

Inflorescence a dense pink to lilac globose spike 10-13mm long borne on a 10-30mm hairy peduncle, 1-5 heads appearing from a leaf axil. Calyx c. 0.2mm long. Corolla 1.5-2.3mm long, the petals joined for more than $\frac{1}{2}$ their length, almost colourless. Stamens 4, the 0.3mm anthers borne on c. 8mm pink filaments.

Pod 9-20mm long, 3-5mm wide, flattened, the upper and lower margins indented between each seed, the margins provided with coarse, spreading 2-3mm bristles, dark brown and breaking up when ripe, containing 2-4 seeds. Seeds c. 3mm

long, pear-shaped, flattened, dark red-brown to almost black, the surface finely granular.

Distribution: Co., Mo., N.K., P.C., S.K., W.B. Also N.T. Probably originally from South America but now pan-tropical. Moist situations.

Notes: A weed of disturbed areas and heavily grazed pastures in the wet tropics. Palatable to stock, but contains the toxic amino acid mimosine. The roots contain about 19% tannin. Self-pollinating, nodulates.

References: 3, 16, 17, 18, 50, 60, 108, 120, 149, 157, 180, 287, 306.

Mirbelia

Woody shrubs or almost herbaceous, with simple alternate, opposite or irregularly whorled leaves, or leafless. Flowers variously coloured, small to quite large and showy, the bracts and bracteoles small or lacking. Stamens 10, the filaments free. Pod plump, divided longitudinally by a partition, grooved along the top, containing 2-12 seeds. An endemic Australian genus.

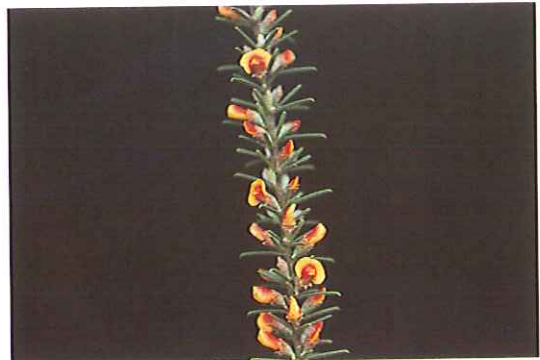
Key to species

- | | |
|--|-------------------------|
| 1. Plants leafless | <i>M. viminalis</i> |
| Plants leafy | 2 |
| 2. Leaves 1.5-3mm wide, the upper surface conspicuously reticulate; flowers pink to purple | <i>M. rubiifolia</i> |
| Leaves c. 1mm wide, the upper surface not conspicuously reticulate | 3 |
| 3. Flowers in short dense racemes, terminal or in upper leaf axils; ovules 2; flowers orange | <i>M. confertiflora</i> |
| Flowers single or several in leaf axils | 4 |
| 4. Calyx lobes as long as the tube; ovules 10-12; flowers bluish purple | <i>M. speciosa</i> |
| Calyx lobes shorter than the tube; ovules 2 or 4; flowers yellow and dark red | 5 |
| 5. Leaves with a straight sharp point; ovules 4 | <i>M. pungens</i> |
| Leaves with a hooked point; ovules 2 | <i>M. aotoides</i> |

Mirbelia aotoides

Rigid erect or spreading shrub to c. 1.5m tall. Young stems densely covered with short more or less adpressed white hairs. Stipules lacking. Leaves alternate or irregularly whorled. Petiole less than 1mm long. Leaf blade 5-18mm long, c. 1mm wide, the margins parallel and downward-rolled, ending in a downward-hooked point, sparsely and indistinctly covered with short hairs and with minute warty tubercles on the upper surface.

Flowers showy, single or several in leaf axils, almost sessile, lacking bracteoles. Calyx c. 4mm long, densely covered with minute adpressed hairs, the two dorsal sepals totally fused and together almost square across the tip, the sepals



Mirbelia aotoides, Durong, 26°27'S, 151°09'E.

otherwise joined for c. $\frac{5}{8}$ their length, the teeth broadly triangular. Standard c. 5mm tall, 10mm

wide, yellow, red towards the base, indented at the tip. Wings c. 8mm long, red to orange, c. 2mm longer than the red keel.

Pod 6-7mm long, oval, plump, hairless, containing 2 seeds.

Distribution: Bur., D.D., Lei., Ma., Mi., N.K., P.C., W.B. Also N.S.W. Grows in eucalypt forests on infertile sandy or stony soils derived from sandstone.

Notes: Of no grazing significance. Superficially very similar to species of *Aotus*.

References: 17, 26, 248, 287, 298, 331.

Mirbelia confertiflora

Shrub to 2.5m tall. Young stems sparsely covered with adpressed silky hairs. Stipules lacking. Leaves alternate or irregularly whorled. Petiole 1-1.5mm long. Leaf blade 15-25mm long, 1-1.5mm wide, the margins rolled downwards and almost parallel, ending in a straight, rigid, c. 1mm point, hairless or minutely hairy on both surfaces.

Inflorescence a dense 10-20mm raceme borne terminally or in upper leaf axils. Flowers borne singly within the axils of narrow c. 3.5mm hairy bracts, each on a c. 3mm pedicel which bears a pair of 2-4mm hairy bracteoles below the calyx. Calyx 6-7mm long, densely covered with white to ginger-brown spreading hairs, the two dorsal sepals almost totally joined, almost square across the tip, the sepals otherwise joined for c. $\frac{1}{2}$ their length. Standard orange, c. 5mm tall, 10mm wide. Wings orange, c. 7mm long from base of calyx, exceeding the keel.

Pod c. 4.5mm long, 3.5mm wide, plump, hairless and purple-brown when ripe, containing 2 seeds.

Distribution: D.D. Also N.S.W. An uncommon plant to be found on granite soils near Stanthorpe in sparse eucalypt forest.

Notes: Of no grazing significance.

References: 248, 287, 297.

Mirbelia pungens

Erect or prostrate shrub usually less than 0.5m tall. Stems minutely hairy. Stipules lacking. Leaves alternate or irregularly whorled. Petioles minute. Leaf blades 8-18mm long, c. 1mm wide, the margins rolled downwards and more or less

parallel, ending in a straight sharp point, with or without minute tubercle-based hairs.

Flowers single or several in leaf axils, each on a minute pedicel which bears a pair of minute bracteoles. Calyx c. 3mm long, covered with minute white hairs, the two dorsal sepals joined almost to the tip, together almost square-ended, the sepals otherwise joined for c. $\frac{2}{3}$ their length. Standard yellow, dark red at the base, c. 4mm tall, 5mm wide. Wings c. 5mm long from base of calyx, dark red, a little longer than the purple-tipped keel.

Pod c. 3mm long, 2mm wide and broad, covered with silky hairs, containing 4 seeds.

Distribution: Bur., D.D., Lei., Ma., Mi., Mo. Also N.S.W. Grows on sandy and stony soils on hills and ridges.

Notes: Unattractive to stock.

References: 17, 23, 26, 111, 131, 158, 197, 225, 248, 287, 298, 331.

Mirbelia rubiifolia

Low shrub to 0.6m tall. Stems slender, angular, sparsely covered with minute adpressed hairs or hairless. Stipules lacking. Leaves usually in well-separated whorls of 3. Petiole c. 1mm long. Leaf blade 10-20mm long, 1.5-3mm wide, broadest about the mid-point, the margins only slightly rolled downwards and more or less curving to the minutely pointed tip and rounded base, the upper surface distinctly reticulate-veined and shiny, the lower hairless or with scattered hairs along the mid-vein.

Flowers in clusters in leaf axils or in 5-10mm terminal racemes, each flower borne on a c. 2.5mm pedicel, a pair of minute bracteoles well below the calyx. Calyx c. 3mm long, covered with minute adpressed white hairs, the two dorsal sepals joined almost to the tip, together almost square-ended, the sepals otherwise joined for c. $\frac{2}{3}$ their length. Standard c. 3mm tall, 5mm wide, pink. Wings c. 6mm long from base of calyx, pink, exceeding the keel.

Pod c. 5mm long, including the short stalk above the calyx, c. 3mm wide and broad, hairless, light brown when ripe, containing two black seeds.

Distribution: D.D., Lei., Mo., P.C., W.B. Also N.S.W. Grows on sandy wallum soils and rocky slopes in open eucalypt forests.

Notes: Of no grazing significance. Sometimes cultivated as an ornamental. Nodulates.

References: 3, 23, 26, 154, 158, 197, 248, 287, 298, 333; as *M. reticulata*, 17, 50.

Mirbelia speciosa

Erect shrub to 1m tall. Stems angular, hairless or somewhat hairy. Stipules lacking. Leaves in often well-separated irregular whorls of 3 or alternate. Petiole c. 0.5-1mm long. Leaf blade 10-50mm long, c. 1mm wide, the margins rolled downwards, more or less parallel, indistinctly pointed, hairless or sparsely covered with adpressed silky hairs.

Flowers showy, single in leaf axils, each on a 1-3mm pedicel with a pair of 2-6mm bracteoles at the base of the calyx. Calyx c. 6-7mm long, more or less covered with adpressed silky hairs, the two dorsal sepals joined for c. $\frac{3}{4}$ their length, the sepals otherwise joined for c. $\frac{1}{2}$ their length, the teeth tapering to fine points. Standard c. 9mm tall, 14mm wide, deeply indented at the tip, dark purple with two yellow "eyes" at the base. Wings dark purple, c. 11mm long from base of calyx, more than twice the length of the purple-tipped keel.



Mirbelia speciosa ssp. *speciosa*, Stanthorpe, 28°31'S, 151°54'E.

Pod 10-15mm long including the short stalk above the calyx, c. 3mm wide, 5mm broad, hairless, brown to black when ripe, containing 10-12 seeds.

Key to subspecies

Leaves	10-20mm	long;	
bracteoles	shorter than	calyx	
tube			ssp. <i>speciosa</i>
Leaves	20-30mm	long;	
bracteoles	longer than	calyx	
tube			ssp. <i>ringrosei</i>

Distribution: Co., D.D., Lei., Mo., N.K., S.K., Wa. Also N.S.W. Grows on sandy soils in open eucalypt forest in a few widely scattered localities.

Notes: Of no grazing significance but of horticultural interest. A white-flowered form has been recorded.

References: 17, 26, 197, 248, 287, 298, 332.

Mirbelia viminalis

Broom bush

Dense leafless perennial shrub to 0.6m tall. Stems hairless, cylindrical, ending in sharp spines.

Flowers single or paired in the axils of c. 0.5mm bracts, each flower on a c. 0.5mm pedicel which bears a pair of minute bracteoles. Calyx c. 1.5mm long, sparsely hairy, the sepals joined for c. $\frac{1}{2}$ their length. Corolla yellow, the standard c. 2mm tall and wide. Wings c. 3mm long from base of calyx, exceeding the keel.



Mirbelia viminalis, Charters Towers-Clermont, 21°13'S, 146°30'E.

Pod c. 4mm long, 2mm wide, 3mm broad, hairless, containing two seeds, light brown when ripe.

Distribution: N.K., S.K. Also W.A., N.T. Occurs in heaths or open woodlands on rocky or gravelly soils.

Notes: Of no grazing significance.

References: 132, 172, 251, 333; as *M. oxyclada*, 17.