

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

POCKET GOPHERS OF THE *THOMOMYS BOTTAE*
GROUP IN THE UNITED STATES.

BY E. A. GOLDMAN.

In revising the pocket gophers of the genus *Thomomys*, Bailey (North Amer. Fauna No. 39, p. 33, Nov. 15, 1915) assigned numerous species and subspecies in the southwestern United States to the "*bottae*," "*perpallidus*," and "*fulvus*" groups, respectively, which he indicated are "not sharply separated." The writer in describing new forms from Arizona (Journ. Wash. Acad. Sci., vol. 21, no. 17, p. 416, Oct. 19, 1931) stated that these "groups" are united by forms so closely interrelated that even specific distinction disappears. The Colorado River and its canyons are effective barriers limiting the distribution of pocket gophers until the stream enters the flood plain near its mouth, where, as I also pointed out, shifting channels would naturally result in the transfer of colonies from one side to the other. Some specimens from the opposing sides of the lower part of the river valley are indistinguishable, and intergradation in characters across this section may be regarded as complete. Further study confirms the conclusion forecasted, that all of the closely allied forms currently regarded as geographic races of *perpallidus* and *fulvus* should be listed as subspecies of *bottae*, an older name. Complete intergradation may not be demonstrable in all cases at the present time, but trinomial names seem warranted for forms that exhibit a very close approach in all essential characters, including those known to be of subspecific value elsewhere, and topography indicates that ranges are probably confluent.

Thomomys bottae as now understood, therefore, embraces an extraordinary number of widely dispersed but closely interrelated subspecies. The

general range of the species is from California north to southwestern Oregon; east through southern Nevada and Utah to the Upper Arkansas River Valley, Colorado; south nearly throughout Lower California, Arizona, New Mexico, western Texas; and on the Mexican mainland to northern Durango and central Sinaloa. While the multiplicity of forms appears to be the expression of environmental factors and the sedentary habits of these animals, the more salient characters linking all forms are maintained with remarkable constancy throughout the series.

The term "*bottae* group" is here used in a somewhat restricted sense. Only two forms, evidently offshoots of the *bottae* series, are included with full specific rank. *Thomomys lachugilla* may prove to intergrade with *bottae*; and the group position of *Thomomys baileyi* is not remote.

The Mexican mainland forms of *Thomomys bottae* have been treated by Nelson and Goldman (Journ. Mamm., vol. 15, no. 2, pp. 121-124, May 15, 1934). Those that occur in Lower California have been correctly allocated, with the exception of *Thomomys martirensis* of the San Pedro Martir Mountains (8,200 feet), which should be recognized as *Thomomys bottae martirensis*. The present paper, revising names, is an attempt to substitute order for a chaotic nomenclatural condition for which the writer has been partly responsible.

LIST OF SPECIES AND SUBSPECIES WITH TYPE LOCALITIES.

Thomomys bottae bottae (Eydoux and Gervais). "Coast of California," probably vicinity of Monterey.

Thomomys bottae minor Bailey. Fort Bragg, Mendocino County, California.

Thomomys bottae laticeps Baird. Humboldt Bay, California.

Thomomys bottae saxatilis Grinnell. Susanville (4,400 feet), Lassen County, California.

Thomomys bottae leucodon Merriam. Grants Pass, Rogue River Valley, Oregon.

Thomomys bottae navus Merriam. Red Bluff, Tehama County, California.

Thomomys bottae mewa Merriam. Raymond, Madera County, California.

Thomomys bottae awahnee Merriam. Yosemite Valley (4,000 feet), Mariposa County, California.

Thomomys bottae alpinus Merriam. Big Cottonwood Meadows, 8 miles southeast of Mount Whitney (10,000 feet), Sierra Nevada, Tulare County, California.

Thomomys bottae pascalis Merriam. Fresno, San Joaquin Valley, California.

Thomomys bottae angularis Bailey. Los Baños, Merced County, California.

Thomomys bottae ingens Grinnell. East side levee (2 miles west of Millux), Buena Vista Lake (290 feet), Kern County, California.

Thomomys bottae diaboli Grinnell. Sweeney's Ranch, 22 miles southwest of Los Baños, Merced County, California.

Thomomys bottae infrapallidus Grinnell. Seven miles southeast of Simmler, Carrizo Plain, San Luis Obispo County, California.

Thomomys bottae pallescens Rhoads. Grapeland, San Bernardino County, California.

- Thomomys bottae altivallis* Rhoads. San Bernardino Mountains (5,000 feet), California.
- Thomomys bottae neglectus* Bailey. Bear Flat Meadows (6,400 feet), San Antonio Peak, San Gabriel Mountains, California.
- Thomomys bottae nigricans* Rhoads. Witch Creek, San Diego County, California.
- Thomomys bottae puertae* Grinnell. Mason's Ranch, La Puerta Valley, San Diego County, California.
- Thomomys bottae jacintus* Grinnell and Swarth. Round Valley (9,000 feet), San Jacinto Mountains, Riverside County, California.
- Thomomys bottae cabezonae* Merriam. Cabezon, San Gorgonio Pass, California.
- Thomomys bottae perpallidus* Merriam. Palm Springs, Riverside County, California.
- Thomomys bottae albatrus* Grinnell. West side of Colorado River at Old Hanlon Ranch, near Pilot Knob, California.
- Thomomys bottae mohavensis* Grinnell. Mohave River bottom (2,700 feet), near Victorville, California.
- Thomomys bottae amargosae* Grinnell. Shoshone (1,560 feet), Amargosa River, Inyo County, California.
- Thomomys bottae perpes* Merriam. Lone Pine, Owens Valley, California.
- Thomomys bottae scapterus* Elliot. Hannopec Canyon, Panamint Mountains, California.
- Thomomys bottae melanotis* Grinnell. Big Prospector Meadow (10,500 feet), White Mountains, California.
- Thomomys bottae argusensis* Huey. Junction Ranch, Argus Mountains, California.
- Thomomys bottae operarius* Merriam. Keeler, Owens Lake, Inyo County, California.
- Thomomys bottae oreoecus* Burt. Greenwater (4,300 feet), Black Mountains, 8 miles southwest of Ryan, Inyo County, California.
- Thomomys bottae providentialis* Grinnell. Purdy (4,500 feet), 6 miles southeast of New York Mountain, Providence Range, San Bernardino County, California.
- Thomomys bottae canus* Bailey. Deep Hole, north end of Smoke Creek Desert, Washoe County, Nevada.
- Thomomys bottae depressus* Hall. Dixie Meadows (3,500 feet), Churchill County, Nevada.
- Thomomys bottae cinereus* Hall. West Walker River, Smiths Valley (4,700 feet), Lyon County, Nevada.
- Thomomys bottae lachrymalis* Hall. Arlemont (Chiatovich Ranch), Fish Lake Valley (4,900 feet), Esmeralda County, Nevada.
- Thomomys bottae solitarius* Grinnell. Finger-rock Wash, Stewart Valley (5,400 feet), Mineral County, Nevada.
- Thomomys bottae fumosus* Hall. Milman Ranch, Moores Creek, 19 miles southeast of Millett P. O., Nye County, Nevada.
- Thomomys bottae curtatus* Hall. San Antonio (5,400 feet), Nye County, Nevada.

- Thomomys bottae vescus* Hall and Davis. South slope Mount Jefferson (9,000 feet), Toquema Range, Nye County, Nevada.
- Thomomys bottae concisor* Hall and Davis. Monitor Valley (Potts Ranch, 6,900 feet), Nye County, Nevada.
- Thomomys bottae abstrusus* Hall and Davis. Fish Spring Valley (2 miles southeast Tulle Peak, 7,000 feet), Nye County, Nevada.
- Thomomys bottae brevidens* Hall, Breen Creek (7,000 feet), Kawich Range, Nye County, Nevada.
- Thomomys bottae latus* Hall and Davis. Cherry Creek (6,500 feet), White Pine County, Nevada.
- Thomomys bottae centralis* Hall. Two and one-half miles east of Baker (5,700 feet), White Pine County, Nevada.
- Thomomys bottae nanus* Hall. South end of Belted Range, 5½ miles northwest of Whiterock Spring (7,200 feet), Nye County, Nevada.
- Thomomys bottae phelleoecus* Burt. Hidden Forest (8,500 feet), Sheep Mountains, Clark County, Nevada.
- Thomomys bottae aureiventris* Hall. Kelton (4,225 feet), Box Elder County, Utah.
- Thomomys bottae albicaudatus* Hall. Provo (4,510 feet), Utah County, Utah.
- Thomomys bottae planirostris* Burt. Zion National Park, Washington County, Utah.
- Thomomys bottae osgoodi* Goldman. Hanksville, Wayne County, Utah.
- Thomomys bottae dissimilis* Goldman. East slope of Mount Ellen (8,000 feet), Henry Mountains, Garfield County, Utah.
- Thomomys bottae aureus* Allen. Bluff, San Juan County, Utah.
- Synonym*—*Thomomys latirostris* Merriam. Little Colorado River, Painted Desert, Coconino County, Arizona.
- Thomomys bottae absonus* Goldman. Jacobs Pools (4,000 feet), Houserock Valley, Coconino County, Arizona.
- Thomomys bottae trumbullensis* Hall and Davis. Three miles south of Nixon Spring, Mount Trumbull, Mohave County, Arizona.
- Thomomys bottae fulvus* (Woodhouse). San Francisco Mountain, Coconino County, Arizona.
- Synonym*—*Thomomys bottae nasutus* Hall. West Fork of Black River (7,550 feet), Apache County, Arizona.
- Thomomys bottae desertorum* Merriam. Mud Spring, Detrital Valley, Mohave County, Arizona.
- Thomomys bottae mutabilis* Goldman. Camp Verde (3,200 feet), Yavapai County, Arizona.
- Thomomys bottae subsimilis* Goldman. Harquahala Mountains (3,000 feet), Yuma County, Arizona.
- Thomomys bottae chrysonotus* Grinnell. Ehrenberg, Yuma County, Arizona.
- Synonym*—*Thomomys fulvus flavidus* Goldman. Parker (350 feet), Yuma County, Arizona.
- Thomomys bottae cervinus* Allen, Phoenix, Maricopa County, Arizona.
- Thomomys bottae modicus* Goldman. La Osa, southern end of Altar Valley, Pima County, Arizona.

- Thomomys bottae phasma* Goldman. Two miles south of Tule Tank, Tule Desert, Yuma County, Arizona.
- Thomomys bottae catalinae* Goldman. Summerhaven (7,500 feet), Santa Catalina Mountains, Arizona.
- Thomomys bottae grahamensis* Goldman. Graham Mountains (9,200 feet), Graham County, Arizona.
- Thomomys bottae collinus* Goldman. Fly Park (9,000 feet), Chiricahua Mountains, Cochise County, Arizona.
- Thomomys bottae pusillus* Goldman. Coyote Mountains (3,000 feet), Pima County, Arizona.
- Thomomys bottae peramplus* Goldman. Wheatfield Creek (7,000 feet), west slope of Tunicha Mountains, Apache County, Arizona.
- Thomomys bottae extenuatus* Goldman. Willcox (4,000 feet), Cochise County, Arizona.
- Thomomys bottae toltecus* Allen. Colonia Juarez (4,500 feet), Casas Grandes River, Chihuahua, Mexico.
- Thomomys bottae apache* Bailey. Lake La Jara (7,500 feet), Jicarilla Apache Indian Reservation, New Mexico.
- Thomomys bottae pervagus* Merriam. Española, Santa Fe County, New Mexico.
- Thomomys bottae ruidosae* Hall. Ruidoso (6,700 feet), Lincoln County, New Mexico.
- Thomomys bottae opulaentus* Goldman. Las Palomas, on the Rio Grande, Sierra County, New Mexico.
- Thomomys bottae texensis* Bailey. Head of Limpia Creek, Davis Mountains, Texas.
- Thomomys suboles* Goldman. Old Searchlight Ferry (1,000 feet), Colorado River, northwest of Kingman, Mohave County, Arizona.
- Thomomys alexandrae* Goldman. Five miles southeast of Rainbow Lodge (6,200 feet), near Navajo Mountain, Coconino County, Arizona.



Goldman, Edward Alphonso. 1935. "Pocket gophers of the *Thomomys bottae* group in the United States." *Proceedings of the Biological Society of Washington* 48, 153–157.

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