



Macroptilium lathyroides, Samford, 27°22'S, 152°53'E.

slightly rounded base, usually covered with adpressed hairs on the lower surface.

Inflorescence an axillary raceme up to 400mm long, including the long, stout peduncle, the flowers crowded in the upper $\frac{1}{4}$ - $\frac{1}{2}$. Flowers borne in pairs, within the axils of very deciduous bracts, each on a c. 1mm pedicel which bears a pair of very deciduous bracteoles at the tip. Calyx 4-7mm long, covered with minute adpressed hairs, the sepals similarly joined for $\frac{1}{3}$ their

length, the teeth triangular. Standard pink, c. 10mm tall, 9mm wide, strongly indented at the tip. Wings dark pink, c. 22mm long from base of calyx, almost circular with a narrow base, asymmetrically spreading. Keel greenish, tubular, twisted almost into a complete circle.

Pods 80-100mm long, 2-3mm wide, straight, rounded in section, covered with short adpressed hairs, brown when ripe, containing c. 12-18 seeds. Seeds 3-4mm long, 1-2.5mm wide, plump, more or less kidney-shaped, flecked with black on reddish brown.

Distribution: Co., Lei., Mo., N.K., P.C., S.K. Also N.T., W.A., N.S.W. Native of tropical America, now widely naturalized through the world's tropics.

Notes: A palatable species but not persistent under grazing. The commercially used variety was named cv. Murray in 1966. A major source of pollen for honey bees. Nodulates. Self-pollinating.

References: 26, 46, 78, 112, 174, 180, 287, 306; as *Phaseolus lathyroides*, 16, 22, 44, 50.

Macrotyloma

Annual or perennial twining herbs with pinnate leaves with three leaflets. Stipels present. Flowers few in leaf axils, yellow-green, small to medium-sized. Wings very narrow. Stamens 10, 9 filaments joined in a dorsally split tube, 1 free. Style hairless or shortly hairy, the stigma surrounded by a ring of hairs.

Key to species

Flowers 6-12mm long, the standard 4-8mm wide
Flowers 12-15mm long, the standard 10-12mm wide

M. uniflorum
M. axillare

Macrotyloma axillare

Perennial with twining stems to 3.5m long. Stems more or less covered with adpressed silky hairs. Stipules 2-5mm long, tapering to a point. Petiole 12-40mm long, rachis 2-11mm long; stipels c. 1.5mm long. Leaflets 20-50mm long, 15-35mm wide, broadest at or below the mid-point, the tip and base broadly angled, covered with minute adpressed hairs on both surfaces, the upper surface slightly shiny, mucronate.

Inflorescence a contracted axillary raceme of 2-3 (rarely to 6) flowers, the peduncle up to c. 2mm long. Flowers borne within the axils of 2-3mm bracts, each on a 2-3mm pedicel which bears a pair of persistent 2.5-3mm bracteoles at the tip.

Calyx covered with silky adpressed hairs, c. 6mm long, the sepals joined for c. $\frac{1}{2}$ their length, the dorsal teeth almost totally joined. Standard greenish yellow, usually 12-15mm long, 10-12mm wide. Wings greenish yellow, very narrow, 12-14mm long from base of calyx, about the same length as the keel.

Pod 30-50mm long, c. 7mm wide, flattened, the tip extended into a c. 7mm point, covered with minute adpressed hairs, dark brown when ripe, containing 5-9 seeds. Seeds 2.5-3mm long, more or less oval, flattened, mottled light and dark.

Distribution: Mo. Also N.S.W. An African species commonly grown in pastures in wetter



Macrotyloma axillare, Kenilworth, Cult. pasture.

parts of the south-east but rarely truly naturalized.

Notes: Palatable to stock when they have become accustomed to it and tends to be more acceptable to stock late in the season. Meat of lambs grazing pure swards of this species may have an objectionable odour (Park and Minson (1972), *J. Agric. Sci.*, Camb. 473-478). The cultivar Archer was released in 1966. Nodulates.

References: 3, 22, 26, 46, 80, 141, 221, 306.

Macrotyloma uniflorum

Horse gram

Perennial or annual with twining stems. Stems sparsely to quite densely covered with more or less spreading white hairs. Stipules 4-8mm long, tapering to a point. Petiole 10-35mm long, rachis 2.5-10mm long; stipels c. 1mm long. Leaflets 10-

35mm long, 7-30mm wide, thin textured, broadest close to the mid-point, the tip and base broadly angled or rounded, more or less minutely hairy on both surfaces.

Flowers in clusters of 1-5 in leaf axils, the peduncle and rachis less than 15mm long. Flowers borne within the axils of c. 2mm bracts, each on a 1-7mm pedicel which bears a pair of c. 3mm bracteoles at the tip. Calyx hairy, 5-10mm long, the tube c. 2mm long, the dorsal teeth almost totally joined, all teeth narrowly pointed. Standard greenish yellow, often with a dark purple spot, 6-12mm long, 4-8mm wide. Wings and keel greenish yellow.

Pods 30-55mm long, 4-8mm wide, straight or slightly curved, flattened, the tip extended to a 4-7mm point, minutely hairy, dark brown when ripe, containing 6-8 seeds. Seeds 3-8mm long, 3-5mm wide, more or less oval, brown flecked with black.

Distribution: Co., N.K. Also native to India and tropical Africa. Occurs naturally on sandy soils in northern eucalypt woodlands.

Notes: Grown as a grain crop in India; one of the few native Australian species used as a crop. A species of possible significance as a grazing crop but regeneration of soft-seeded annual varieties is poor. The cultivar Leichhardt was released in 1967; it has a relatively small proportion of hard seeds which are larger than those in the native species. Quite palatable. Largely self-pollinating, nodulates.

References: 3, 22, 23, 46, 121, 141, 289, 305.

Medicago

Annual or perennial herbs with pinnate leaves with three leaflets, the margins toothed, lacking stipels. Flowers yellow, in small heads, or purple, in larger heads, lacking bracteoles. Stamens 10, 9 filaments joined in a dorsally split tube, 1 free. Style hairless. Pods several-seeded, usually coiled, often ornamented with spines.

Key to species

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| 1. Flowers purple, plants perennial | <i>M. sativa</i> |
| Flowers yellow, plants mostly annual | 2 |
| 2. Pods curved but not spirally coiled, usually black when ripe | <i>M. lupulina</i> |
| Pods spirally coiled | 3 |
| 3. Pods without spines or tubercles | 4 |
| Pods usually with prominent spines, rarely with tubercles only | 6 |
| 4. Pods with coils overlapping like a set of bowls | <i>M. scutellata</i> |
| Pods with coils not overlapping | 5 |