

with grass and is more or less exposed to the sun. The subspecies *subumbratus* is an exclusively boreal form, occurring only in British America and at elevations above 7,500 ft. in the Rocky Mountains. The same is probably true of *vestitus*. The subspecies *minutus* and *speculiventris* and the variety *aphidicola* occur in the transition zone and of these only *aphidicola* is at all common. Like our other yellow *Lasii*, *umbratus* is subterranean in its habits and devotes itself to the care of root-aphids and -coccids, all or nearly all of its food consisting of the sweet excreta of these insects.

The sexual phases are rarely found in the nests of *umbratus*, apparently because they are not retained by the parental colonies for days or weeks during the latter part of the summer or early fall but escape for their marriage flight very soon after reaching maturity. Recent studies in Europe indicate that the just-fertilized *umbratus* queen is unable to establish her colony independently after the manner of *L. niger* and *flavus*, but becomes a temporary parasite on a colony of *niger* or of one of its subspecies or varieties after the manner of certain species of *Formica* of the *rufa* and *exsecta* groups. Our American *umbratus* forms apparently behave in the same manner. De Lannoy and Wasmann, moreover, have collected some evidence to show that *umbratus* is in turn the temporary host of the palearctic *L. fuliginosus*. The rare or sporadic occurrence of *umbratus* on both continents certainly points to parasitic habits on the part of the queen and her incipient colony.

The following tables will facilitate the identification of workers and females of our North American forms of *umbratus*:

#### WORKERS.

1. Antennal scapes and tibiae with very few or no erect hairs; gaster with appressed pubescence. . . . . 2  
     Antennal scapes and tibiae with abundant erect hairs; gaster without pubescence. . . . . subsp. **speculiventris** Emery.
2. Gaster with sparse pubescence and short erect hairs, shining; average length of body over 4 mm. . . . . 3  
     Gaster very densely pubescent, with long erect hairs, subopaque; average length of body less than 4 mm. . . . . subsp. **minutus** Emery.
3. Pale yellow; eyes small. . . . . subsp. **subumbratus** Viereck.  
     Brownish yellow; eyes larger. . . subsp. **mixtus** Nyl. var. *aphidicola* Walsh.