

STUDIES OF NEVADA ANTS.
II. A NEW SPECIES OF LASIUS (CHTHONOLASIUS)
(HYMENOPTERA: FORMICIDAE)¹

A. C. COLE

Department of Zoology and Entomology
The University of Tennessee

In order that the reader may more readily compare diagnostic characteristics of the new species with those of forms which have been described previously, the following descriptions are based chiefly on the treatment devised by Wilson (1955) for his revision of the genus.

Lasius (Chthonolasius) nevadensis n. sp.

Holotype, worker (Cole Coll., NEV-607)

Head length, 0.90 mm.; head width, 0.84 mm.; eye length, 0.16 mm.; eye width, 0.13 mm.; pronotal width, 0.62 mm.; scape length, 0.76 mm.; scape index (scape length x 100/head width), 90; maximum width of hind tibia at its midlength, 0.14 mm.

Maximum length of preanal hairs of first gastric tergite approximately 0.08-0.09 mm., or about 0.70 times as long as the maximum width of the hind tibia at its midlength; all hairs suberect, not dense enough to overlap one another. Eyes with about 50 facets. Scapes with dense, predominantly decumbent (but a few standing) hairs. Petiolar scale rather high; viewed from behind, the sides convex, broadest below the middle, the crest rather deeply but broadly emarginate, the corners rounded; viewed in profile, the apical portion flattened and the crest sharp, anterior surface convex, posterior surface flattened; lateral and apical borders with a sparse fringe of erect hairs which are as long as the longest preapical ones of the first gastric tergite. Gastric pubescence sparse, appressed, scattered, not obscuring the shining surface. Head, thorax, petiole, and appendages brownish yellow; gaster lightly infuscated.

Paratype, alate female (Cole Coll., NEV-607)

Head length, 1.20 mm.; head width, 1.26 mm.; scape length, 1.00 mm.; scape index, 80; eye length, 0.32 mm.; eye width, 0.24 mm.

Pilosity on anterior three gastric segments dense, very short (maximum length, 0.03-0.04 mm.), yellowish, predominantly suberect. Thoracic hairs less numerous, straight, some on the scutum comparatively long (0.15-0.17 mm.), erect and suberect. All surfaces of femora and tibiae with numerous, suberect hairs. Head with numerous, straight, scattered, erect and suberect hairs (maximum length on vertical and occipital regions, 0.10-0.11 mm.). Entire body with a rather long, dense, silvery, appressed pubescence (highly overlapping at the tips) which only partially conceals the shining body surface. Head, thorax, petiole, and gaster a rather deep, yellowish brown, the appendages much lighter.

Paratype, male (Cole Coll., NEV-604)

Head length, 0.73 mm.; head width, 0.68 mm.; eye length, 0.19 mm.; eye width, 0.16 mm.; scape length, 0.49 mm.; scape index, 72; pronotal width, 0.76 mm.; length of thorax and petiole combined, 1.57 mm.; maximum width of hind tibia at its midlength, 0.11 mm.

Petiolar scale in profile rather thin, the crest acute, viewed from behind the apical border broadly and slightly excised, lateral margins with a few,

¹These studies have been aided by a grant from the Penrose Fund of the American Philosophical Society.

rather long, erect hairs; anterior surface broadly convex and with numerous suberect hairs, posterior surface nearly flat. Gastric pilosity resembling that of the holotype; maximum length of preanal hairs on first gastric tergite, 0.07 mm. Maximum length of hairs on posterior two-thirds of clypeus, 0.13 mm.; maximum length of both scutal and scutellar hairs, 0.14 mm. Hairs on vertex and occipital border numerous, uneven in length, maximum length about 0.16 mm.

Type locality. Large series from six populous colonies (NEV-595, 604, 605, 607, 608, and 622) were collected by the writer in Kyle Canyon, Charleston Mountains, near Las Vegas, Nevada, at an elevation of 7,700 feet, on July 23, 1954. The nests were in unshaded, compact soil in an open, dry, pine and spruce forest. Two of the nests were beneath large stones; the others were marked only by entrance holes surrounded by a scattering of soil particles. Five of the nests contained males or females as well as workers, those nests with one sex not containing the other. A mass mating flight was in progress at dusk and was observed until its termination at darkness.

Disposition of type material. The holotype and large series of paratype workers, males, and females are in the writer's collection. Paratypic series of all castes will be deposited in the U. S. National Museum, the Museum of Comparative Zoology (Harvard), the American Museum of Natural History, and in the collections of W. S. Creighton and R. E. Gregg.

Variation in paratype series. Workers vary as follows: head length, 0.81-0.95 mm.; head width, 0.79-0.87 mm.; scape length, 0.73-0.79 mm.; scape index of the extremes, 90 and 92; eye length, 0.14-0.15 mm.; eye width, 0.11-0.14 mm.; pronotal width, 0.59-0.62 mm.; greatest width of hind tibia at its midlength, 0.10-0.14 mm.; extreme length of preapical hairs of first gastric tergite, 0.08-0.09 mm. Head width and associated scape index of a large series of females varied from 1.20 mm. (83) to 1.26 mm. (83). Head width of a large series of males varied from 0.65 mm. to 0.73 mm.; the scape index of the extremes being 71 and 74.

Affinities. The new species is undoubtedly a member of the subgenus *Chthonolasius*. In Wilson's (1955) key to the nearctic forms of *Lasius*, the worker will run to couplet 14 (p. 28) where it would appear to fit best *vestitus* Wheeler. Dr. M. R. Smith has kindly compared workers of the new species with types of his *pilosus* which has been synonymized by Wilson (1955, p. 173) under *vestitus* Wheeler. Dr. Smith has reported (*in litt.*) that the specimens definitely do not represent his *pilosus*. Among other characteristics of difference, *pilosus* is larger, less shining, and has longer and more abundant pilosity. I have compared the new ant with series, determined by Dr. Wilson, of all other known North American *Lasius* and have reached the conclusion that it is distinctively different from all other described forms.

The worker differs from that of *subumbratus* Viereck in its more sparse gastric pilosity, gastric hair measurements, the numerous standing hairs on the lateral tibial surfaces, the smaller body size, and the darker color. From *umbratus* (Nylander), the worker differs markedly in the presence of standing hairs on the femora and tibiae, the longer hairs on the preapical region of the first gastric tergite, and the darker body color. The female differs from that of *subumbratus* Viereck largely in the suberect and much shorter pilosity on the preapical region of the first gastric tergite. It can be separated immediately from the female of *umbratus* (Nylander), which it resembles rather closely, by the presence of standing hairs on the femora and tibiae.

LITERATURE CITED

- Wilson, E. O. 1955. A monographic revision of the ant genus *Lasius*. *Bull. Mus. Comp. Zool.*, 113(1) 1-199.