

much larger (5mm total length vs. 3.5mm total length in *L. rugatulus*) and the petiole is broadly rounded (apex sharper in *L. rugatulus*), and the males are easily separated by the shape of the petiolar node: high and bilobed (as seen from behind) in *L. josephi*, low and not bilobed in *L. rugatulus* (Compare Figs. 120 & 157). The male has numerous parallel carinae on the clypeus, whereas males of *L. rugatulus* have reticulated and partially transverse rugae on the clypeus. It differs from two other closely related species, *L. bradleyi* and *L. smithi*, in that the intrarugal spaces of the head are punctate, but shining. The long propodeal spines are much longer than those of *L. bradleyi*. *Leptothorax smithi* is never bicolored, usually being a concolorous pale brown to yellow. It can be separated from *Leptothorax (Leptothorax) muscorum* by the convex clypeus with the well-developed medial carina.

**Biology:** The nest of the holotype series was collected in a dead branch (15-cm diameter) attached to trunk of the oak *Quercus arizonica* Sarg., in a grassy area with scattered oaks within a pine forest. The ants were timid and attempted to hide, larvae and pupae were present in the nest. The entire nest population was collected. The second type series was collected in a branch (3cms diameter) of a *Q. arizonica*, about 1.5 m from soil surface. The third type series was in a dry, dead branch of *Q. arizonica*. The fourth type series was collected in a 3cm diameter dead branch of *Q. arizonica*. The nest in the Gila Wilderness was in a 8cm diameter branch of an oak tree, 3 m from the ground on a very steep, south-facing slope. Two other similar nests were found. The habitat is often near a stream, with oaks, pinyon pines and junipers. This species seems to prefer the driest dead branches of *Q. arizonica*. The soils consist of rocks mixed with very fine sand. The nests contain brood throughout the summer. Nest populations ranged from 41-76 workers, with a single dealate female in each nest.

***Leptothorax (Myrafant) liebi* new species**

Figs. 16, 36, 42, 121, & 122; Map 21

Species complex: *andersoni*

**Diagnosis:** This is a small, pale yellow, nearly white ant with dark eyes. It is soft bodied, and usually becomes distorted when dried on a point. It can be easily distinguished by the large eyes, which have a maximum diameter greater than the distance between the anterior border of the eye and the base of the mandible. The antenna has 12 seg-

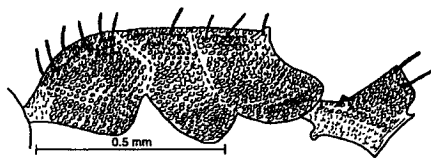


Fig. 121. Mesosoma of the holotype worker of *Leptothorax liebi*.