

OR193*Evolution of Syntermitinae from morphological and molecular analysis***Mauricio Martins Rocha**, Adriana Coletto Morales, Eliana Marques Canello

The Syntermitinae, an endemic subfamily of the Neotropical region, is well characterized by the soldiers with large developed frontal glands, opening in a large aperture in the tip of a frontal tube, variable in size among the species. The relationships inside the subfamily taxa have never been deeply studied and this is our main objective. We conducted a series of phylogenetic analysis including 35 of the 99 Syntermitinae species, including all the genera, using morphological and molecular data. For the morphological data we conduct a parsimony analysis, using implicit weighting and 80 characters. For the molecular data we realize a maximum likelihood analysis, including two set of genes (COII and Cytb) and GTR+I+G strategy. The most parsimonious trees of both analyses corroborate the monophyletism of Syntermitinae and most of the subfamily genera; the only polyphyletic groups are Embiratermes and Ibitermes. The most basal genera form a paraphyletic group that mainly consume humus and organic-rich soil (for example, *Curvitermes*, *Cyrrilloterme*), and another group correspond to the litter feeders and grass feeders genera (for example *Synterme*, *Corniterme*, *Rhynchoterme*) as a more derivate lineage. Similar defense mechanisms, evidenced by the soldier external morphology, appear independently among Syntermitinae. This data suggest that the divergence among feed niches may play a central role for the diversification of the group.