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A New *Leptothorax* Commonly Inhabiting the Canyon Live Oak of California (Hymenoptera: Formicidae)

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Reprinted from PSYCHE, Vol. 56, No. 3, September, 1949, pages 112-115.

A NEW LEPTOTHORAX COMMONLY INHABITING  
THE CANYON LIVE OAK OF CALIFORNIA  
(HYMENOPTERA: FORMICIDÆ)

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In the late nineteen thirties Arnold Mallis of the University of California sent me, for determination, a new species of *Leptothorax* which he and Jack Schwartz had collected at Devil's Gate Dam, Pasadena, California. Later the same ant was received for determination from Mrs. Wilda S. Ross of Santa Barbara, California, who had been given specimens of it by C. H. Muller. Dr. Muller's specimens were found nesting in an oak gall in the Figueroa Mountains of Santa Barbara County, California. Although recorded from a small number of California localities only, it is probable that the new ant has a much wider distribution, occurring wherever the canyon live oak is found or perhaps even beyond. Because of the commonness of this new species on canyon live oaks and its association with galls on these trees from near San Francisco to Los Angeles County, it seems desirable to describe the form.

*Leptothorax* (*Leptothorax*) *gallæ*, new species

*Worker*.—Length 3 mm.

Head measured through its greatest breadth and length, one and one-seventh times as long as broad, with approximately straight posterior border, rounded posterior corners and weakly convex, somewhat subparallel sides. Eye rather large, located at approximately the middle of the side of the head. Antenna 12-segmented; apex of scape failing by more than its greatest diameter to attain the posterior border of the head; funiculus with a 3-segmented club, which is scarcely longer than the re-

mainder of the funiculus, last segment of the club longer than the combined length of the two preceding segments. Frontal area present but not strongly defined. Middle of the anterior border of the clypeus with a distinct but weak impression or emargination. Mandible 5-toothed. Thorax slender, highest in the vicinity of the junction of the promesonotum, sloping both anteriorly and posteriorly from this region; from above, widest in the pronotum and narrowest at the base of the epinotal spines, with rounded humeri and obsolescent or missing dorsal thoracic sutures, also lacking the mesoepinotal impression. Epinotal spines fairly robust, not strongly divergent, longer than the distance between their bases. Femora and tibiae, especially the former, noticeably incrassated. Peduncle of petiole with a small but distinct anteroventral tooth. Petiolar node, in profile, angular, the anterior slope almost straight, the posterior slope shorter and more irregular than the anterior. Postpetiolar node, from above, about one and one-fourth times broader than long, with rounded humeri and subparallel sides, somewhat constricted in the posterior half. Gaster with distinct angles.

Mandibles striate, also punctate. Clypeus with about 7 to 9 prominent carinae, one of them median and the other lateral. Head densely and minutely punctate with the front bearing delicate longitudinal rugulae. Cheeks rugulose or rugulosepunctate. Thoracic dorsum rugulosepunctate, the rugulae most evident on the promesonotum; meso and metapleuræ longitudinally rugulose punctate. Petiolar and postpetiolar nodes more minutely rugulosepunctate than the thorax.

Head, thorax, petiole and postpetiole subopaque; frontal area and gaster shining. In some lights the head is almost shining.

Body with moderately abundant, coarse, suberect to erect, pale yellowish or grayish hairs; those on the gaster more abundant than elsewhere. Antennæ and legs hairless, bearing only appressed pubescence.

Brown; posterior part of gaster and much of head blackish.

*Type locality*.—Devil's Gate Dam, Pasadena, California.

Described from a holotype and 15 paratype workers collected by Arnold Mallis and Jack Schwartz at the type locality indicated above. Six of the specimens including the holotype are labeled 2-20-38, no. 1 and the remainder 2-26-38, no. 2. No information on their biology is available. The holotype and some of the paratype workers are in the United States National Museum collection under U. S. N. M. No. 59152.

The paratypes differ from the holotype especially in size, color and the degree of sculpturing. The largest paratype is 3.4 mm., the smallest 2.8 mm. Some specimens have the body a more uniform brown than others; in most specimens, however, the head is darker than the remainder of the body. The sculpturing on the head and thorax varies considerably with regard to coarseness and abundance but in general is of a similar nature.

*Leptothorax gallæ* appears to be related to *nevadensis rudis* Wheeler from which it especially differs in its more slender thorax, with more rounded humeri and less flattened dorsum; petiolar node, in profile, more sharply angular; postpetiolar node, from above, longer in proportion to its breadth; head darker, and usually with less satiny luster or shine. So far as I am aware, *gallæ* nests in trees, especially in galls that occur on trees, whereas *nevadensis rudis* has only been reported nesting in the soil beneath stones. Further collecting however, may prove that neither species is confined to the habitat indicated by observations thus far recorded.

Other localities in California where this ant has been collected:

Arroyo Seco in Pasadena; 2-6-37; Arnold Mallis and Jack Schwartz. Camp Baldy in Los Angeles County; 9-6-18; L. H. Weld; on *Quercus chrysolepis* Liebm., the canyon live oak; Hopkins U. S. No. 15611 b. Mill Valley, Marin County; Mch. 1947, Wilda S. Ross.

Los Gatos in Santa Clara County; different dates during 1918 and 1919; R. D. Hartman; on *Quercus chrysolepis* Liebm., the canyon live oak; Hopkins U. S. No. 15922 e, h.

Figueroa Mt., Santa Barbara County; 11-4-45; C. H. Muller; from an oak gall.

From these data it can be seen that the new ant is commonly found on the canyon live oak, *Quercus chrysolepis* Liebm., which is distributed along the California Coast Range and the western slopes of the Sierra Nevada. This oak however, is not confined to California, but occurs in southwestern Oregon, northern Mexico and Baja California, southwestern Utah and New Mexico, southeastern Nevada, and much of Arizona. At Los Gatos the species has been collected from twig galls made on the canyon live oak by cynipid wasps belonging to the following species: *Heteroecus pacificus* (Ashm.), *H. sanctæ-clarae* (Fullaway) and *Disholcaspis truckeensis* (Ashm.).