

7.3. Geographical conclusions and some phylogenetic considerations

The present distribution of recent Attini ranges from 40° Lat. N (i. e. approximately the line San Francisco-Washington) up to 40° Lat. S (i. e. approximately Santiago de Chile-Buenos Aires). The distribution of the genus *Trachymyrmex* — with about 40 species, the largest attine genus — coincides almost exactly with the distribution of the whole tribe Attini.

The Attini extend only a little more to the south with the genus *Acromyrmex* and on the west coast of California a little more to the north with the genus *Cyphomyrmex*. But the highest latitudinal record still belongs to *Trachymyrmex* with one record at 40°50' Lat. N (WEBER 1970).

Most attine genera are absent from several Caribbean islands. The Recent fauna of Hispaniola includes only *Cyphomyrmex*, *Mycocepurus* and *Trachymyrmex*, while e. g. the large gardening ants (*Atta*) are entirely absent (CHERRETT 1968, WEBER 1972).

Until now — i. e. without a fossil proof — it was impossible to give any indication, how long the Attini have existed on the Greater Antilles. The special reasons for this are the attines' active flying during the nuptial period (MOSER 1967) combined with strong active and passive dispersal (see WEBER 1972 for a review).

Accidental landing of some winged females on the island of Soldado Rock (at 9.5 km from Trinidad and 12.5 km from the Venezuela mainland) are recorded, although no attines are living on the island (CHERRETT 1969). On the other hand there is evidence that some Caribbean islands like Curaçao and Guadelupe have been invaded only during the last few decades by the attine *Acromyrmex octospinosus* which has now become established. — From all this information one can deduce that the attines have had several opportunities to colonize Hispaniola and probably did so, but, perhaps, were usually unable to establish settlements because of saturation of the insular biotas. Recent establishment in the Caribbean area may have been favoured by the action of man on natural environments.

The fossil record available now — more than one dozen workers in one small Dominican amber block — clearly indicates a well established attine population in Hispaniola during early or middle Tertiary times.

Since the fossils belong to *Trachymyrmex*, i. e. a subgroup of Attini (and not to the stem group of Attini), it is clear that also other attine genera must have existed simultaneously. Thus, we have a chance to find them in additional fossil material, but at present we cannot say which genera. If we had a „Hennigian“ phylogenetic analysis and diagram (synapomorphy scheme) already available we would be able to deduce those genera.

In addition, there are some other questions which could be solved by means of a Hennigian synapomorphy scheme. They are especially concerned with the distributionary history. The fossil, *T. primaevus* n. sp., is apparently absent from the recent record of the genus, while other species exist, even in the Antilles. Did the genus *Trachymyrmex* come once or several times independently to Hispaniola? Some examples for such considerations may be added.