Phylogenetic Context

The taxonomic histories of several basal treehopper lineages have been contentious. For example, the genus *Microcentrus* was removed from the membracid subfamily Centrotinae (*sensu* Metcalf and Wade 1965a) and placed in the family Aetalionidae by Hamilton (1971b). Deitz (1975a) reclassified *Microcentrus* within Membracidae, erecting the new tribe Microcentrini in Stegaspidinae. Soon after, Shcherbakov (1981a, b; 1982a, b) moved *Microcentrus* back into Aetalionidae, into the subfamily Stylocentrinae (which also included three genera of Membracidae: Stegaspidini). Finally, Dietrich and Deitz (1993a) returned *Microcentrus* to Membracidae (subfamily Stegaspidinae) on the basis of an extensive morphology-based phylogenetic analysis.

Strümpel (1972a) proposed a phylogeny of Membracidae based primarily on the constructive and regressive [degenerative] evolution (the "acquisition" or "loss" of morphological features) of pronotal morphology. His hypothesis suggested a succession of pronotal evolution incorporating the theory that various genera of the subfamily Stegaspidinae arose from within Centrotinae. Examinations of morphological features other than the pronota indicate that Strümpel's hypothesis is unlikely (Dietrich and Deitz 1993a, Dietrich et al. 2001a). The present analyses incorporate 63 morphological features to avoid over emphasizing the importance of the pronotum.

In an unpublished dissertation, Sakakibara (1979) used 66 qualitative morphological characters for numerical phenetic analysis and 14 characters for cladistic analysis of selected membracid genera. His cladogram showed the following relationships within Stegaspidinae:

((*Umbelligerus* + *Bocydium* + *Stylocentrus* + *Oeda* + *Smerdalea* + *Lycoderes* [subgen. *Lycoderides*]) + (*Stegaspis* + *Lycoderes* [subgen. *Lycoderes*])) + (((*Postanomus* + *Paracentronodus* + *Centronodus*) + *Centrodontus*) + *Microcentrus*).

Under this hypothesis, the genus *Lycoderes* is polyphyletic and *Smerdalea* is placed in Stegaspidini. Relationships below the tribal level were unresolved in Sakakibara's analysis.

Recent morphological analyses of Membracidae (Dietrich and Deitz 1993a, Dietrich et al. 2001a) suggested that data lacking on the adult males and