



## Topic 32: MINT BUSHES (Lamiaceae)

### INTRODUCTION

*Lamiaceae*= Derived from Mediterranean genus *Lamium*

*Labiata*= Latin meaning lipped.

The order Lamiales include: Lamiaceae, Verbenaceae, Boraginaceae families.

The **Lamiaceae** family worldwide has about 3500 species in nearly 200 genera. In Australia there are about 250 species in 38 genera, all States and currently are under revision, it is expected changes of species names and new species and hybrids.

The Lamiaceae family includes mostly aromatic herbs, occasionally shrubs and trees with square stems and opposite or whorled simple leaves with aromatic oil glands. The corolla of flowers are tubular, deeply lobed often 2- lipped.

This family includes many culinary herbs introduced to Australia: lemon balm, mint, marjoram, rosemary, sage, thyme, ornamental plants like salvia, coleus, lavender, the latter cultivated in Tasmania and Victoria for commercial extraction of oils for perfumes.

The Australian endemic genera *Prostanthera* and *Westringia* are well known ornamental plants, to a lesser extend are *Hemigenia*, *Hemiandra*, *Microcorys*.

This paper deals mainly with the most common *Prostanthera* and *Westringia* which were planted in the KWG and some planted in the gardens of the North Shore suburbs.

### PROSTANTHERA- MINT BUSHES

*Prostanthera*=*gk. prostheke*, an appendage + *anther* ,

*Prostanthera* is a genus of about 100 species of native Australian plants, they are small to medium shrubs with aromatic foliage, with square stems, some are prostrate with wiry, twiggy branches. This genus is under revision, it is expected changes of names and new species. Natural hybrids occur between several species.

**Leaves** are opposite, rarely in 3-leaved whorls, leaves on main stems are larger than those closer to the inflorescence.

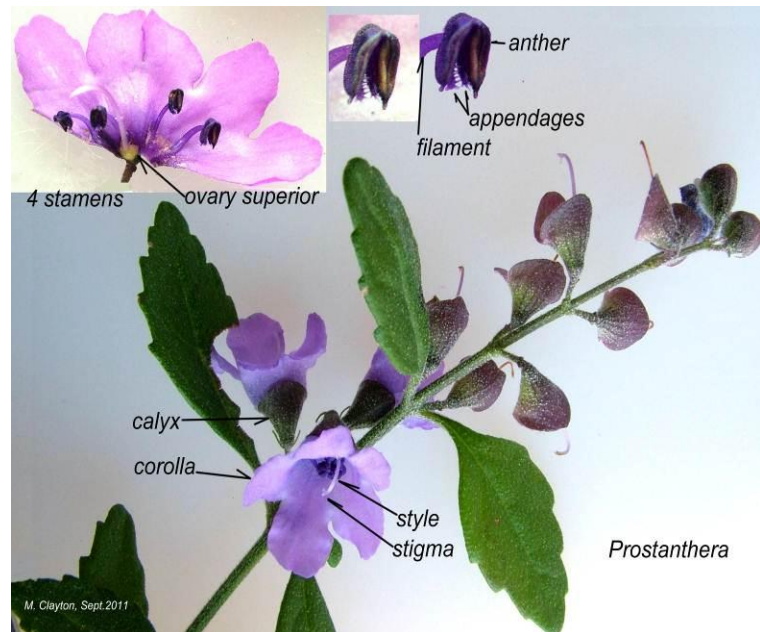
**Flowers** irregular, bisexual, arranged in axillary cymes, sometimes solitary, colour varies from white, blues to purple, mauve, more or less trumpet-shaped. Pedicels with two bracteoles.

**Calyx**-5 united sepals. Calyx 2-lipped, usually entire, some may show a notch.

**Corolla**- 5 united petals, tubular, with upper lip 2-lobed and lower lip 3-lobed.

**Androecium**- 4 stamens epipetalous in pairs. Anthers 2- celled often with 1 or 2 appendages whose presence or absence is used for identification.

**Gynoecium**- Ovary superior, 4-lobed (4 loculi), style inserted between ovary lobes, stigma is forked.



**Fruit:** Schizocarp capsule, a dry dehiscent fruit which splits into individual carpels in this case derived from (4 loculi).

**Key for identification of some common local genera**

**Calyx**-The calyx of *Prostanthera* has 2 entire lips or lobes, *Westringia* and *Hemigenia* have 5 toothed lobes. The calyx of *Plectranthus* is 2- lipped: the upper entire and the lower with 4 acute teeth.

**Stamens**- *Westringia* has 2 stamens and 2 staminodes, the other genera have 4 stamens.

**Leaves**-*Prostanthera* and *Plectranthus* have opposite leaves, *Westringia* and *Hemigenia* whorled.

**Habit**-All are shrubs except *Plectranthus* which is a herb.

The *Prostanthera* in the Wildflower Garden were planted, they are not native to this area. Observation by M. C. for the period 2006 -2011 found:

KWG = Existing plants; \* = now not present in the Senses Track. Id. by R.B.G.Syd. Oct. 2010)

KWG	<i>Prostanthera caerulea</i>	KWG	<i>Prostanthera sieberi</i>
	<i>Prostanthera denticulata</i>	KWG	<i>Prostanthera Hybrid</i> , Knoll
	<i>Prostanthera incisa</i>	KWG	<i>Prostanthera Hybrid</i> , front V. Centre
KWG	<i>Prostanthera ovalifolia</i>	*	<i>Prostanthera incana</i>
	<i>Prostanthera rhombea</i>	*	<i>Prostanthera incisa</i>
	<i>Prostanthera rotundifolia</i>	*	<i>Prostanthera Hybrid incisa</i> + <i>ovalifolia</i>
	<i>Prostanthera scutellarioides</i>	*	<i>Prostanthera violaceae</i>

***Prostanthera caerulea* Lilac Mint Bush.**

*caerulea*= blue.

Erect dense, showy shrub to 3m high; branches 4 ridged, covered with glands with some curled hairs on the ridges. Grows in heath, wet sclerophyll forest and sheltered gullies, on sandy soils, north from Wollongong, Blue Mts., N. tablelands. QLD.

**Leaves** are narrow ovate 2 - 6 cm long, glabrous, mid green, margins slightly to strongly toothed

**Flowers** numerous, in terminal raceme- like inflorescence, deep lilac, bluish. Anthers appendages shorter than the anthers.

**Flowering:** October to November



***Prostanthera denticulate* Rough Mint Bush**

*denticulate*= Lat. *Finely toothed*

Small straggling shrub to 1m high, branches covered with appressed hairs. Grows in damp sclerophyll forest and woodland on Narrabeen



shales. *Denticulata* is confined to the Sydney district, Mona Vale, Frenchs Forest, Cowan.

**Leaves** are narrow ovate 4- 10 mm long, mid green, almost sessile, lamina with short glandular hairs, mostly near re-curved margins. Opposite leaves scattered along stems.

**Flowers:** raceme like clusters in terminal branches, mauve to lilac. Calyx lobes about equal, hairy, reddish when flowers are mature. The appendage on one anther lobe is larger than the other. **Flowering:** September- November

### ***Prostanthera incisa* Cut-leaved Mint Bush**

*incisa*= Latin cut ( refer to leaves)

Erect, branched shrub, 0.5 -3 m tall. Stems uniformly and densely hairy. Grows in wet sclerophyll forest, on margins of rainforest, Hawkesbury River to Newcastle, South Coast, N. Tablelands.

**Leaves:** aromatic, flat, broad ovate, **hoary with minute hairs**, 8-30mm long, margins coarsely toothed. Green surfaces, lower surface paler covered with short curled hairs, densely covered with glands. Leaves closer to flowers are smaller than others.

**Flowers** in terminal raceme like clusters, pale mauve. **Lower calyx lobe is longer and slightly narrower than the upper lobe.**

Anther appendages are shorter than the anther loculus( Fairly, Moore). Appendages absent, each loculus with the tuft of basal hair. (Flora NSW). It is confused with *P. sieberi*, the main difference is that *P. sieberi* has hairless leaves and calyx lobes are blunt and nearly equal in size. **Flowering:** Chiefly in spring.



### ***Prostanthera ovalifolia* Oval-leaf Mint-bush, Purple Mint-bush.**

Erect spreading to dense shrub 1-4 m high; braches 4 angled, covered with glands and soft hairs. Found in wet and dry sclerophyll forest, on sandstone, North of Hornsby, Wisemans Ferry.

**Leaves:** varies from narrow-ovate to ovate, 5-40mm long, flat, soft, margins entire to slightly sinuate, mid to dark green, lower surface paler, covered with glands, glabrous except some hairs in mid vein, Leaves stalk 1-6 mm.

**Flowers:** Showy display of mauve to purple flowers in



raceme like clusters, bracteoles not persistent. Anther appendages absent or 0.5 mm. **Flowering:** Aug- Nov.

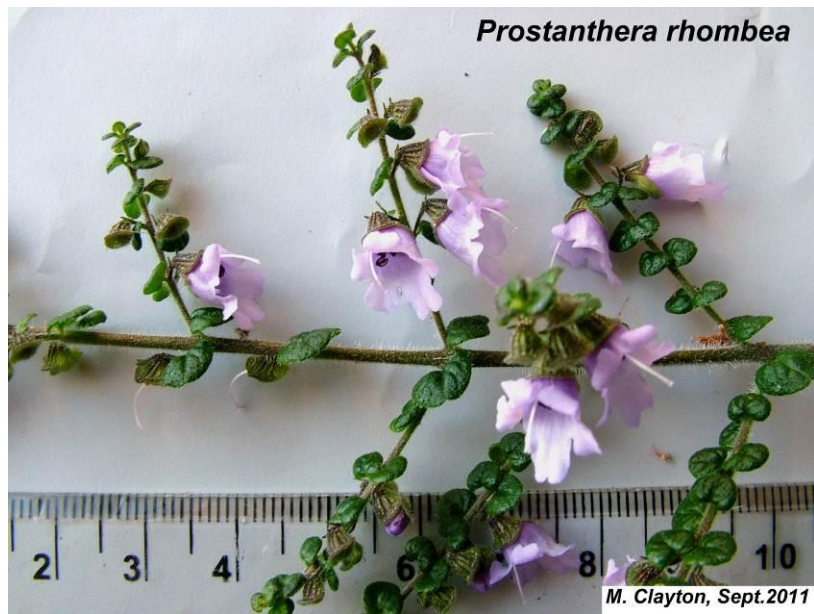
***Prostanthera rhombea* Sparkling Mint-bush**

*rhombea*=Lat. ref. to rhomboidal leaves

Small spreading wiry shrub to 1.5m high, strongly aromatic; branches covered with stiff hairs and gland tipped hairs. Found in rainforest or sclerophyll forest, in gullies on sandy-loam soils. Brisbane Water, Bargo, N. Coast.

**Leaves** circular, 2-6 mm diameter, appears angular-ovate due to recurved margins, mid green, wrinkled, glabrous or with stiff hairs and gland- tipped hairs, about 1mm stalk.

**Flowers:** one- flowered inflorescence, small, mauve. Calyx downy with glandular dots, upper calyx lobe a bit enlarged in fruit. Anther appendages are absent or short. Bracteoles persistent **Flowering:** Aug.- Oct.



***Prostanthera rotundifolia* Round-leaved Mintbush**

*rotundifolia*= round leaves .Lat. Rotundus, round

Erect compact to spreading shrub to 3m high; branches with short hairs and glands, aromatic. Grows in sheltered sites sclerophyll forest, on margins of rainforest, in rocky areas. Upper Blue Mts., Colo Heights, N. Coast.

**Leaves** flat rounded to obovate to 20 mm long, margins entire or irregularly lobed, glandular, mid green above and paler below, petiole 2-8 mm long.

**Flowers** axillary, purple mauve, pinkish. Anthers with each lobe with a tuft of basal hairs.

**Flowering:** Sept. - Oct.



***Prostanthera scutellarioides* Coast Mintbush**

*scutellarioides*= like scutellaria, genus in same family.

Erect or decumbent shrub to 1.5m high, branches ridged and hairy. Restricted distribution in the Sydney District see Ref.:6.



Found in dry sclerophyll forest and woodland on alluvial, poor lateritic sands and heavy clay. Windsor, Castlereagh, Cumberland Plain.

**Leaves** linear, curved, glabrous, 6-20 mm long, apex acute, surfaces light green with glands, 0.5 mm stalk.

**Flowers** deep mauve to purple bluish tinge, short stalk, axillary, bracteoles persistent, markings absent. Anthers without appendages. **Calyx lower lobe often with 2 sharp points. Flowering:** April to Dec.

### ***Prostanthera sieberi***

*Sieberi*= after F. W. Sieber, botanist born in Prague. Collected in NSW in 1823

Tall erect shrub to 2m high, strongly aromatic, squared stems moderately covered with fine hair. Grows in sheltered gullies. Mt Kembla, Royal NP, Lower N. Coast.

**Leaves are glabrous**, flat, broad ovate to diamond shaped 5-15 mm long, leaf base narrows to a long stalk, margins coarsely toothed, surfaces with glands. Leaves are smaller in new shoots.

**Flowers** are purple to mauve, clusters in upper axils, **calyx lobes are almost equal**, broad, glabrous, Anther appendages are short but one is longer than the other. This species is often included in *P. incisa* complex. Differences are in leaves and calyx lobes. **Flowering:** Sept.- Oct.



### **WESTRINGIA**

*Westringia*= After DR. J. P. Westring, a Swedish, writer on Lichens.

It is an endemic genus of about 25 species, in all states except NT. The flower has 2 fertile stamens and 2 staminodes, different from *prostanthera* which has 4 fertile stamens. The calyx is 5 lobe; corolla: upper lip is erect, 2 lobed and lower lip is spreading, 3 lobed.

### ***Westringia Fruticosa* Coast Rosemary**

*Fruticosa*= Lat. Shrub like

Dense spreading shrub to 1.5m high. Grows near seashores on exposed cliffs, NC, CC, SC, NT, ST.

Hardy plant, grows in almost any situation, salt resistant, used as root stock for grafting most *Prostantheras*.

**Leaves:** lanceolate, 10 -30 mm long, entire margins recurved to revolute, mostly in whorls of 4,



rarely 3 or 5, lower surface and stalk cover with fine white hairs, upper surface glabrous or some hairs on the basal end.

**Flowers:** In leaf axils, corolla 10-14 mm long, white with purplish to orange brownish dots on lower lip. Calyx 5 lobed, covered with white hairs. **Flowering:** Most of the year.

### ***Westringia longifolia* Long-leaved Westringia**

*longifolia* = Lat. Long-leaved.

Erect shrub to 3m high, Grows in moist shrubland, creek and river banks, Georges, Colo, Bargo Rivers.

**Leaves** in whorls of 3, linear, flat or recurved, 12-35 mm long, margins entire, upper surface shiny green with depressed midvein, lower surface paler. Stalk very short.

**Flowers** axillary, corolla 8-10mm long, white to pale mauve, spotted with purple to light brown dots on lower lip, with stalk. Calyx green sparsely hairy, 5 lobed. **Flowering:** July to Dec.

**Rare Prostantheras of Sydney:** see REF. 6

**Propagation & Cultivation:** see REF. 3, 10 and 12



### **REFERENCES**

1. PlantNET NEW SOUTH WALES FLORA ONLINE
  2. Australian National Botanic Gardens Website
  3. Australian Native Plants Society (Australia) Website
  4. Harden, Gwen J. *FLORA OF NEW SOUTH WALES Volume 3*. Royal Botanic Gardens Sydney.
  5. Harden, Gwen J & Murray Louisa J. Supplement to *FLORA OF NEW SOUTH WALES Volume 1*. Royal Botanic Gardens Sydney.
  6. Fairley, A. *Seldom Seen Rare Plants of Greater Sydney*. Reed New Holland. 2004
  7. Pellow, B J. Henwood, M J & Carolin, R C. *Flora of the Sydney Region. Fifth ED*. Sydney University Press 2009.
  8. Fairley, A & Moore, P. *Native Plants of the Sydney Region*. Allen & Unwin. 2010.
  9. Robinson, L. *Field Guide to the Native Plants of Sydney*. Kangaroo Press. 2003
  10. Wrigley, J. W. & Fagg, M., *Australian Native Plants. Fifth ED*. Reed New Holland. 2003
  11. Lassak, E. V. & McCarthy T., *Australian Medicinal Plants*. Reed New Holland 2001
  12. Mason J., *Growing Australian Natives* Kangaroo Press 1997
  13. Jessop, J. P., *Australian Lamiaceae, Australian Plants, 10 :299-307 ( 1980)*
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