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The hyoid region of three species of bats within the family Rhinolophidae was dissected and compared with similar data obtained from Griffiths (personal communication). A cladistic analysis was performed using these data to analyze inter-familial and inter-generic relationships within the families Rhinolophidae, Megadermatidae, Nycteridae, Rhinopomatidae and Emballonuridae. Two possible intra-familial cladograms have been produced. Within the rhinolophids, Hipposideros diadema was found to be the most distantly related of the species and Triaenops persicus and Rhinonycteris aurantius appear to be most closely related. However, because of an uncertainty of character polarity of the origin of the geniohyoid, it is unclear whether Rhinolophus hildebrandti is more closely associated with T. persicus and R. aurantius or with Hipposideros armiger. Four possible cladograms were produced for inter-familial relationships, of which one has been chosen that is the most parsimonious reflection of a true phylogeny. Megadermatids, nycterids and rhinopomatids are closely united. Emballonurids are more distantly linked to the previous three families, while rhinolophids appear to be the most distantly related of the five families.