

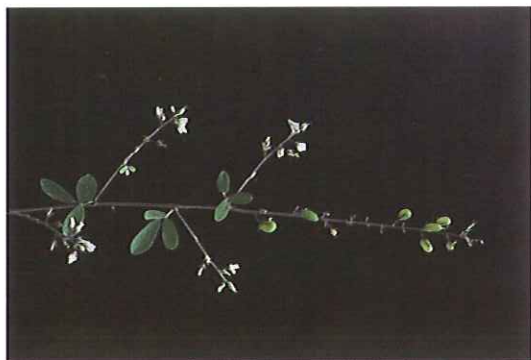
a little over $\frac{1}{2}$ their length, the sepals otherwise joined for a little under $\frac{1}{2}$ their length, the dorsal teeth a little broader than the other three. Standard dark yellow, c. 7mm tall, 11mm wide. Wings and keel c. 12mm long from base of calyx, the keel darker than the wings.

Pycnospora

Perennial herb with pinnate leaves with three leaflets. Stipels present. Flowers usually white or pinkish to bluish, small, lacking bracteoles. Stamens 10, 9 filaments joined for most of their length in a dorsally split tube, 1 free or partly joined to the others. Style hairless. Pods small, inflated, containing 6-10 seeds.

Pycnospora lutescens

Perennial with prostrate, rarely erect stems to 0.5m or more long from a woody rootstock. Stems densely covered with minute, slightly spreading hairs. Stipules 6-13mm long, narrow and tapering to a point, adpressed, persistent. Upper leaves with three leaflets, the lower often with one. Petiole 4-12mm long, rachis 3-5mm long, both densely covered with short hairs. Stipels 0.5-1.5mm long. Leaflets 6-43mm long, 5-25mm wide, the laterals rather shorter than the terminal, broadest at or above the mid-point, the margins curving to the rounded base and rounded



Pycnospora lutescens, Townsville-Ayr, 19°30'S, 147°06'E, Cult.

Rhynchosia

Twining or prostrate herbs or climbers or very rarely low shrubs with pinnate leaves with three leaflets, dotted with resin glands on the undersurface, with or without stipels. Flowers yellow, small to medium sized, lacking bracteoles. Stamens 10, 9 filaments joined in a dorsally split tube, 1 free. Pods 2-, rarely 1-seeded.

Distribution: Mo. A shrub of rocky soils at high altitudes in the border ranges.

Notes: Of no grazing significance.

References: 42, 287, 297.

or very broadly angled mucronate tip, moderately hairy on both surfaces.

Inflorescence an axillary or terminal raceme 30-120mm long including the short peduncle, the rachis covered with spreading tubercle-based hairs. Flowers borne singly or in pairs, usually well separated on the rachis, within the axils of deciduous 2-4mm bracts, each flower on a 2-6mm pedicel. Calyx 2.5-4mm long, densely hairy to almost hairless, the two dorsal sepals joined almost to the tip, the sepals otherwise joined for c. $\frac{1}{2}$ their length. Corolla white, sometimes pink to bluish or purple. Standard c. 4mm tall, 4mm wide. Wings c. 4.5mm long from base of calyx, slightly shorter than the keel.

Pod 7-12mm long, 3-5mm wide, very inflated, more or less densely covered with short spreading hairs, black when ripe, containing 6-10 seeds. Seeds c. 1.5mm long, 1mm wide, plump, kidney-shaped, yellowish to reddish brown.

Distribution: Bur., Co., Mo., N.K., P.C., S.K., W.B. Also N.T., W.A. and throughout the Old World tropics. Occurs in open grassland on various soil types.

Notes: Self-pollinating, nodulates. Rarely forms a major component of pasture.

References: 16, 70, 139, 141, 227, 287, 306; as *P. hedsaroides*, 17, 132.

Rhynchosia is distantly related to pigeon pea, *Cajanus cajan*, and may have potential for the genetic improvement of that crop.

Key to species

Leaflets 3-30mm long; seeds brown
Leaflets 30-150mm long; seeds shining blue

R. minima
R. acuminatissima

Rhynchosia acuminatissima

Twining perennial with stems 2-10m long. Stems sparsely to densely covered with yellow spreading hairs. Stipules c. 5mm long, very deciduous. Petiole 30-120mm long, rachis 15-30mm long; stipels up to 3mm long or lacking. Leaflets 30-150mm long, 20-120mm wide, broadest well below the mid-point, the margins tapering to the tip which is extended to a short point, the base broadly rounded or angled, softly hairy and dotted with minute resin glands on the lower surface and usually also hairy on the upper surface.

Inflorescence an axillary raceme (sometimes branched) 50-150mm long, including the short peduncle. Flowers borne in pairs within the axils of very deciduous 5-10mm bracts, each flower on a 4-10mm pedicel. Calyx 4-6mm long, densely covered with spreading greenish hairs, or the hairs sometimes very short, the two dorsal sepals joined for c. $\frac{1}{2}$ their length, the sepals otherwise joined for c. $\frac{2}{3}$ their length. Standard c. 7mm tall and wide, yellowish green and purplish, minutely hairy on the back. Wings yellowish green or yellow, 7-10mm long from base of calyx, shorter than the 8-12mm keel.

Pod 15-30mm long, 5-9mm wide, densely covered with short and long greenish velvety hairs, containing 2 seeds which remain attached after the pod opens. Seeds 5-7.5mm long, 3.5-6.5mm wide, oval, dark blue, shiny.

Distribution: Bur., Co., Mo., N.K., P.C. Also Indonesia and P.N.G. A species of rainforest margins.

Notes: Of no grazing significance.

References: 16, 225, 227, 287, 306.

Rhynchosia minima

Rhynchosia

Perennial herb with twining or prostrate stems to 1m or more long or rarely a small shrub. Stems hairless or covered with velvety spreading hairs. Stipules 1-5mm long, spreading, persistent.

Petiole 3-40mm long, rachis 2-12mm long, both sparsely covered with minute resin glands; stipels up to c. 1mm long or lacking. Leaflets 3-30mm long, 3-30mm wide, broadest at or above the mid-point, squarish to almost round, the tip rounded or very broadly angled, minutely mucronate, sparsely hairy to densely velvety-hairy, densely dotted with minute brown resin glands on the undersurface.



Rhynchosia minima, Gattton, 27°33'S, 152°20'E.

Inflorescence an axillary raceme 10-150mm long, including the short peduncle. Flowers borne singly within the axils of deciduous 0.5-2mm bracts, each on a 0.5-2mm pedicel. Calyx 3-7mm long, minutely hairy, the dorsal sepals joined for c. $\frac{3}{4}$ their length, the sepals otherwise joined for $\frac{1}{2}$ - $\frac{1}{2}$ their length. Standard yellow, sometimes flushed with red, c. 3-5mm tall, 4.5-6mm wide, minutely hairy on the back. Wings yellow, c. 5-8mm long from base of calyx, rather shorter than the yellow-green keel.

Pod 6-25mm long, 3-5mm wide, rather sickle-shaped, often gland-dotted, sparsely to densely covered with spreading hairs, brown when ripe, containing 2 seeds. Seeds c. 3mm long, more or less kidney-shaped, mottled light brown or dark brown.

Key to varieties

Pods with short fine hairs and
long tubercle-based hairs var. *australis*.
Pods with short fine hairs only var. *minima*.

Distribution: All districts except G.S. Also all

mainland states except Vic. An extremely variable pan-tropical species, widespread in Queensland, usually on loam to clay, neutral to alkaline soils.

Notes: Often a palatable species when young, but strains probably vary in palatability. Not toxic to rats in laboratory tests. More salt-tolerant than

most herbaceous legumes. Sensitive to flooding. Nodulates. Self-pollinating.

References: 3, 16, 17, 26, 27, 31, 37, 45, 46, 50, 53, 91, 98, 111, 122, 132, 140, 141, 147, 148, 150, 155, 172, 208, 227, 235, 256, 285, 287, 291, 306.

Scorpiurus

Prostrate annual herbs with simple leaves, continuous with the petiole. Flowers yellow to orange, small, lacking bracteoles. Stamens 10, 9 filaments joined in a dorsally split tube, 1 free. Pods coiled or twisted, jointed, indehiscent, several-seeded.

Scorpiurus muricatus var. *subvillosus*

Scorpion plant

Prostrate annual with stems to 0.3m long. Stems hairless. Stipules c. 8-12mm long, persistent, joined to the petiole in the lower c. $\frac{1}{2}$. Leaves simple, 30-100mm long, 5-20mm wide, broadest towards the tip, the margins curving to the broadly angled tip and tapering imperceptibly into the petiole which is about as long as the blade, the 3-5 major veins parallel, very sparsely hairy.

Inflorescence an axillary raceme with 1-3 flowers at the tip of a 30-130mm peduncle. Flowers borne on c. 2mm pedicels within the axils of minute bracts. Calyx c. 5mm long, very sparsely hairy, the sepals similarly joined for c.

$\frac{1}{2}$ their length. Petals yellow to orange, c. 5mm long, the tip of the keel extended into a prominently curved beak.

Pod irregularly coiled to twisted, snake-like, 10-20mm long (c. 20-40mm long uncoiled), jointed, consisting of up to 6 or more strongly curved articles, these c. 2mm wide excluding the prominent longitudinal ribs which bear 1-1.5mm spines, indehiscent, sandy-brown when ripe. Seeds c. 2.5mm broad and long, horse-shoe shaped, plump, hairy, red-brown.

Distribution: D.D., Ma. A native of southern Europe. Rarely found in Queensland.

Notes: Nodulates. Self-pollinating.

References: 3, 163, 174, 287.

Sesbania

Tall, erect, annual herbs or small perennial trees with pinnate leaves, lacking a terminal leaflet, the stipels small or lacking. Flowers yellow or blue, small or large. Stamens 10, 9 filaments joined in a dorsally split tube, 1 free. Pods long to very long, narrow, usually many-seeded.

The tree species *S. formosa* is not included in this key. *Sesbania* spp. are grazed during the wet season in the Gulf country (Bishop 1973a).

Overseas, *Sesbania* species are utilized as fibre crops, for fodder, as a source of gums which have qualities similar to those of gum arabic, as shrub legumes in alley-cropping systems, as shade species for sun-sensitive crops, as wind breaks and in erosion control. The red-flowered tree *S. grandiflora* is grown in tropical gardens.

Key to species

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|--|-----------------------|
| 1. Flowers blue to pink | 2 |
| Flowers yellow | 3 |
| 2. Style minutely hairy; standard c. 13mm wide | <i>S. brachycarpa</i> |
| Style hairless; standard 21-25mm wide | <i>S. erubescens</i> |