

Green shrimp plant

Blechum pyramidatum



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Summary

Blechnum pyramidatum ('Browne's blechnum' or 'green shrimp plant') is a trailing annual or perennial branched herb native to an area extending from Mexico to the northernmost parts of South America. It is generally less than 50 cm tall and has small white or purple flowers.

B. pyramidatum was detected on Saibai Island in Torres Strait in March 2008. It has not been recorded in Australia before. Since this plant is sold as a garden ornamental in the United States, there is a good chance that it will appear in Australian gardens at some point.

This study was unable to find clear evidence that *B. pyramidatum* was a major weed elsewhere in the world. However, there is no doubt that it can become a locally abundant coloniser of favourable habitats in tropical areas, since it is listed as an invasive plant in numerous islands across the Pacific and elsewhere. Ecologically, it has a number of attributes that confer weed risk in Queensland: (1) a history of successful naturalisation outside its native range; (2) climate-match; and (3) a natural propensity to quickly colonise gaps caused by disturbance within suitable habitats.

Climatically, *B. pyramidatum* appears best suited to wet, tropical areas, but has the potential to survive in sub-tropical coastal areas in southeast Queensland as well.

If *B. pyramidatum* becomes naturalised in Queensland, it has the potential to become locally abundant in certain habitats. However, based on the evidence at hand, significant impacts on agriculture and the environment are not expected. As with all pest risk assessments, there is an inherent level of uncertainty associated with such predictions.

Identity and taxonomy

Species: *Blechum pyramidatum* (Lam.) Urban

Synonyms:

Blechum brownei Juss.

Blechum blechum (L.) Millsp.

Barleria pyramidata Lam.

Barleria pyramidatum (Lam.) Urb.

Ruellia blechum L.

Common names:

blackweed, Browne's blechum, green shrimp plant, John bush

Family: Acanthaceae

Description

Trailing, branched herb with ascending (erect) flower shoots. Mostly less than 50 cm tall, but up to 70 cm. Non-flowering stems prostrate (20–50 cm long), producing adventitious roots at lower nodes. Annual or perennial. Leaves arranged in opposite pairs along the stems; blades ovate, 2–7 cm long, acute, obtuse or rounded at base, acute at apex, petioles about 2 cm, slender; flowers arranged in spikes, which are dense, squarish (4-sided) because of the tetrastichous bracts, generally 3–6 cm long (up to 14 cm), occasionally flowers are solitary in leaf axils, floral bracts ovate to suborbicular-ovate, acute tips, foliaceous, strigose, ciliate, 1–1.5 cm long, greenish or whitish; corolla white or pale violet, scarcely longer than bract; bracteoles linear-lanceolate, acute, to 1 cm long, ciliate with hairs 2 mm long or more; calyx 5-parted to below the middle, 3.5–4 mm long, the slightly unequal segments linear-subulate; stamens 4, didynamous, borne at or above the middle of the corolla tube; anthers oblong, their sacs parallel; style about 8 mm long, pubescent. Capsule ellipsoid, puberulent, 6–7 mm long; seeds 2, circular, brown, about 1.5 mm wide (Artaud 1998, Stone 1970) (Figures 1, 2).



Figure 1. *Blechum pyramidatum* (Photo courtesy Forest and Kim Starr, used with permission under a Creative Commons Attribution License).



Figure 2. Flower of *Blechum pyramidatum* (Photo courtesy Forest and Kim Starr, used with permission under a Creative Commons Attribution License).

Reproduction and dispersal

B. pyramidatum reproduces from seeds and from broken plant fragments that have produced roots at the lower leaf nodes (Whistler 1983).

Preferred habitat and climate

B. pyramidatum is recorded as a “common weed of roadsides, fields and disturbed areas from sea level to 2700 feet elevation” (PIER 2006). In Fiji, it is “naturalised and sometimes locally frequent in settlements, gardens, pastures, and waste places, and along roadsides” (Smith 1991). Wiggins & Porter (1971) noted that it is “common in flat, open sunny places”. In the Galapagos, it occupies “arid lowlands and moist uplands” (McMullen 1999). In Guam, it is “usually in lawns or waste ground” (Stone 1970). In the Philippines, *B. pyramidatum* is “usually common in waste places in open thickets, on and about old walls etc., in and around towns at low altitudes” (Anon. undated). It is “quite prevalent along roadsides and forest tracks on Kosrae” (Jim Space, pers. com.).

When cultivated as a garden ornamental and butterfly food plant in Florida and California, owners have commented that *B. pyramidatum* seems to prefer semi-shade and regular watering (Dave’s Garden 2009).

This study was unable to find detailed information on climate types preferred by *B. pyramidatum*. However, based on information on its global distribution, it appears to prefer tropical climates. Most of the Pacific islands where this species has naturalised, experience tropical, monsoonal climates, with wet summers and dry winters. However, this species has naturalised in parts of Florida, where climate is sub-tropical. People who grow the plant in gardens in California have commented that it requires regular watering, suggesting that the climate in California is generally too dry for this species.

This study was unable to find detailed information on soil types preferred by *B. pyramidatum*.

Origin and global distribution

B. pyramidatum is native to an area extending from Mexico to the northernmost parts of South America (McMullen 1999).

According to the USDA's GRIN database (USDA 2007), the native range is as follows:

- **Northern America**

Northern Mexico: Baja Sur, San Luis Potosi, Sinaloa, Sonora, Tamaulipas

Central Mexico: Colima, Guerrero, Hidalgo, Jalisco, Mexico, Michoacan, Morelos, Nayarit, Oaxaca, Puebla, Queretaro, Veracruz.

- **Southern America**

Mesoamerica: **Belize; Costa Rica; El Salvador; Guatemala; Honduras; Mexico** - Campeche, Chiapas, Quintana Roo, Tabasco, Yucatan; **Nicaragua; Panama**

Caribbean: **Anguilla; Antigua and Barbuda; Barbados; Cuba; Dominica; Dominican Republic; Grenada; Guadeloupe; Haiti; Jamaica; Martinique; Montserrat; Netherlands Antilles; Puerto Rico; St. Kitts and Nevis; St. Lucia; St. Vincent and Grenadines; Trinidad and Tobago; Virgin Islands (British); Virgin Islands (US)**

Northern South America: **French Guiana; Guyana; Suriname; Venezuela**

Western South America: **Colombia; Ecuador; Peru**

Other:

- naturalised in palaeotropics; exact native range in neotropics obscure.

A list of locations where *B. pyramidatum* has been recorded as 'naturalised' and/or 'invasive' is provided by PIER (2006) and includes American Samoa, Northern Mariana Islands, Micronesia, Fiji, Hawaii, Tungaru (Gilbert) Islands, Marshall Islands, Nauru, Tonga and Palmyra attol.

History as a weed (interstate and overseas)

B. pyramidatum has naturalised on numerous islands scattered across the Pacific, including Micronesia, Fiji and Hawaii, as well as Florida and the Philippines. In certain habitats, namely open, disturbed sites, it can become locally abundant. Hence, there is no doubt that it can behave as a “weed”. However, this study was unable to find clear evidence that *B. pyramidatum* is a major weed anywhere. In Florida, *B. pyramidatum* is recorded to cover “large portions of the ground” in some avocado groves (Harkness and Byrd 1971). However, the authors did not state whether the weed has any impact on production of avocados.

Distribution in Queensland and Australia

B. pyramidatum is not known to occur in Queensland or Australia. However, in March 2008, it was collected by Barbara Waterhouse, a quarantine botanist, on Saibai Island in Torres Strait. Its identity was confirmed by the Queensland Herbarium and the Australian Acanthaceae expert, Robyn Barker of the Adelaide Herbarium. This was the first formal collection of this species by the Queensland herbarium.

Since this species is cultivated and sold as a garden ornamental overseas (eg. in the United States), it is likely to enter the Australian nursery trade at some point. Some people also cultivate this plant as a host-plant for certain butterfly species.

Potential impact in Queensland

Ecologically, *B. pyramidatum* has a number of attributes that confer weed risk in Queensland: (1) a history of successful naturalisation outside its native range; (2) climate-match; and (3) a natural propensity to quickly colonise gaps caused by disturbance within suitable habitats.

Climatically, *B. pyramidatum* is best suited to wet, tropical areas, but has the potential to survive in sub-tropical coastal areas in southeast Queensland.

If *B. pyramidatum* becomes established in Queensland, it has the potential to become locally abundant in certain habitats. However, based on the evidence at hand, significant impacts on agriculture and the environment are not expected. As with all pest risk assessments, there is an inherent level of uncertainty associated with such predictions.

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