

## An update to the known weeds of Guam

By Wei Xiao<sup>1</sup>, Nathan Sablan<sup>1</sup>, Sherald Alvarez<sup>2</sup>, Antoni Badowski<sup>2</sup>, Aldwin Batusin<sup>2</sup>, Kaylen Cruz<sup>2</sup>, John De Vega<sup>2</sup>, Makayla Dela Cruz<sup>2</sup>, Mark Fagaragan<sup>2</sup>, Aellany Gatus<sup>2</sup>, Madeline Gonzalez<sup>2</sup>, Mark Julien<sup>2</sup>, Raelani Naputi<sup>2</sup>, Sydney Nauta<sup>2</sup>, Katherine Perez<sup>2</sup>, Santiago Poppe<sup>2</sup>, Ava Rios<sup>2</sup>, Aryanna Sanele<sup>2</sup>, Jose Simpson<sup>2</sup>, Kyla Tuazon<sup>2</sup>, and Ami Vice<sup>2</sup>

<sup>1</sup>University of Guam College of Natural & Applied Sciences

<sup>2</sup>University of Guam student, Plant Systematics (BI-365) class

Few studies have been performed during the last two decades involving tracking and updating exotic plant species in Guam. Consequently, some of the common weeds spread throughout Guam today have yet to be identified or officially documented.

To better inform researchers and residents about what weeds or possibly invasive species are present today, the Plant Systematics class (BI-365) at the University of Guam expanded the list of known Guam weeds by 16 species — most of which have not been reported in Guam and are suspected to be recently introduced to the island within the last two decades.

This collaborative project was carried out by collecting unknown species in urban environments and identifying them to the species level by their morphological characteristics and growth patterns.

The next step was to review literature on Guam flora to see if they had been previously reported. The literature reviewed included:

- “Survey of Invasive Plants on Guam and Identification of the 20 Most Widespread” by Gadi V.P. Reddy (Western Pacific Tropical Research Center, University of Guam, 2011)
- “Color Atlas of Common Weeds of Guam” by James

McConnell and Lauren Gutierrez (Agricultural Experiment Station, University of Guam, 2006)

- “Checklist of Plants of the Mariana Islands” by Lynn Raulerson (Herbarium, University of Guam, 2006)
- “Common Weeds of Guam” by Chin-Tian Lee (Agricultural Experiment Station, University of Guam, 1985)
- “Field and Garden Plants of Guam” by Philip H. Moore and Richard D. Krizman (Cooperative Extension & Outreach, University of Guam, 1981)
- “The Flora of Guam” by Benjamin C. Stone (Micronesica, University of Guam, 1970)

The species not found in the above sources are listed in Table 1 with corresponding images as a resource to help plant enthusiasts recognize them.

The team found it difficult to identify the species from Rubiaceae (particularly *Spermacoce* L. and *Oldenlandia* L.) and Poaceae. Taxonomy experts can conduct future studies to solve the IDs of these Guam weeds. Future cohorts of the Plant Systematics class will continue the effort of identifying new weeds and updating this list.






### FOR FURTHER INFORMATION

Contact Dr. Wei Xiao at (671) 735-2791 or [xiaow@triton.uog.edu](mailto:xiaow@triton.uog.edu).




**Table 1. Newly identified weeds in Guam**

Family	Species/Synonym	Common Name	iNaturalist ID	Notes	
Acanthaceae	<i>Rostellularia procumbens</i> (L.) Nees / <i>Justicia procumbens</i> L.	purple justicia	181483623	Found only in Southern Guam	
Acanthaceae	<i>Ruellia ciliatiflora</i> Hook./ <i>Ruellia nudiflora</i> (Engelm. & A.Gray) Urb.	hairyflower wild petunia	198104373	Common	
Acanthaceae	<i>Ruellia prostrata</i> Poir.	prostrated ruellia	198103173	Common	
Acanthaceae	<i>Ruellia tuberosa</i> L.	popping pod	198103323	Common	
Apocynaceae	<i>Telosma procumbens</i> Merr.	latok	198862669		
Fabaceae	<i>Indigofera spicata</i> Forssk.	creeping indigo	190528467		

**Table 1. Newly identified weeds in Guam (continued)**

Family	Species/Synonym	Common Name	iNaturalist ID	Notes	
Fabaceae	<i>Stylosanthes hamata</i> (L.) Taub.	Caribbean stylo	190614833	Common and aggressive, with trifoliate leaves	
Cleomaceae	<i>Cleome rutidosperma</i> DC.	purple cleome	205431897		
Convolvulaceae	<i>Ipomoea cairica</i> (L.) Sweet	ivy-leaved morning glory	198553784	In several places in Guam. Known as an invasive species in many tropical regions.	
Commelinaceae	<i>Callisia repens</i> (Jacq.) L.	turtle vine	204391359	Uncommon, but seen in several locations in Guam	
Linderniaceae	<i>Torenia crustacea</i> (L.) Cham. & Schltld. / <i>Lindernia crustacea</i> (L.) F.Muell.	brittle false pimpernel	197137360		

**Table 1. Newly identified weeds in Guam (continued)**

Family	Species/Synonym	Common Name	iNaturalist ID	Notes	
Poaceae	<i>Isachne</i> sp.	bloodgrass	201332673	Wetland plant	
Rubiaceae	<i>Spermacoce verticillata</i> L.	shrubby false buttonweed	198553646	Probably new to Guam with a narrow range	
Rubiaceae	<i>Spermacoce ocymoides</i> Burm.f.	basil buttonweed	197780853		
Verbinaceae	<i>Stachytarpheta australis</i> Moldenke	white snakeweed	199139774	Rare but has been in Guam for more than 10 years	
Vitaceae	<i>Tetrastigma pubinerve</i> Merr. & Chun	Chinese grape vine	181527624	Aggressive in Southern Guam	

## REFERENCES

- Lee, C.T. (1985). *Common weeds of Guam*. University of Guam, Agricultural Experiment Station.
- McConnell, J., & Gutierrez, L. (2006). *Color atlas of common weeds of Guam*. Agricultural Experiment Station, University of Guam.
- Moore, P.H., & Krizman, R.D. (1981). *Field and garden plants of Guam*. University of Guam, Cooperative Extension and Outreach.
- Raulerson, L. (2006). *Checklist of plants of the Mariana Islands* (Contribution 37). Herbarium, University of Guam.
- Reddy, G.V. (2011). *Survey of invasive plants on Guam and identification of the 20 most widespread*. *Micronesica*, 41(2), 263-274.
- Stone, B.C. (1970). *The flora of Guam*. Mangilao, GU, USA: University of Guam.

## PUBLICATION CREDITS

**REVIEWERS** Adrian Ares, Ph.D.  
Jessica Gross, M.S.

**EDITED BY** Jackie Hanson

**LAYOUT BY** Conrad Calma

This research was completed by undergraduate students in the Spring 2024 semester of the Plant Systematics (BI-365) course of Dr. Wei Xiao.



**UNIVERSITY OF GUAM**  
COLLEGE OF NATURAL  
& APPLIED SCIENCES

College of Natural & Applied Sciences  
University of Guam  
303 University Dr.  
Mangilao, GU 96923-9000  
(671) 735-2000/2060  
[www.uog.edu/cnas](http://www.uog.edu/cnas)

Published: July 2024

This publication, as supported by U.S. Department of Agriculture funds through the University of Guam College of Natural & Applied Sciences, is in the public domain.

The University of Guam is a U.S. Land Grant and Sea Grant institution accredited by the WASC Senior College & University Commission. UOG is an equal opportunity provider and employer committed to diversity, equity, and inclusion through island wisdom values of *inadahi yan inagofli'e*: respect, compassion, and community.

To request this publication in alternate forms, please contact the UOG EEO/ADA/ Title IX Office at (671) 735-2971/2244 or email [efgogue@triton.uog.edu](mailto:efgogue@triton.uog.edu).