

Tropical Forages

Aeschynomene falcata

Scientific name



Aeschynomene falcata (Poir.) DC.

Note: The genus, *Aeschynomene*, is separated into two sections: *Aeschynomene* and *Ochopodium*. The former encompasses species predominantly from wet environments, such as *A. americana*, *A. indica* and *A. villosa*, while the latter includes a number of dryland species, such as *A. brasiliiana*, *A. falcata* and *A. hystrix*.

Synonyms

Basionym: *Hedysarum falcatum* Poir.

Family/tribe

Family: *Fabaceae* (alt. *Leguminosae*) subfamily: *Faboideae* tribe: *Dalbergieae*.

Morphological description

Stems decumbent, to about 1 m long and 1–3 mm diameter, pubescent and sometimes also hispidulous. Stipules lanceolate, acuminate, 5–8 mm long, 1–1.5 mm wide at base, subglabrous to hispidulous, ciliolate; leaves 5–7 (–9)-foliolate, the petiole and rachis pubescent like the stem; leaflets obovate-elliptic, about 6–12 mm long, 2.5–4 mm wide, obtuse, mucronate, pubescent on both surfaces, the base often oblique, entire. Inflorescences usually with only 1 or 2 flowers developing, longer than the subtending leaves, the peduncles and pedicels hispidulous, the bracts and bracteoles subovate, acuminate, 1–2 mm long, about 1 mm wide, pubescent, ciliolate; flowers 7–9 mm long; calyx 3–4 mm long, pubescent, ciliate; standard 7–9 mm long, the claw about 1 mm long, the blade (standard) orbiculate, 6–7 (–9) mm in diameter, entire, the outer face puberulent; wings about 7 mm long, the claw 1 mm long, the blade about 6 mm long, 1.5–2 mm wide at maximum; keel 7–8 mm long, the claws 1 mm long, the blades 6–7 mm long, about 2 mm wide; stamens about 8 mm long. Legume 15–30 mm long, usually falcate, (4–) 6–8-articulate, the stipe (6–) 8–10 (–14) mm long, with spreading, glandular hairs 1.5–2 mm long, the articles 3–4 mm long, 2.5–3.5 mm wide, puberulent with crispate or appressed hairs, sometimes also sparsely hispidulous, the body of the articles tending to break away from the margins. Seeds about 2 mm long and 1.5 mm wide, commonly dark brown, but varying from light yellowish-brown to almost black; 370,000–450,000 seeds/kg.



Herbaceous perennial with a strong taproot (cv. Bargo)



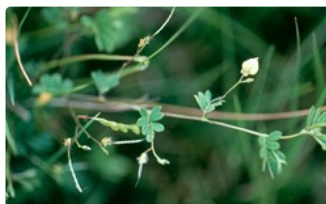
Prostrate young growth



Leaves, flowers and pods on (ILRI 12139)



Pubescent stem with axillary flowers and pods (cv. Bargo)



Leaves flowers and pods

[Search GeneSys for cv Bargo](#)



Seeds and pods



Seeds



Strong pod set even under close defoliation.



cv. Bargo



Prostrate young growth (ATF 2194)

Similar species

***A. falcata*:** native to S America; leaves 5–9 (–10)-foliolate, pinnae pubescent on both surfaces; (4–)6–8-articulate, articles 3–4 mm long, 2.5–3.5 mm diameter, stipe (6–) 8–10 (–14) mm long.

***A. brevifolia*:** native to Madagascar; leaves 5–9-foliolate, pinnae upper surface glabrous, lower surface sparsely hairy; legume 2–6 articulate, articles 3–4 mm diameter, stipe 4–10 mm long.

A. elegans: native to S America; leaves commonly (7–) 10–16-foliolate, pinnae upper surface sparsely pubescent to glabrous, the lower moderately pubescent; legume (5–) 6–8 (–9)-articulate, articles 2–2.5 mm diameter, stipe (8–) 10–15 mm long.

Description based on Rudd (1955).

Common names

Asia: torog-torog (Bikol, Philippines); turi rawa (Javanese, Indonesia)

English: Australian joint-vetch, jointvetch

Latin America: carrapicho, isca, sensitiva-mansa (more appropriately applied to *Aeschynomene elegans*, *A. sensitiva*) (Brazil)

Distribution

Native:

South America: Argentina (Chaco (e.), Corrientes, Misiones), Bolivia, Brazil, Colombia, Paraguay

Cultivated/naturalized:

Asia: Indonesia, Philippines

Australasia: Australia (NSW, Queensland (s.e.))

Uses/applications

Forage

Sown as a permanent component of low input pastures (e.g. *Axonopus*, *Imperata*, *Heteropogon*).

Ecology

Soil requirements

Free draining sandy to light clay soils of low to moderate fertility and acid to neutral pH.

Moisture

Originates from areas with rainfall to about 1,800 mm/yr. Usually recommended for sowing between about 900 and 1,500 mm average annual rainfall. Persists down to about 700 mm/yr, but usually less productive. Very drought hardy, and continues to grow during the dry season. Prefers good drainage, although will tolerate temporary waterlogging.

Temperature

Native to subtropics and upland tropics, from about 7° N in Colombia to 28° S in Argentina, and from <100 m asl in the subtropics to 2,000 m asl in the tropics. This equates to an annual average temperature range of about 19–22 °C. Tops are burnt by frost but plants recover with onset of warm conditions. Early season growth varies with ecotype.

Light

Full sunlight to moderate shade.

Reproductive development

Flowers and sets seed throughout the growing season.

Defoliation

Under heavy grazing, the plant adopts a low rosette growth habit, but still produces sufficient seed to allow spread and long-term persistence.

Fire

Recovers well from annual burning of pastures, fire stimulating hard seed breakdown and potential recruitment.

Agronomy

Guidelines for establishment and management of sown forages.

Establishment

Has a high level of hard seed, which is usually scarified in the harvesting and threshing process. Establishes into burnt native pasture or after soil disturbance, although, if seed is expensive, a good seedbed is preferable. Somewhat promiscuous, but nodulates most effectively with *Aeschynomene* inoculum CB 2312 or common cowpea type rhizobia.

Fertilizer

Persists on infertile soils but responds to low inputs of phosphorus if levels are low (say 5–10 ppm available P). May require additional Mo on some acid soils.

Compatibility (with other species)

Combines with low growing dense forages and more open erect grasses in low fertility situations. Favoured by heavy grazing.

Companion species

Grasses: [Axonopus fissifolius](#), [Cynodon dactylon](#), [Digitaria didactyla](#), [Heteropogon contortus](#), [Paspalum dilatatum](#), [P. notatum](#).

Legumes: [Chamaecrista rotundifolia](#), [Listia bainesii](#), [Stylosanthes guianensis var. intermedia](#).

Pests and diseases

Possesses a high degree of resistance to Amnemus weevil (*Amnemus quadrituberculatus*) and is resistant to root knot nematodes (*Meloidogyne* spp.). Can be attacked by anthracnose (*Colletotrichum* sp.) during extended wet weather. Seedlings are susceptible to damping off caused by fungi such as *Rhizoctonia* sp. and *Pythium* sp.

Ability to spread

Seed is eaten and spread by cattle into new forages. In larger areas with an environment well suited to [A. falcata](#), seedlings can appear in significant numbers considerable distances from the source stand of seed.

Weed potential

Low - spreads easily, but not aggressive.

Feeding value

Nutritive value

Good, but low proportion of total pasture. 9–19% CP, 42–65% IVDMD, 0.1–0.2% P.

Palatability/acceptability

Very palatable and grazed selectively by cattle, sheep and marsupials.

Toxicity

No record.

Production potential

Dry matter

Yields generally low, around 1–2 t DM/ha, up to 5 t DM/ha under good conditions.

Animal production

Augments low quality grass pastures.

Genetics/breeding

Self-pollinating; $2n = 20$.

Seed production

Flowering continues for most of the growing season, declining with the onset of cool conditions. Gives better seed production when supported by a framework of erect, fine-stemmed, relatively low-growing grass. Can be harvested with direct heading and suction harvesting. About 60 kg seed/crop, possibility of 2 crops/year. Up to 680 kg/ha from small plots. Anthracnose in the growing tips and pod shattering reduce yields.

Herbicide effects

Susceptible to acifluorfen, 2,4-DB and 2,4-D, and tolerant of bentazone, fluazifop-butyl and sethoxydim.

Strengths

- Persistent and spreads naturally.
- Very palatable.
- Grows on poor soils.

Limitations

- Seed production difficult.
- Susceptible to anthracnose.

- Low herbage yield.

Internet links

<https://research.csiro.au/cultivars/wp-content/uploads/sites/162/2017/03/bargoo.pdf>

[https://uses.plantnet-project.org/en/Aeschynomene_falcata_\(PROSEA\)](https://uses.plantnet-project.org/en/Aeschynomene_falcata_(PROSEA))

Selected references

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Cultivars

'**Bargoo**' (CPI 11500) Australia (1973) Origin Cordillera, Paraguay (c. 25.5° S, 200 m asl, 1,500 mm/yr). Selected for low fertility, beef pastures in sub-tropics. Well adapted to less fertile, well-drained soils from about 21 to 30° S.

Promising accessions

ATF 2194 Selected in Australia. From Concepción, Paraguay (23.47° S, 70 m asl, 1,350 mm/yr). Similar adaptation to that of 'Bargoo'. Better growth (particularly early season), better seed retention, less susceptible to anthracnose than 'Bargoo'.

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