ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code: PDLAM0M0M0**
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Hedeoma dentata* W.H. Emory
COMMON NAME: Arizona False Pennyroyal

SYNONYMS: *Hedeoma dentatum* W.H. Emory
OTHER COMMON NAMES: Arizona False-pennyroyal
Mock-pennyroyal
Huachuca Pennyroyal
Dentate False Pennyroyal
Dentate False-pennyroyal
Dentate Falsepennyroyal
FAMILY: Lamiaceae

AUTHOR, PLACE OF PUBLICATION: W. H. Emory. 1859. Report on the United States and Mexican Boundary. 2(1):130

TYPE LOCALITY: Santa Cruz, Sonora, Mexico.

TYPE SPECIMEN: NY 564. G. Thurber (s.n.). September 1851.

TAXONOMIC UNIQUENESS: The genus *Hedeoma* contains 38 species and is native to North and South America (Miller and Wilken 2012). There are seven species of *Hedeoma* in Arizona (Kearney and Peebles 1960, Lehr 1978). *Hedeoma dentatum* is an orthographic variant (misspelling) for the species in some floras (Integrated Taxonomic Information System (ITIS) 2025), including Kearney and Peebles (1960), Spellenberg et al. (1986), and McLaughlin and Bowers (1990).

DESCRIPTION: Herbaceous perennial with stems to 50 cm, in clumps; leaves dentate, usually with more than 6 teeth, simple, ovate or elliptic to rhomboid, usually 2-3 times longer than wide, with conspicuous veins; basal leaves quite hairy; flowers small, typically clusters of 5-7, but up to 15, in axiles of upper, bract-like leaves; corolla lavender, tubular, with 2 stamens that exceed the corolla tube; calyx tube about 4 times as long as wide, clearly

bilobate, teeth spreading, the upper ones more or less reflexed; the upper 3 teeth usually joined below the middle, the lower 2 teeth free, longer than the upper teeth; calyx tube only moderately distended at maturity, 1/5 to 1/4 as wide as long; fruit contains 4 smooth, oblong nutlets, becomes sticky when wet (Kearney and Peebles 1960, Shreve and Wiggins 1964, Irving 1980).

AIDS TO IDENTIFICATION: Leaves conspicuously dentate, elliptic to rhomboid, usually 2-3 times longer than wide; calyx tube about 4 times as long as wide; basal leaves toothed and hairy (Irving 1980). *Hedeoma nana*, which often has leaves with a minutely dentate margin, has a calyx that is distended at the base at maturity, the pouch forming more than half the length of the tube. The veins and teeth of *H. oblongifolium* leaves are inconspicuous, and the early leaves are not hairy (Irving 1980).

ILLUSTRATIONS:

Color photo (SEINet 2025),
https://swbiodiversity.org/seinet/taxa/index.php?taxon=Hedeoma+dentata

TOTAL RANGE: Southeastern Arizona, southern New Mexico and northern Sonora, Mexico (NatureServe 2025).

RANGE WITHIN ARIZONA: Chiricahua, Huachuca, Mule, Whetstone and Winchester Mountains (Cochise County); Pinaleno Mountains (Graham County); Baboquivari, Rincon and Santa Catalina Mountains (Pima County); Atascosa, Mustang, Pajarito and Santa Rita Mountains (Santa Cruz County).

A University of Arizona Herbarium specimen, collected in 1905, from the "Apache Indian Reservation" in Navajo/Apache County appears to have been misidentified (Bertelsen 2000).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Slightly woody, herbaceous perennial.

PHENOLOGY: Flowering April - October (Irving 1980).

BIOLOGY: *H. dentata* primarily reproduces by inbreeding. The fertile lower pair of anthers dehisce and the style, which lies behind this pair of anthers, recurves at its tip into the exposed mass of pollen (Irving 1980). Apparently seventy to eighty percent of the flowers set viable seed, which can remain viable for up to five years. *H. dentata* is known to naturally hybridize with *H. hyssopifolium*, with about 50% of the hybrids being fertile (Irving 1980). *H. dentata*

and *H. hyssopifolium* both occur in Finger Rock Canyon and Madera Canyon, Santa Rita Mountains, but there seems to be little overlap in range and no hybridization (Bertelsen 2000)

HABITAT: Oak woodland, oak-pine forest, pine forest. In Finger Rock Canyon, it grows on fairly open slopes and along the trail (Irving 1980). It can be found on open road cuts, steep rocky outcrops, and gravelly slopes in wooded canyons with open to full sunlight (Irving 1980, Bennett et al. 1996). Rock crevices on steep, rocky slopes. Also, occasionally found along washes (NatureServe 2025).

ELEVATION: 4,000–7,500 ft (1,220–2,280 m) (Kearney and Peebles 1960).

EXPOSURE: All, but often north facing. Preferred slope of 40-80% (Irving 1980).

SUBSTRATE: This species typically occurs on well-drained shallow, cobbly loams or sandy loams; soil associations are Tortugas - Rock outcrop, Faraway - Rock outcrop - Barkersville, and Costo - Martinez - Canelo (Irving 1980). It is possibly found on others.

PLANT COMMUNITY: *H. dentata* is primarily found in Madrean evergreen woodland communities. It is also found in the lower more exposed portions of Petran/Madrean montane forest and in semidesert grassland communities (Brown 1994). Associated species in Madrean evergreen woodland communities include *Quercus* sp., *Pinus* sp., *Juniperus* sp., *Cupressus arizonica*, *Arbutus arizonica*, *Garrya sp.*, etc (Brown 1994).

POPULATION TRENDS: The paucity of herbarium records prior to 1979 seemed to suggest that *H.dentata* was rare. This resulted in a status report being written in 1980 by Dr. Robert Irving, with field work being conducted by him in August of 1979. He reported that, within its distributional range, it is a relatively common species that was reproducing well. During this study, he looked at approximately 15 populations. Of the populations he studied, none exceeded 20 plants and most were much smaller (Irving 1980).

In 1995, Bertelson described the species in Finger Rock Canyon as common and widespread in oak woodland, oak-pine woodland and pine forest, but by 2000, he reported the population had declined and considered the species as uncommon. Competition with grasses did not appear to be a factor in the decline (Bertelsen 2000).

SPECIES PROTECTION AND PRESERVATION

Status definitions: https://bit.ly/hdms-status-definitions
Heritage Network Conservation Status Rank definitions: https://bit.ly/hdms-rank-definitions

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
STATE STATUS:
HERITAGE NETWORK STATUS: G3
S4
OTHER STATUS: Watch (USDA, FS Tonto NF SSC 2023)

PREVIOUS STATUS
ENDANGERED SPECIES ACT STATUS: 3C, as *Hedeoma dentaum* (USDI, FWS 1985, 1980)
OTHER STATUS: Not FS Sensitive (USDA, FS Region 3, 2007)
Forest Service Sensitive, as *Hedeoma dentatum* (USDA, FS Region 3 1999)

MANAGEMENT FACTORS: Management practices of the Coronado National Forest are compatible with this species and its habitat (Irving 1980). However, *H. dentata* is sensitive to competition and as grasses and other flora invade its habitat, it is eliminated (Irving 1980). Due to this it may be sensitive to invasive grasses and potentially altered fire regimes caused by invasive species.

CONSERVATION MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP:
BIA - Tohono O'Odham Reservation
BLM - Safford Field Office
DOD - Fort Huachuca Military Reservation
NPS - Chiricahua National Monument, Coronado National Memorial, and Saguaro National Park
State - State Land Department
USFS - Coronado National Forest
National Audubon Society - Appleton-Whittell Research Ranch
TNC - Ramsey Canyon
Private.

SOURCES OF FURTHER INFORMATION

LITERATURE CITATIONS:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

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ADDITIONAL INFORMATION:

The chromosome number of *H. dentatum* is 2n = 36 (Irving 1980). *Hedeoma* is an ancient Greek name for a strongly aromatic mint (Miller and Wilken 2012).

Revised: 1989-11-09 ( )
1999-11-04 (DJG)
2000-03-17 (CDB)
2019-08-30 (BDT)
2025-04-08 (CMP)