

## London Rocket

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### *Sisymbrium irio* L.

**Family:** Brassicaceae.

**Names:**

*Sisymbrium* was the Greek name of a fragrant herb.  
London Rocket.

**Summary:**

An erect, annual, many branched plant, with deeply lobed leaves that does not form a rosette. It has clusters of small, 4-petalled, yellow flowers in late winter to spring on the tops of stems that form long (25-110 mm), narrow seed pods that may be slightly curved.

**Description:**

**Cotyledons:**

Two. Club shaped, Tip rounded. Sides convex. Base tapered. Surface hairless. Petiole longer than the blade.

**First Leaves:**

Club shaped, paired. The first pair have rounded tips and smooth edges. The second pair have pointed tips and toothed edges. Hairless or a few hairs.

**Leaves:**

Alternate. Does not form a rosette.

Stipules - None.

Petiole - On lower leaves.

Blade - 30-160 mm long x 13-70 mm wide, triangular in outline, deeply lobed or serrated or toothed (usually 2-6 pairs), lobes are usually toothed, end lobe is pointed and larger than the side lobes. The side lobes usually point towards the base of the leaf. Tip pointed.

Smooth and hairless or a few scattered hairs.

Stem leaves - Alternate. Similar to rosette leaves but not as lobed or unlobed, sometimes arrow shaped. Hairless or small hairs.

**Stems:**

Slender, erect, round, up to 1000 mm tall. Often with slender, curved, simple hairs near the base, usually hairless near the top. Usually much branched from the base with spreading stems.

**Flower head:**

Flowers are in clusters at the top of the stem which then elongates as the fruits mature underneath. The flower clusters are a paniculate raceme that is oblong in outline and up to 160 mm long.

**Flowers:**

Yellow, 5-12 mm wide, on stalks (pedicels) 8-12 mm long that stick out from stem.

Ovary - Tiny style. Stigma entire and stalkless.

Sepals - 2.5-3 mm long, erect, hairless or hairy.

Petals - 4, pale yellow, 2.5-6 mm long.

Stamens -

Anthers -

**Fruit:**

25-110 mm long x 1-1.5 mm wide, cylindrical, slender 2 celled capsule, constricted between the seeds, often curved, narrowed at both ends. Sticks out from stem on erect-spreading stalks, 6-12 mm long x 1 mm thick that are often curved. Valves 3 nerved, thin, almost translucent, not coiled. Hairless. Opens to release seeds. About 40 seeds per cell (80 seeds per pod).

**Seeds:**

Small, pale yellow to red-brown, egg shaped to oblong and not flattened, 0.75 mm long, Somewhat angular on one side and grooved or depressed on the other. Surface finely dimpled. Many, in 1 row.

**Roots:**

Taproot.

**Key Characters:**

Cotyledons incumbent.

Hairs simple or absent.

Leaves smooth and hairless or with scattered hairs.

Petals pale yellow, 2.5-6 mm long, not twisted, rarely more than twice as long as the sepals.

Pod cylindrical or terete, 25-110 mm long, 3 nerved, dehiscent, at least 3 times long as broad, not beaked and persistent style very short, seeds 1 rowed.

Valves with prominent midrib, compressed from the back, not coiling.

Pedicel spreading, slender, ascending, much narrower than the fruit, 6-12 mm long.

*Adapted from J.M. Black, N.T. Burbidge and B.L. Rye.*

**Biology:****Life cycle:**

Annual or biennial. Seeds germinates from autumn to winter and it grows without forming a

rosette but usually develops many branches from the base to give it a bushy appearance. Flowers appear as clusters at the tops of stems in late-winter to spring. As the fruits mature the stem elongates and new flowers are added to the cluster on top. Under summer moist conditions some plants may survive into a second season.

**Physiology:****Reproduction:**

By seed.

**Flowering times:**

Mainly spring in western NSW.  
September to November in SA.  
July to November in Perth.  
Late winter and spring in WA.

**Seed Biology and Germination:****Vegetative Propagules:****Hybrids:****Allelopathy:****Population Dynamics and Dispersal:**

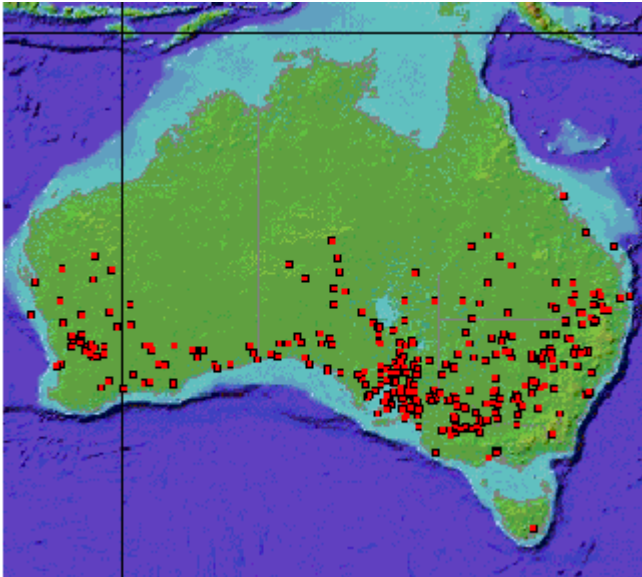
Produces large quantities of seed.  
Spread by seed.

**Origin and History:**

Southern Europe. Western Mediterranean. Western Asia. North Africa.

**Distribution:**

ACT, NSW, NT, QLD, SA, VIC, WA.



*Courtesy Australia's Virtual Herbarium.*

**Habitats:**

**Climate:**

Temperate. Mediterranean.

**Soil:**

On many soil types.

**Plant Associations:**

In many communities.

**Significance:**

**Beneficial:**

Source of pollen for bees.

**Detrimental:**

Weed of crops, pastures, islands, grazed woodlands, shrub lands, streams and disturbed areas.

Causes yield reductions due to competition.

Chokes grain harvesters in dense infestations.

Relatively unpalatable.

**Toxicity:**

Not recorded as toxic.

**Legislation:**

None.

## Management and Control:

### Thresholds:

5-10 plants/m<sup>2</sup> are usually worth spraying in cereals.

### Eradication strategies:

Manually remove isolated plants.

Prevent seed set. Spray small infested areas with 10 g/ha Eclipse® plus 500mL/ha of Brodal® plus 1% spray oil in winter each year.

Most of the Brassicaceae weeds have dormant seeds that continue to germinate throughout the season and for several years. They often mature and set seed very quickly. Manual removal is effective but must be done at least every 8-10 weeks. Once pods are formed, seed will often mature even if the plant has been uprooted. Soil disturbance often leads to a flush of seedlings.

Many are somewhat unpalatable, so grazing only offers partial control. They often flourish in under-grazed, sunny areas.

In bushland situations, fairly selective control can be achieved with 100 mL spray oil plus 0.1 g Eclipse® or 0.5 g Logran® in 10 L water. 5 mL Brodal® is often added to this mix to provide residual control of seedlings. Spray the plants until just wet from the seedling stage up to pod formation.

Isolated plants should be removed manually and burnt if flowering or seeding and a 10 m buffer area sprayed with 10 mL Brodal® in 10 L water.

500 mL/ha of glyphosate(450g/L) can be used at flowering to reduce the seed set of most species on roadsides without causing significant damage to most native plants.

Wick application with 1 part glyphosate(450g/L) in 2 parts water or overall spraying with 100 mL glyphosate(450g/L) in 10 L water provides reasonable control of most *Brassicaceae* species though Wild Radish tends to regrow.

### Herbicide resistance:

### Biological Control:

### Related plants:

Flax-leaf Alyssum (*Alyssum linifolium*)

Wall Cress (*Arabidopsis thaliana*)

Black Mustard (*Brassica nigra*)

Broccoli (*Brassica oleracea* var. *italica*)

Brussels Sprouts (*Brassica oleracea* var. *gemmifera*)

Cabbage (*Brassica oleracea* var. *capitata*)

Cauliflower (*Brassica oleracea* var. *botrytis*)

Chinese Cabbage (*Brassica chinensis*)

Indian Mustard (*Brassica juncea*)

Kale (*Brassica oleracea* var. *acephala*)  
 Kohlrabi (*Brassica oleracea* var. *gongylodes*)  
 Mediterranean Turnip (*Brassica tournefortii*)  
 Rape or Canola (*Brassica napus* var. *napus*)  
 Rapeseed (*Brassica rapa* var. *sylvestris*)  
 Savoy cabbage (*Brassica oleracea* var. *sabauda*)  
 Smooth Stemmed Turnip (*Brassica barrelieri* subsp. *oxyrrhina* was *Brassica oxyrrhina*)  
 Swede (*Brassica napus* var. *napobrassica*)  
 Turnip (*Brassica rapa* var. *rapa*)  
 Twiggy Turnip (*Brassica fruticulosa*)  
 Winter Rape (*Brassica napus* var. *biennis*)  
*Brassica elongata*

Sea Rocket (*Cakile maritima*)  
 White Ball Mustard (*Calepina irregularis*)  
 Shepherd's Purse (*Capsella bursa-pastoris*)  
 Common Bittercress (*Cardamine hirsuta*)  
 Wood Bittercress (*Cardamine flexuosa*) is not in WA.  
 Ward's Weed (*Carrichtera annua*)  
 Wall Rocket (*Diplotaxis muralis*)  
 Sand Rocket (*Diplotaxis tenuifolia*)  
*Heliophila pusilla*  
 Oval Purse (*Hornungia procumbens* was *Hymenobolus procumbens*)

Argentine Peppergrass (*Lepidium bonariense*) is often found around granite rocks.  
 Common Peppergrass (*Lepidium africanum*) is common in WA.  
 Field Cress (*Lepidium campestre*) has clasping stem leaves.  
 Garden Cress (*Lepidium sativa*)  
 Hoary Cress (*Lepidium draba* was *Cardaria draba*)  
 Lesser Swinecress (*Lepidium didymum* was *Coronopus didymus*)  
 Matted Peppergrass (*Lepidium pubescens*)  
 Perennial Peppergrass (*Lepidium latifolium*)  
 Virginian Peppergrass (*Lepidium virginicum*)  
 (*Lepidium oxytrichum*)  
 (*Lepidium perfoliatum*)

Sweet Alyssum (*Lobularia maritima*)  
 Common Stock (*Matthiola incana*)  
 Night-scented Stock (*Matthiola longipetala*)  
 Muskweed (*Myagrum perfoliatum*) is not in WA.  
 Ball mustard (*Neslia paniculata*)

Cultivated Radish (*Raphanus sativus*).  
 Sea Radish (*Raphanus maritimus*).

Turnip Weed (*Rapistrum rugosum*)  
 Watercress (*Rorippa nasturtium-aquaticum*)

White Mustard (*Sinapis alba*) has white seed.  
Charlock (*Sinapis arvensis*)

*Sisymbrium altissimum* is not in WA.  
Smooth Mustard (*Sisymbrium erysimoides*)  
London Rocket (*Sisymbrium irio*)  
Hedge Mustard (*Sisymbrium officinale*)  
Indian Hedge Mustard (*Sisymbrium orientale*)  
*Sisymbrium runcinatum*  
African Turnip Weed (*Sisymbrium thellungii*) is not in WA.

*Succowia balearica* is in Kings Park in Perth.

### Plants of similar appearance:

Wild Radish, Wild Turnips and Mustards.

[Indian Hedge Mustard](#) (*Sisymbrium orientale*) has greyer and more hairy leaves, more widely spaced pods and smaller, more numerous and more closely packed flowers. Smooth Mustard (*Sisymbrium erysimoides*) is very similar but has thicker, shorter pedicels, 2-4 mm long, usually comes from drier areas, has more slender stems, more open inflorescence and less bulged around the seeds in the pod.

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### **Acknowledgments:**

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