

(V) Finally, the parasite complex related to *Leptothorax* sp. B, if it is the same species in eastern and western North America, represents a stunning parallel to that associated with the European *L. acervorum*: The latter is the main host of the slavemaking *Harpagoxenus sublaevis*, the exclusive host of *Doronomyrmex pacis* and *D. kutteri* (both workerlessinquilines), and of *D. goesswaldi*, which eliminates the *acervorum* queens by cutting off their antennae (Buschinger and Klump 1988). *Leptothorax* sp. B is the main host of the slavemaker *Harpagoxenus canadensis* in eastern North America (Heinze et al. 1992), host of the inquilines *L. faberi* (Buschinger 1981) and *L. paraxenus* (Heinze and Alloway 1991), and host of *L. wilsoni*, which apparently eliminates the host colony queen!

As with the European group of parasites of *L. acervorum* (Buschinger 1990), the phylogenetic relationships of the parasites and their common host species are as yet unknown. Heinze (1991) provided evidence from isozyme patterns that *L. paraxenus* is more closely related to a group of "small brown" *Leptothorax* species, including *L. sp. A*, than to its host *L. sp. B*. Queen polymorphism is unknown in European free-living *Leptothorax* s. str. (*L. acervorum*, *muscorum*, *gredleri*, *scamni*) and in the permanent parasites of genus *Doronomyrmex*; however, it occurs in the slavemaker *Harpagoxenus sublaevis*. In contrast, the American *H. canadensis* has only gynomorphic queens, whereas the parasites *L. wilsoni* and *L. paraxenus* both have dimorphic queens, as do the free-living *Leptothorax* sp. A and *L. sphagnicolus* Francoeur, 1986. Perhaps queen polymorphism in this group is another indicator of a close relationship between *Leptothorax* sp. A and the two parasites of *L. sp. B*.

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