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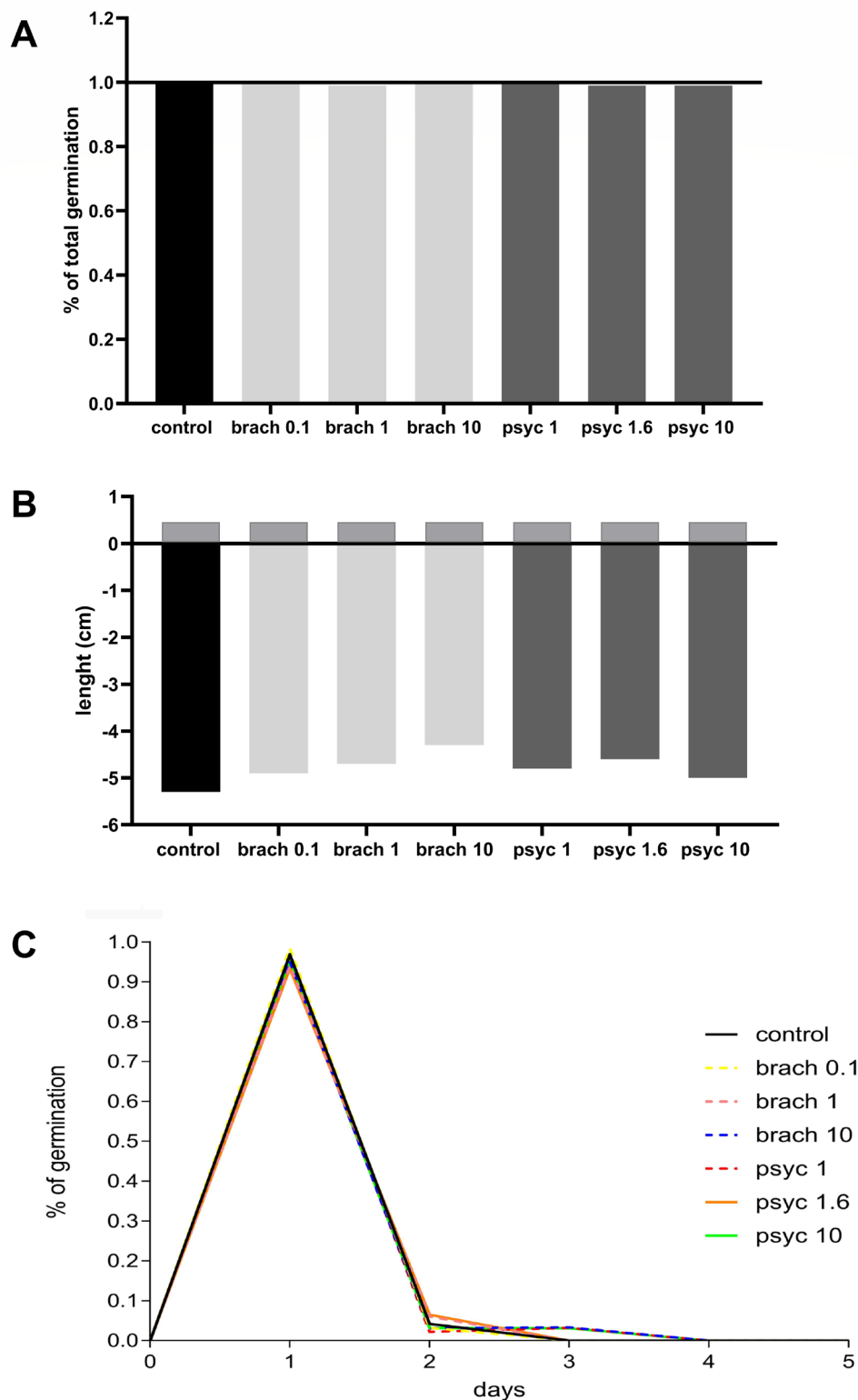


Figure S1. Effects of brachycerine and psychollatine on germination and early growth of *Lactuca sativa*. **A.** Germination percentage of achenes after 5 days in presence of brachycerine (brach) or psychollatine (psyc) at 0.1, 1.6, and 10 ppm (corresponding to concentrations within the range found in the alkaloid-producing plants). **B.** Total seedling growth (shoots shown as positive values, roots shown as negative values) 6 days after exposure to alkaloids as described in A. **C.** Germination time course with or without presence of alkaloid as described in A. In all cases, alkaloid solutions used in the biological tests had pH between 6 and 7, and water potential around -0.074 MPa, both compatible with germination of lettuce.



Table S1. Taxonomic information of southern Brazilian *Psychotria* species. K = Royal Botanic Gardens, Kew; G = Conservatoire et Jardin botaniques de la Ville de Genève (NYBG Steere Herbarium 2018).

SPECIES/ Main alkaloid(s) biosynthesized	General morphological description	Ecological state and geographical distribution in Brazil (REFLORA 2018; SpeciesLink 2018)	Synonyms	Protologue	Exsiccate/Herbaria/Collector: (JSTOR Global Plants link 2018)
<i>Psychotria brachyceras</i> Müll. Arg. (accepted name) BRACHYCERINE (Kerber <i>et al.</i> 2001)	Shrub (it reaches up to 3 m in height) displaying glabrous branches, elliptical membranous leaves (5-9 cm long x 2-3.5 cm wide) with acuminate apex and unlobed margins, corymbiform and pubescent terminal inflorescences, pentamerous sessile bisexual flowers, globular drupaceous fruits (8 mm), blue-violaceous colored when mature, seeds in number of 2. Fructification from April to July (Dillenburg & Porto 1985)	Endemic/ southeast, South	HOMOTYPIC SYNONYM: <i>Uragoga brachyceras</i> (Müll. Arg.) Kuntze	Flora 59: 544, 546. 1876	Holotype/ K! / Riedel, #638: https://plants.jstor.org/ search?filter=name&so=ps_group_ by_genus_species+asc&Query=Psy chotria+brachyceras
<i>Psychotria carthagenensis</i> Jacq. (accepted name) NO ALKALOIDS FOUND (Porto <i>et al.</i> 2009)	Shrub or tree [in RS it occurs only as a shrub (Sobral & Jarenkow 2013)]; it reaches up to 3 m in height, displays glabrous branches, elliptical (4-10 cm long x 2-5 cm wide) membranous leaves with acute apex, deciduous interpetiolar stipules, terminal inflorescences in panicles, pentamerous sessile bisexual flowers, 2-seeded ellipsoidal drupaceous fruits (8 mm x 6 mm), red colored when mature. Fructification from May to July (Dillenburg & Porto 1985)	Endemic/ Widely distributed	HETEROTYPIC SYNONYMS: <i>Mapouria alba</i> var. <i>tristis</i> (Müll. Arg.) Chodat & Hassl. <i>Mapouria australis</i> Müll. Arg. <i>Mapouria catharinensis</i> Müll. Arg. <i>Mapouria martiana</i> Müll. Arg. <i>Mapouria pohliana</i> Müll. Arg. <i>Mapouria rabeniana</i> Müll. Arg. <i>Mapouria riedeliana</i> Müll. Arg. <i>Mapouria rigida</i> Rusby <i>Mapouria tristis</i> Müll. Arg. <i>Mapouria velhana</i> Müll. Arg. <i>Psychotria ardisiifolia</i> Kunth <i>Psychotria decudua</i> Vell. <i>Psychotria densiflora</i> Humb. & Bonpl. ex Schult. <i>Psychotria elliptica</i> Ker Gawl. <i>Psychotria fockeana</i> Miq. <i>Psychotria foveolata</i> Ruiz & Pav. <i>Psychotria hundensis</i> Humb. & Bonpl. ex Schult. <i>Psychotria ilheosana</i> Standl. <i>Psychotria patula</i> Humb. & Bonpl. ex Schult. <i>Psychotria proxima</i> Standl. <i>Psychotria sagreana</i> Urb. <i>Psychotria tristicula</i> Standl. <i>Psychotria velhana</i> (Müll. Arg.) L. Andersson <i>Simira nitida</i> Poir. <i>Uragoga australis</i> (Müll. Arg.) Kuntze <i>Uragoga catharinensis</i> (Müll. Arg.) Kuntze <i>Uragoga compaginata</i> (Müll. Arg.) Kuntze <i>Uragoga fockeana</i> (Miq.) Kuntze <i>Uragoga jacobaschii</i> Kuntze <i>Uragoga mapouria</i> Kuntze <i>Uragoga pohliana</i> (Müll. Arg.) Kuntze <i>Uragoga tristis</i> (Müll. Arg.) Kuntze <i>Uragoga velhana</i> (Müll. Arg.) Kuntze <i>Uragoga watsoniana</i> Kuntze HOMOTYPIC SYNONYM: <i>Uragoga carthagenensis</i> (Jacq.) Kuntze	Enum. Syst. Pl. 16. 1760	Holotype/ K! / Pohl, #884: https://plants.jstor.org/ search?si=26&filter=name&so=ps_ group_by_genus_species+asc&Q uery=%28Psychotria+carthagene nsis%29



**Sustainable production of bioactive alkaloids in *Psychotria* L.
of southern Brazil: propagation and elicitation strategies**

Table S1. Cont.

SPECIES/ Main alkaloid(s) biosynthesized	General morphological description	Ecological state and geographical distribution in Brazil (REFLORA 2018; SpeciesLink 2018)	Synonyms	Protologue	Exsiccate/Herbaria/Collector: (JSTOR Global Plants link 2018)
<p><i>Psychotria leiocarpa</i> Cham. & Schltdl. (accepted name)</p> <p>GPV (N, β-D-Glucopyranosyl vincosamide A and B (Henriques <i>et al.</i> 2004)</p>	<p>Shrub (it reaches up to 2 m in height), with glabrous branches, elliptical (4-11 cm long x 1.5-3 cm wide) membranous leaves with acuminate apex, inconspicuous (reduced) interpetiolar stipules, terminal inflorescences in corymbiform panicles, tetramerous pedicellate bisexual flowers, 2-seeded laterally compacted drupaceous fruits (7 mm x 5 mm x 4 mm), blue-violaceous colored when mature. Fructification from April to June (Dillenburg & Porto 1985; Ferreira Jr. & Vieira 2015)</p>	<p>Native, non-endemic</p>	<p>HETEROTYPIC SYNONYMS: <i>Psychotria constricta</i> Müll. Arg. <i>Psychotria extratropica</i> Müll. Arg. <i>Psychotria intermedia</i> Gardner <i>Psychotria leiocarpa</i> var. <i>constricta</i> (Müll. Arg.) Chodat & Hassl. <i>Psychotria leiocarpa</i> var. <i>elliptica</i> Müll. Arg. <i>Psychotria leiocarpa</i> var. <i>extratropica</i> Cham. & Schltdl. <i>Psychotria leiocarpa</i> var. <i>intermedia</i> Müll. Arg. <i>Psychotria leiocarpa</i> var. <i>tropica</i> Cham. & Schltdl. <i>Psychotria nemorosa</i> var. <i>oblongifolia</i> Wawra <i>Psychotria psilogyne</i> Müll. Arg. <i>Psychotria tenella</i> Müll. Arg. <i>Ronabea myodendron</i> A. Rich. ex DC. <i>Ronabia myodendra</i> St.-Lég. <i>Uragoga constricta</i> (Müll. Arg.) Kuntze <i>Uragoga extratropica</i> (Cham. & Schltdl.) Kuntze <i>Uragoga lagoensis</i> (Müll. Arg.) Kuntze <i>Uragoga tenella</i> (Müll. Arg.) Kuntze</p> <p>HOMOTYPIC SYNONYMS <i>Psychotria leiocarpa</i> var. <i>genuina</i> Müll. Arg. <i>Uragoga leiocarpa</i> (Cham. & Schltdl.) Kuntze <i>Uragoga nitidula</i> (Cham. & Schltdl.) Kuntze (REFLORA 2018)</p>	<p>Linnaea 4: 22. 1829</p>	<p>Holotype/K!/ Riedel, 1830, #9</p> <p>https://plants.jstor.org/search?si=51&filter=name&so=ps_group_by_genus_species+asc&Query=Psychotria+leiocarpa</p>
<p><i>Psychotria myriantha</i> Müll. Arg. (heterotypic synonym)</p> <p>STRICTOSIDINIC ACID (Simões-Pires <i>et al.</i> 2006)</p>	<p>Shrub (it reaches up to 2 m in height), with glabrous branches, elliptical (7.5-14 cm long x 2.5-5.5 cm wide) membranous leaves with acuminate apex, persistent interpetiolar stipules, terminal inflorescences arranged in elongated panicles, pentamerous short-pedicellate bisexual flowers, 2-globular drupaceous fruits (5 mm long x 7 mm wide x 4 mm thick) black colored when mature, seeds in number of 2. Fructification from March to May (Dillenburg & Porto 1985; Ferreira Jr. & Vieira 2015)</p>	<p>Endemic/ northeast, southeast, South</p>	<p><i>Palicourea mamillaris</i> (Müll. Arg.) C. M. Taylor (accepted name)</p> <p>(TROPICOS 2018)</p>	<p>Flora 59: 549, 552. 1876</p>	<p>Holotype/G!/ Riedel, L. #- https://plants.jstor.org/search?filter=name&so=ps_group_by_genus_species+asc&Query=Psychotria+myriantha</p>
<p><i>Psychotria suterella</i> Müll. Arg. (accepted name)</p> <p>LYALOSIDE, STRICTOSAMIDE, NAUCLETINE (Santos <i>et al.</i> 2001)</p>	<p>Shrub (it reaches up to 2 m in height) with glabrous branches, elliptical (5-14 cm long x 2-5 cm wide) membranous leaves with acuminate apex, deciduous interpetiolar stipules, capituliform terminal inflorescences, sessile bisexual flowers, 2-seeded globular drupaceous fruits (10 mm), blue-violaceous colored when mature. Fructification from April to October (Dillenburg & Porto 1985)</p>	<p>Native, non-endemic/ southeast, South</p>	<p>HETEROTYPIC SYNONYMS <i>Psychotria estrellana</i> Müll. Arg. <i>Psychotria estrellana</i> var. <i>lanceolata</i> Müll. Arg. <i>Uragoga estrellana</i> (Müll. Arg.) Kuntze</p> <p>HOMOTYPIC SYNONYMS <i>Suteria parviflora</i> Gardner <i>Uragoga suterella</i> (Müll. Arg.) Kuntze</p>	<p>Fl. Bras. (Martius) 6(5): 380. 1881</p>	<p>(possible, not seen) Holotype /K/ Gardner, 1837, #452 https://plants.jstor.org/search?filter=name&so=ps_group_by_genus_species+asc&Query=%28Psychotria+suterella%29</p>



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SPECIES/ Main alkaloid(s) biosynthesized	General morphological description	Ecological state and geographical distribution in Brazil (REFLORA 2018; SpeciesLink 2018)	Synonyms	Protologue	Exsiccate/Herbaria/Collector: (JSTOR Global Plants link 2018)
<i>Psychotria umbellata</i> Vell. (heterotypic synonym) PSYCHOLLATINE (umbellatine) (Kerber <i>et al.</i> 2008)	Shrub (it reaches up 1.80 m in height), with glabrous branches, elliptical (9-13 cm long x 5-7 cm wide) membranous leaves with acuminate apex, undivided interpetiolar stipules, corymbiform terminal inflorescences arranged in cymes, pentamerous sessile and short-pedicellate bisexual flowers (in the same inflorescence), 2-seeded laterally compacted drupaceous fruits (5 mm long x 8 mm wide x 7 mm thick), purple colored when mature. Fructification from January to March (Dillenburg & Porto 1985; Ferreira Jr. & Vieira 2015)	Endemic/ southeast, South	<i>Psychotria brachypoda</i> (Müll. Arg.) Britton (accepted name) BASIONYM: <i>Mapouria brachypoda</i> Müll. Arg. HETEROTYPIC SYNONYMS: <i>Palicourea gilgiana</i> Standl. <i>Psychotria arrabidaie</i> Müll. Arg. <i>Psychotria pycnantha</i> Standl. <i>Rudgea umbellata</i> (Vell.) Müll. Arg. <i>Uragoga umbellata</i> (Vell.) Kuntze HOMOTYPIC SYNONYMS: <i>Palicourea brachypoda</i> (Müll. Arg.) L. B. Sm. & Downs <i>Uragoga brachypoda</i> (Müll. Arg.) Kuntze	Britton, N.L., Mem. Torrey Bot. Club, 18: 109, 1891	Holotype/G! Riedel, L., # - https://plants.jstor.org/search?filter=name&so=ps_group_by_genus_species+asc&Query=%28Psychotria+umbellata%29

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