$$H_o: C\mu_1 = C\mu_2 \qquad \text{Eq. (3)}$$

where μ_1 and μ_2 are the vectors of mean Fourier parameters for the two populations and **C** is a contrast matrix of the form:

$$\begin{bmatrix} 1 & -1 & 0 & 0 & \dots & 0 & \dots & 0 \\ 0 & 1 & -1 & 0 & \dots & 0 & \dots & 0 \\ . & . & . & . & \dots & . & \dots & . \\ 0 & 0 & 0 & 0 & \dots & 1 & \dots & -1 \end{bmatrix} \qquad \text{Eq. (4)}$$

The hypothesis of line coincidence can be tested using the equivalent hypothesis:

$$H_o: 1'\mu_1 = 1'\mu_2 \qquad \text{Eq. (5)}$$

where **1** is the unit vector (Johnson and Wichern, 1988).

I used PROC GLM (SAS Institute, 1985), option MANOVA to test these hypotheses using the parameters to comparing phyllostomines and stenodermatines. The small sample size would have invalidated the use of more components because the degrees of freedom of the MANOVA decrease as the number of variables increases. The first test was unable to reject the null hypothesis (Wilk's $\lambda = 0.833$, $P = 0.52$), so I assumed that the profiles for the two groups are parallel, meaning no difference in overall shape between the noseleaves of the two groups. The test for the second hypothesis was not significant (Wilk's $\lambda = 0.901$, $P = 0.24$). No difference can be claimed between phyllostomines and stenodermatines on the basis of their noseleaf outline.

In the previous study (Arita, 1990), I suggested an association between noseleaf morphology and feeding habits because nectarivorous and hematophagous bats separated clearly from frugivores and insectivores. Herein, I could not include nectarivores and vampire bats because Goodwin and Greenhall (1961) did not present illustrations of these bats, and I was unable to find good pictures with reliable scales elsewhere. Noseleaves of phyllostomines and stenodermatines are very similar, although subtle differences can be shown using canonical discriminant analysis (Arita, 1990).

One possible explanation for the inability of the MANOVA to show a difference between the two groups is the great variability that exists among phyllostomines. As discussed by Arita (1990), it is probable that this variation reflects the differences in trophic ecology, foraging behavior and habitat selection among the phyllostomines. A