

PLANODES Greene, Leafl. Bot. Observ. Crit. 2: 220. 1912.

Ihsan A. Al-Shehbaz

Tribe: Cardamineae Dumort., Fl. Belg.: 124. 1827.

Name derivation: Greek *planodos*, erring, in reference to the error of original author of its species, Linnaeus, in assigning it to another genus.

Type species: *Planodes virginicum* (Linnaeus) Greene (based on *Cardamine virginica* Linnaeus).

Herbs, annual or winter annual. **Trichomes** absent or simple. **Multicellular glands** absent. **Stems** decumbent or sometimes erect, often branched above. **Basal leaves** long petiolate, loosely rosulate, simple, pinnatifid to pinnatisect, lobes dentate or entire; cauline leaves, short petioled, not auriculate at base, similar to basal but with fewer and narrower lateral lobes. **Racemes** several-flowered, ebracteate, corymbose, elongated considerably in fruit; rachis straight; fruiting pedicels slender, divaricate-ascending, persistent. **Sepals** oblong, free, caducous, erect, glabrous or subapically with a few hairs, equal, base of lateral pair not saccate. **Petals** white, erect, longer than sepals; blade oblanceolate, apex obtuse; claw hardly or not differentiated from blade, glabrous, unappendaged, entire. **Stamens** 6, slightly exserted, somewhat tetradynamous; filaments wingless, unappendaged, glabrous, free; anthers ovate, obtuse at apex. **Nectar glands** lateral, minute, 1 on each side of lateral stamen, median glands absent. **Ovules** (20–)28–44 per ovary, placentation parietal. **Fruit** dehiscent siliques, linear, latiseptate, not inflated, unsegmented; valves papery, with an obscure midvein, glabrous, not keeled, torulose, wingless, unappendaged; gynophore obsolete; replum rounded, visible; septum complete, membranous, veinless; style conical, less than 1 mm, persistent; stigma capitate, entire, unappendaged. **Seeds** uniseriate, narrowly winged, orbicular or nearly so, flattened; seed coat not mucilaginous when wetted; cotyledons accumbent. $x = 8$.

Two species: NW Mexico and C and S United States.

References: Al-Shehbaz (2010), Rollins (1947, 1993)

KEY TO THE SPECIES OF *PLANODES*

1. Stems glabrous throughout; fruits to 1 mm wide, seeds ca. 0.5 mm wide.....*P. mexicanum*
1. Stems hirsute at least below; fruits 1.5–2 mm wide; seeds 1–1.5 mm wide.....*P. virginicum*

Planodes mexicanum (S. Watson) Al-Shehbaz, Harvard Pap. Bot.....2010. *Arabis mexicana* S. Watson, Proc. Amer. Acad. Arts 17: 319. 1882; *Sibara mexicana* (S. Watson) Rollins, Rhodora 43: 480. 1941. TYPE: Mexico, Guanajuato, 1880, *A. Dugès s.n.* (holotype, GH!).

Herbs, annual, glabrous throughout. **Stems** 1.5–3 dm, few from base, decumbent, branched above, glabrous. **Basal leaves** not seen; middle and upper cauline petiolate, lyrate-pinnatifid, 3–4 cm, lateral lobes entire or dentate. **Racemes** lax in fruit; fruiting pedicels divaricate-ascending, 2–3 mm, glabrous, straight, slender. **Sepals** oblong, ca. 1mm; petals white, oblanceolate, 1–2 x ca. 0.5 mm. **Fruit** linear, 1.2–1.8 cm x ca. 1 mm, slightly torulose, latiseptate, straight, divaricate-ascending; valves glabrous; style ca. 1 mm. **Seeds** brown, orbicular, ca. 0.5 mm, narrowly winged.

Distribution: Mexico (Guanajuato).

Planodes virginicum (Linnaeus) Greene, Leafl. Bot. Observ. Crit. 2: 221. 1912; *Cardamine virginica* Linnaeus, Sp. Pl. 2: 656. 1753; *Arabis virginica* (Linnaeus) Poiret, Encycl. Suppl. 1: 413. 1810; *Sibara virginica* (Linnaeus) Rollins, Rhodora 43: 481. 1941. TYPE: United States, “Habitat in Virginia,” (lectotype designated by Marhold (1996: 128), Clayton 462 (BM 000042604).

Cardamine ludoviciana W. J. Hooker, J. Bot. (Hooker) 1: 191. 1834; *Arabis ludoviciana* (W. J. Hooker) C. A. Meyer, Index Sem. Hort. Petrop. 9: 60. 1843. TYPE: United States, banks of the Mississippi, *Thomas Nuttall s.n.* (holotype, BM).

Herbs, annual, pubescent or glabrous. **Stems** (0.5–)1–3.5(–5.5) dm, 1 to many from base, erect, ascending, to decumbent, branched or rarely simple above, hirsute or puberulent basally, often glabrous above. **Basal leaves** and lowermost cauline leaves with petioles (0.3–)0.8–21.5(–2) cm; leaf blade oblong to oblanceolate in outline, (1–)1.5–7(–10) x 0.4–2(–3) cm, pinnatifid to pinnatisect, pubescent or rarely subglabrous; lateral lobes (4–)6–12(–15) per side, ovate, oblong, to linear, often coarsely dentate on proximal margin, entire or minutely dentate on distal one, gradually increasing in size towards leaf apex; terminal lobes same size or larger than lateral ones, entire or laterally 1-toothed; middle and upper cauline leaves with shorter petioles, smaller, with narrower and entire lobes. **Racemes** lax in fruit; fruiting pedicels divaricate-ascending, (1.5–)2.5–6(–8) mm, glabrous, straight, slender. **Sepals** oblong, 1–2 x 0.5–0.8 mm; petals white, oblanceolate, 2–3 x 0.5–1 mm; filaments 1.5–2 mm; anthers ovate, 0.3–0.4 mm. **Fruit** linear, (1–)1.5–2.5(–3.2) cm x 1–1.5 mm, slightly torulose, latiseptate, straight, divaricate-ascending; valves glabrous; style 0.2–0.7 mm. **Seeds** brown, orbicular or nearly so, 1–1.2 x 0.9–1 mm; wing 0.1–0.15 mm. **2n** = 16.

Flowering: Feb–Apr.

Habitat: fields, floodplains, waste places, lawns, railroad tracks and embankments, roadsides, cultivated ground, stream sides, open woods.

Elevation: 0–500 m.

Distribution: Mexico (Baja California), United States (Alabama, Arkansas, California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia).