ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code:** PDLNN02010
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Pholisma arenarium* Nutt. ex Hook.
COMMON NAME: Scaly Sandplant, Desert Christmas Tree, Scaly Sandfood
SYNONYMS: *Pholisma depressum* Greene, *P. paniculatum* Templeton
FAMILY: Lennoaceae

AUTHOR, PLACE OF PUBLICATION: Thomas Nuttall. Icones Plantarum 7: pl. 625. 1844.

TYPE LOCALITY: San Diego Co., California.

TYPE SPECIMEN: HT: K. Nuttall s.n.; Mar-May 1836. IT: PH.

TAXONOMIC UNIQUENESS: Three species within *Pholisma; P. arenarium, P. culiacanum* and *P. sonorae* (Warren and Laurenzi 1987). The PLANTS database (USDA 2002) reports that the species *sonorae* is 1 of 2 species in the genus *Pholisma*. *Lennoa*, a monotypic genus, is the only other genus within Lennoaceae. Within Lennoaceae, *Pholisma* appears to be the most primitive (Copeland 1935). The distinctness of Lennoaceae as a unique family as opposed to belonging to the superfamily Boraginaceae has recently been questioned; see APG 2016 and Luebert et al. 2016 for opposing viewpoints.

DESCRIPTION: Fleshy root parasite lacking chlorophyll. Part above ground 1.0-2.0 dm (4.0-8.0 in.) tall. Unbranched stem 15.0-30.0 cm (6.0-12.0 in.) long, 15.0-20.0 mm (0.6-0.8 in) wide; fairly uniform from base to near apex; whitish in color, drying brown, fleshy with brownish scale-like leaves (cataphylls) 8.0-14.0 mm (0.32-0.56 in.) long, attaining greatest length about midway between base and apex of stem. Inflorescence spike-like; stamens and stigma even. Spikes oblong to branched, 2.0-8.0 cm (0.8-3.2 in.) across, calyx shorter than corolla, glandular-puberulent; corolla 3.0-4.0 mm (1.2-1.6 in.) broad. Seeds brown in color. N=-18 (Munz 1974). For complete description, see Templeton 1962.

AIDS TO IDENTIFICATION: *P. arenarium* found on roots of shrubs such as *Hymenoclea, Eriodictyon, Haplopappus, Chrysothamnus,* and *Ambrosia*. Yatskievych reports that in Arizona, *P. arenarium* is typically found associated with *Ambrosia dumosa*.

ILLUSTRATIONS: B&W photos of plant at various stages (Templeton 1962: figs 1-2; p. 21).

TOTAL RANGE: Coast from San Luis Obispo Co. to northern Lower California, Mojave and Colorado deserts. Arizona: La Paz and Yuma counties. Mexico: Baja California Norte.

RANGE WITHIN ARIZONA: La Paz County: Bouse Wash; Cactus Plain; La Posa Plain; Parker Valley; Yuma County: 8 miles southeast of Yuma near Highway 95 (*Engard 1135*) (SEINet 2022).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial root parasite; fleshy underground.

PHENOLOGY: April-July, October (Munz 1974).

BIOLOGY: Parasitic on roots of shrubs such as *Eriodictyon, Haplopappus, Chrysothamnus, Hymenoclea, Ambrosia, Eriogonum parvifolium and Croton californicus.*

Carlquist and Guilliams (2017) examined the wood anatomy of the four species within Lennoaceae in detail. They concluded that the wood of these species is markedly different from the strands of xylem in closely related families (Ehretiaceae and Cordiaceae), most of which are woody species. Vessel structures within Lennoaceae suggest a high adaptability to arid environments; the lack of fibers in their secondary xylem is probably related to the fact that the plants are supported by sand, rather than being self-supported. Thick vessel walls, such as seen in the parasitic plant families Krameriaceae, Viscaceae, and Loranthaceae, are also a characteristic of Lennoaceae species.

HABITAT: Coastal strand; sand dunes; wash margins.

ELEVATION: 470 - 900 feet (143-274 m). Below 5,000 ft (Munz 1974).

EXPOSURE: Open.

SUBSTRATE: Sand.

PLANT COMMUNITY: Creosote Bush Scrub.

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.
STATE STATUS: Highly Safeguarded (ARS, ANPL2016)
OTHER STATUS: Bureau of Land Management Sensitive (USDI, BLM AZ 2000, 2005, 2008, 2010, 2017)

MANAGEMENT FACTORS:

PROTECTIVE MEASURES TAKEN: Some of the *P. arenarium* habitat in Arizona is found within a designated wilderness study area (Cactus Plain WSA) and the Gibraltar Mountain Wilderness

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: BIA – Colorado River Reservation; BLM – Havasu Field Office; State Land Department; Private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

Revised: 1995-06-05 (DBI)
1999-06-06 (DJG)
2022-02-17 (TME)

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