

8 November 2015

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FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office

300 Ala Moana Boulevard, Room 3-122, Box 50088

Honolulu, Hawaii 96850

**Comments on/review of Federal Register / Vol. 80, No. 189 Endangered and Threatened Wildlife and Plants: Endangered status for 49 Plant and Animal Species from the Hawaiian Islands; Proposed Rule.**

General comments:

Listing of 49 additional plant and animal species on Kauai is both appropriate and timely. From a botanical perspective, I believe all of the 39 plant species deserve listing. Information on individual species is scientifically correct and current to the best of my knowledge. Recent field data from NTBG field biologists may provide some minor updates or corrections regarding numbers for wild populations, and this will be submitted separately by NTBG.

In my opinion the assumptions and principles used for listing all 39 of these plant species are sound and scientifically accurate. I have no additional information to add regarding numbers and sizes of populations and threats. However, I do have some specific comments regarding the Federal Register listing proposal, as follows:

p. 58839, *Phyllostegia helleri* nutlets ca. 2.5 mm long (not cm).

p. 58839 *Phyllostegia stachyoides* nutlets ca.3 mm long (not cm)

p. 58857 *Brachiaria mutica* now = *Urochloa mutica*

p. 58833 Under *Gardenia remyi*, add: some species of *Gardenia* are dioecious and although the breeding system of *G. remyi* has not been studied and is unknown, this may be a possible cause of failure to produce viable seed in isolated individuals.

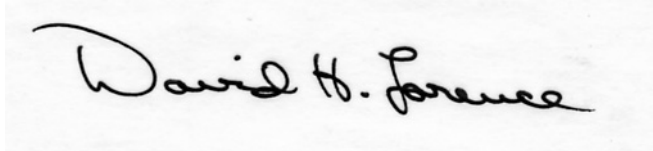
p. 58836 *Kadua haupuensis*, has female and hermaphroditic flowers on separate plants (not male and female flowers with sporadic hermaphroditic flowers). (see: Laidlaw & Lorence 2015).

Laidlaw, W. G. & D. H. Lorence 2015. Gender and Breeding System of *Kadua haupuensis* (Rubiaceae). Research Gate open access publication, posted 23 July 2015, p. 1-27. Note: Originally 10 individuals were grown from seed collected by K. R. Wood on Mt. Haupu in 1999. Many cuttings were made from these individuals propagated vegetatively as well as from F1 and F2 seed. A number are cultivated at NTBG's McBryde Garden (Kauai), and seed is stored in NTBG's seed bank.

p. 58836. Should note that *Labordia lorenceana*, leaves have a distinctive cordate base. This species has been successfully propagated from seed (PTBG & PEPP).

p. 58836. *Lepidium orbiculare*, the species name probably refers to the orbicular fruit shape, not the seed shape.

I hope these comments are useful. Please feel free to contact me if you have any questions.

A handwritten signature in black ink on a light-colored background. The signature reads "David H. Lorence" in a cursive, flowing script. The first letter 'D' is large and loops back. The 'H' is simple, and 'Lorence' is written in a continuous, connected style.

David H. Lorence, Ph.D.

Director of Science and Conservation

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