

ognize all of the subspecies and describe a series of other subspecies of equal distinction. Creighton (1950) also thought there was an elevational difference in the distributions of the two subspecies, although Gregg (1963) found this was not the case. Thus *L. rugatulus brunnescens* is proposed as a synonym of *L. rugatulus*.

Biology: This tends to be a high coniferous forest species which occurs in moist habitats (Cole, 1934, 1942; Wheeler and Wheeler, 1986) in shaded grassy slopes with pines (Cole, 1954), or grasslands (Wheeler and Wheeler, 1963), although Conklin (1972) states it does not usually enter meadows or even ecotones. It also occurs in pinyon-juniper forests and cool desert habitats (Wheeler and Wheeler, 1986). Nests are found in the soil, under rocks (Cole, 1942, 1954; Wheeler and Wheeler, 1963; Mackay et al., 1988), in decaying wood (Wheeler and Wheeler, 1986) in grasses (Wheeler, 1917; Cole, 1953, 1954; Gregg, 1963; Borchart and Anderson, 1973; Moody and Francke, 1982), or in trees (Van Pelt, 1983). One nest had more than 100 workers and eight females (Wheeler, 1903a), although Frumhoff and Ward (1992) state that nests are monogynous. Cole (1954) found that nests are very populous and also found multiple queens in nests. There are 2 queen morphs in this species, with mostly macrogynes found in monogynous colonies and microgynes in polygynous colonies (Rüppell et al., 1998). Sexuials occur in nests in July and Aug. (Gregg, 1963) to September in Idaho (Cole, 1934). This species moves the nest if it is disturbed (Moeglich, 1978). The beetle *Amecocerus* sp. (Melyridae) occurred in a nest in Nevada (Wheeler and Wheeler, 1986). Insecticide treatments for the spruce budworm in eastern Oregon had little impact on this species (Murphy and Croft, 1990).

***Leptothorax (Myrafant) rugithorax* new species**

Figs. 22, 53, 158, & 159; Map 42

Species complex: *tricarinatus*

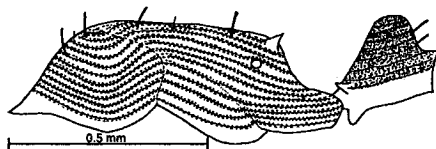


Fig. 158. Mesosoma and petiole of the holotype worker of *Leptothorax rugithorax*.

Diagnosis: This is a small (less than 2mm total length) brown species in which the head is covered with rugulae and the mesosoma is covered with coarse rugae. The clypeus is convex, nearly smooth and shining with a well-developed median carina. The head is partially glossy and shining. The antenna has 12 segments. The propodea spines are tiny and the petiolar node is broadly rounded as seen in