens* occurs west of this formation. Three specimens housed at NSW, collected along this boundary, are morphologically intermediate between these two subspecies. Although more collections are needed, it seems likely that a narrow hybrid zone exists between the two.

SELECTED SPECIMENS: NEW SOUTH WALES: Central Tablelands: Hume Hwy, Paddys River Bridge, NE end of bridge on bank 50 m from bridge, 34°39'S 150°08'E, *Davies 424 & Mulcahy*, 7 Dec 1987 (NSW ex CBG); Penrose, *Blakely*, 2 Oct 1938 (NSW 21519); Wingello, *Boorman*, Feb 1901 (NSW 21520), Aug 1899 (NSW 20944); Barbers Creek, *Maiden*, Dec 1899 (NSW 21522); Tallong, *Forsyth*, Jan 1900 (NSW 21523). Southern Tablelands: top of Governors Hill, E side of Goulburn, on Hume Hwy, *Rodd 5425, Corbett & Wilson*, 12 Apr 1986 (NSW, K); Goulburn, *Moore*, Feb 1865 (NSW 21526); Tarago, *Froggatt*, Oct 1894 (NSW 21527); Church of Mayfield, c. 25 km N of Braidwood, 35°13'S 149°18'E, *Kodala*, Jan 1989 (NSW 228133); near Warri Bridge, Shoalhaven River, 13 km NNW of Braidwood, 35°20'S 149°44'E, *Adams 2381*, 7 Feb 1969 (NSW, ex CANB, K, L); Charlies [Charleys] Forest near Braidwood, *Boorman*, Mar 1909 (NSW 21517); Currockbilly Mt, near Braidwood, *Boorman*, Sep 1915 (NSW 21516).

P. mollis subsp. *budawangensis* – *P. mollis* subsp. *livens* intergrades:

SPECIMENS EXAMINED: NEW SOUTH WALES: Southern Tablelands: 15.6 km SW of Nerriga on Nerriga–Braidwood road, c. 700 m N of Charleys Forest Rd, 35°14'S 150°02'E, *Krauss 233 & Howitt*, 9 Apr 1990 (NSW); c. 1 km S of Nerriga–Braidwood road on Charleys Forest Rd, 35°15'S 150°02'E, *Krauss 232 & Howitt*, 9 Apr 1990 (NSW); foot of Mt Currockbilly, 50 miles [80 km] SW of Nowra, *Rodway*, 29 Jan 1940 (NSW 38776).

8. *Persoonia mollis* R. Br. subsp. *caleyi* (R. Br.) S. Krauss & L. Johnson, comb. et stat. nov.

BASIONYM: *Persoonia caleyi* R. Br.

(R. Brown 1830: 13).

LECTOTYPE (here designated): Jervis Bay, *G. Caley*, Mar 1801 (BM). This sheet contains four elements. The two on the left (top and bottom) are Caley specimens. The two on the right (middle and far right) were collected by Baxter, the location given being Wilsons Promontory. This location is virtually certain to be incorrect, as the known southern limit of *P. mollis* is Lake Durras. These two elements were probably collected from the Jervis Bay area, as they are morphologically somewhat intermediate between subsp. *caleyi* and subsp. *leptophylla*. Of the two Caley elements, the top one is probably subsp. *leptophylla*. The bottom left element agrees well with the diagnosis and is clearly subsp. *caleyi* (as here defined), and is therefore here designated the Lectotype.

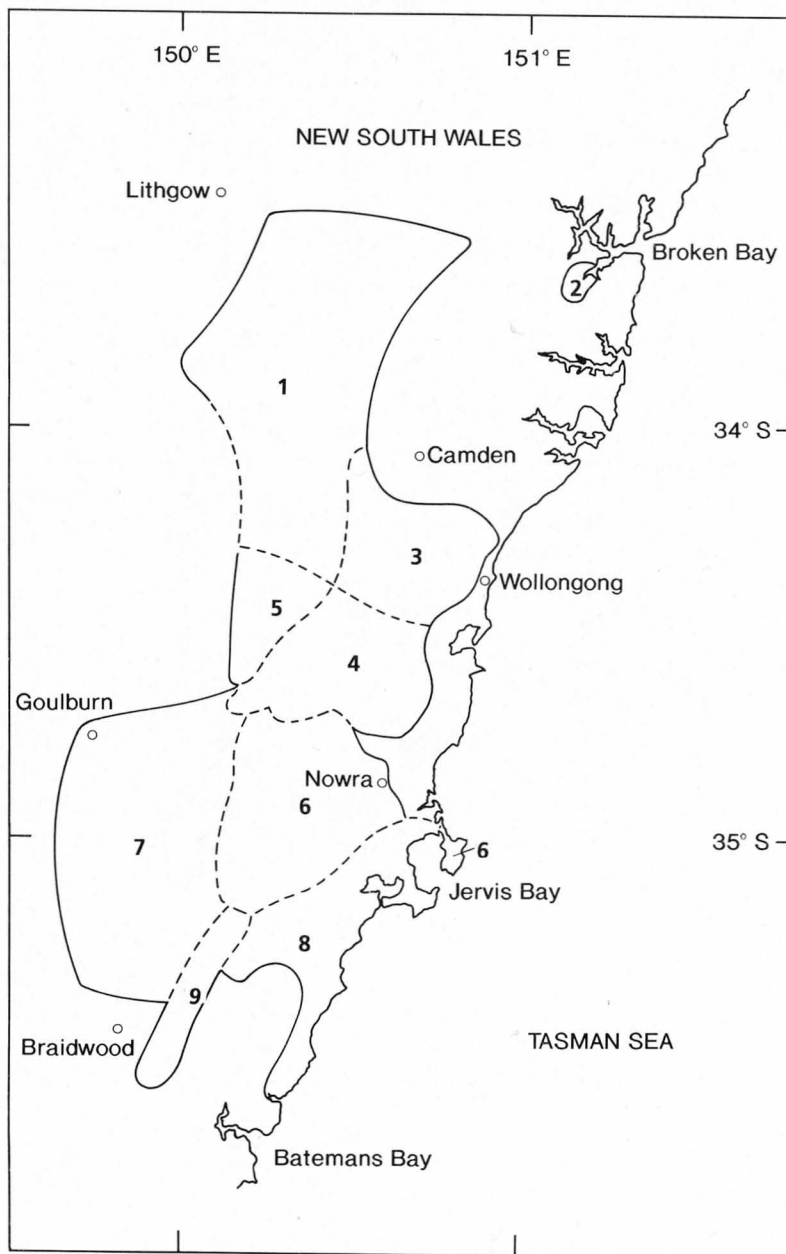


Figure 1. Distribution of *Persoonia mollis* subspecies: 1, subsp. *mollis*. 2, subsp. *maxima*. 3, subsp. *nectens*. 4, subsp. *ledifolia*. 5, subsp. *revoluta*. 6, subsp. *leptophylla*. 7, subsp. *livens*. 8, subsp. *caleyi*. 9, subsp. *budawangensis*. Solid lines indicate more or less exact boundaries. Broken lines indicate either approximate boundaries or hybrid zones.

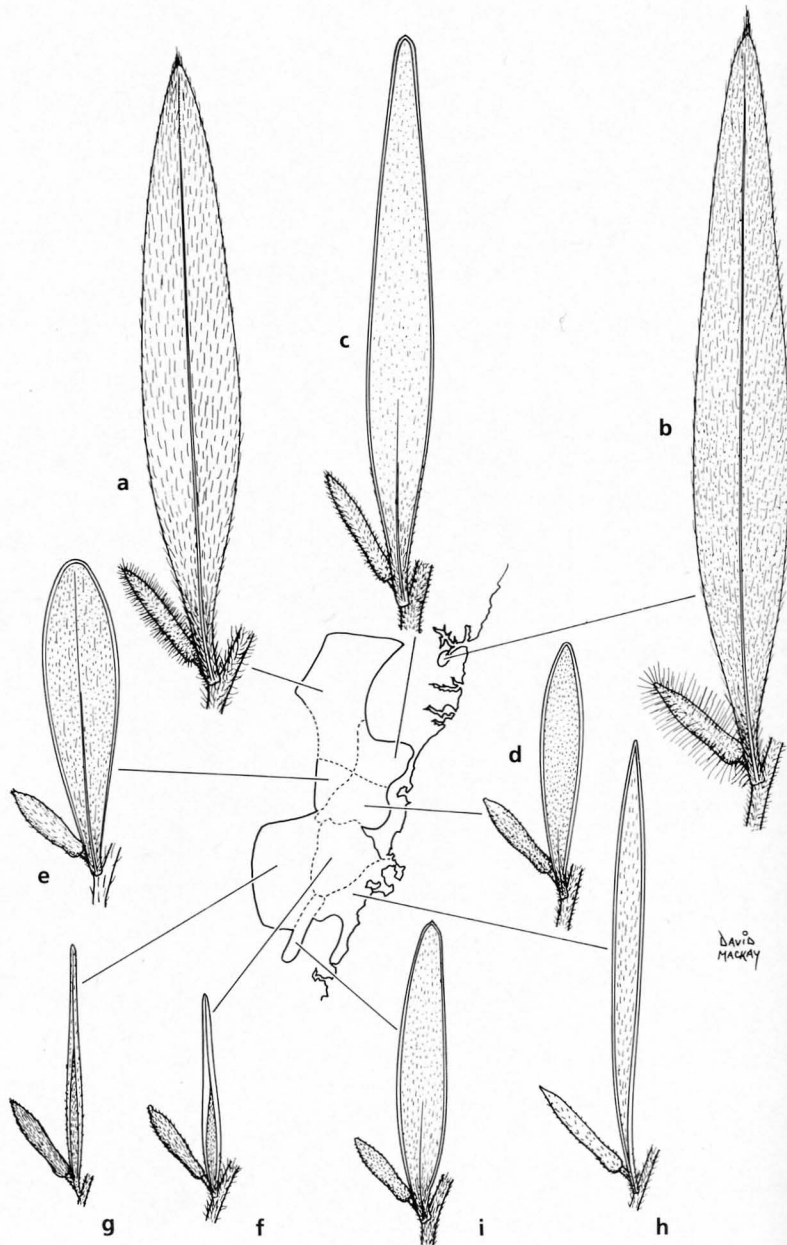


Figure 2. Typical leaf (undersurface) and bud of each *Persoonia mollis* subspecies (x 1.2): a, subsp. *mollis* (R. Brown NSW 21317). b, subsp. *maxima* (holotype). c, subsp. *nectens* (holotype). d, subsp. *ledifolia* (Krauss 204). e, subsp. *revoluta* (Krauss 237 & Johnson). f, subsp. *leptophylla* (holotype). g, subsp. *livens* (holotype). h, subsp. *caleyii* (Krauss 227 & Howitt). i, subsp. *budawangensis* (holotype).