a reovirus not reported in the Western Hemisphere but known from Asia and Africa and still a problem on cane in some areas, particularly Australia.

In 1982, surveys revealed the sugarcane delphacid in 10 southern Florida counties. In 1983, it was discovered in 14 more counties in central and northern Florida, plus one locality in extreme southeastern Georgia near the Georgia-Florida border. Nearly all these records were obtained in late summer to December when the delphacid populations increase and seem to have an instinctive urge to disperse. There are literature records of the delphacid 30 km from land over ocean water. In northern Florida there are no large commercial fields, the cane is grown in small patches for grinding into molasses. There is concern that the delphacid will disperse to other sugarcane growing areas of southern Mississippi, Louisiana, and Texas. Florida sugarcane has become a major agricultural industry with total value over 1 billion dollars per year and jobs for approximately 25,000 people. Florida sugarcane production has now surpassed Hawaii, with Florida producing 1.2 million metric tons of raw sugar last year. The presence of this delphacid and its capability to vector the Fiji disease virus makes the introduction and establishment of this disease more likely. Therefore, there is need to keep the vector population at the lowest level possible to protect the important sugarcane industry in Florida and other states in North America.

New concepts in classification of the Flatidae

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A preliminary study of supra-generic relationships in the Flatidae was done with a Fortran 77 computer program for Phylogenetic Analysis Using Parsomony (PAUP). This program was developed by D. L. SWOFFORD, Illinois Natural History Survey. The operational taxonomic units were 15 genera representing the tribes and subtribes in the METCALF Catalogue, and a member of the Ricaniidae used as an outgroup to root the tree. Other studies were made on 65 genera within the tribes and subtribes.

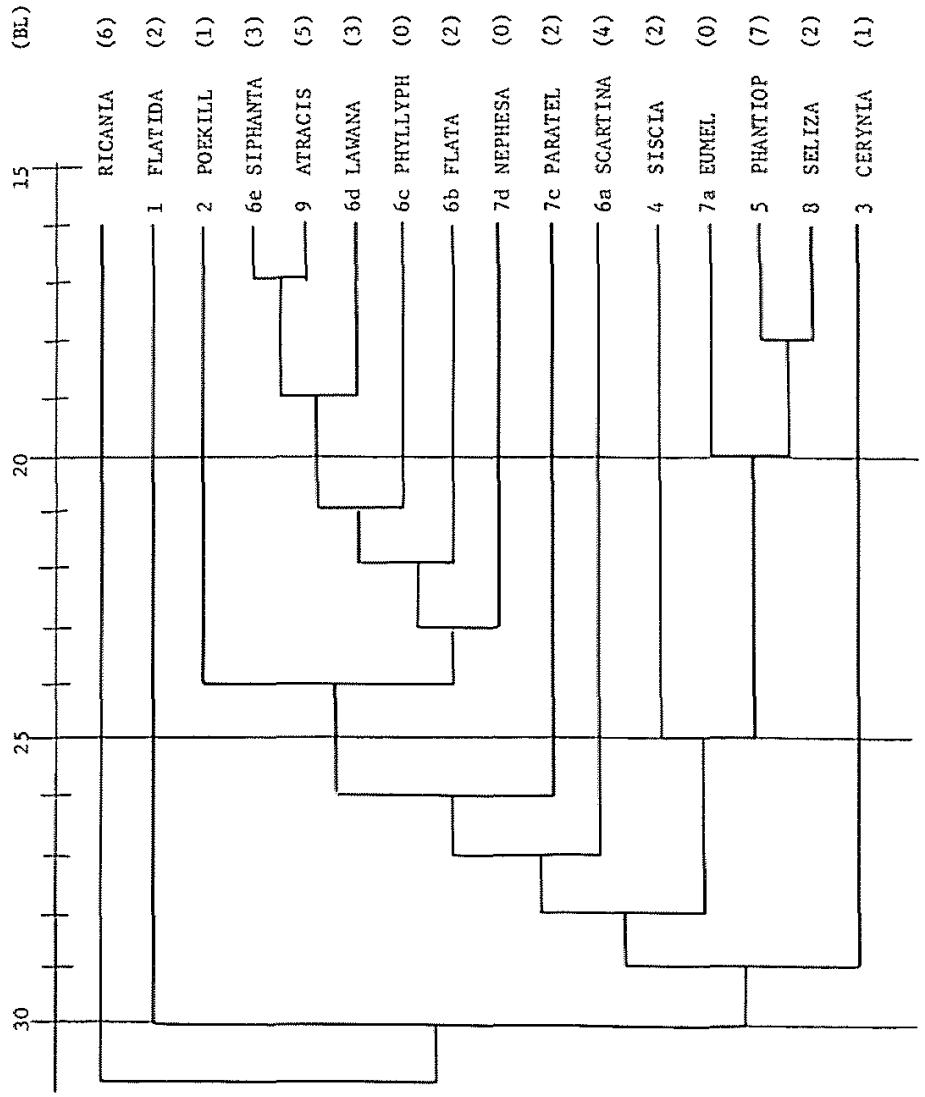
Twenty-five characters were selected for binary coding of character states. These included shape and structure of the head and tegmina, carinae, venation, metatibial spines, length of antennae and type of ovipositor. To give a few examples, the head can be produced or truncate, the metatibiae are unispinose or bispinose, veins R, S and M arise from the basal stem or S arises from R at a varying distance from the basal stem, vein Cu is branched or unbranched, a submarginal apical line of crossveins is present or absent, and the inner valvulae of the ovipositor are either bladelike or modified. Twelve of the characters applied to the tegmina.

In Australia and New Guinea, 96 percent of the genera have one preapical posttibial spine, and nearly all genera have a modified ovipositor.

The supra-generic tree (Fig. 1) showed branching relationships that could be reconciled with conventional classification, except that unexpected closeness was

shown between *Siphanta* and *Atracis,* and *Eumelicharia* and *Seliza.* In general, the genera with broadly rounded tegmina, two posttibial spines, R, S, and M arising together, and a bladed ovipositor, e. g., *Flatida, Poekilloptera* and *Cerynia,* occupied a basal position on the tree. Reversals of character states and a relatively low consistency index (0.357) indicated a high degree of homoplasy.

The analysis of genera within tribes showed that the Nephesini and Cryptoflatini do not have natural groupings of genera.



Change list

Ovipositor:	Spines:	R,S,M:
1 to 0, 25--Siscia	1 to 0, 18--Phantiop	1 to 0, 18--Phantiop
1 to 0, 17--Siphanta	0 to 1, 19--Lawana	0 to 1, 19--Lawana
1 to 0, 18--Phantiop	0 to 1, 22--Flata	1 to 0, 22--21
1 to 0, 26--Paratel	1 to 0, 28--27	0 to 1, 30--29

Fig. 1. Suprageneric dendrogram of tribes/subtribes of *Flatidae* (length 70, CI 0.357).