In real situations, the summation can go from zero to the number of radii measured, and the parameters of the equation can be fitted using a least-square multiple regression model with radius as dependent variable and the terms as independent variables (Neff and Marcus, 1980). I used PROC GLM of the Statistical Analysis System (SAS Institute, 1985) to estimate the first 18 parameters of the equation for each of the 17 species. I wrote a BASIC program to analyze visually the mathematical reconstructions of the contours of the noseleaves.

RESULTS AND DISCUSSION

The elements of the Fourier series are orthogonal (independent) of each other, so it is possible to analyze the relative contribution of each component by choosing arbitrary combinations of the elements of the series. The reconstruction of the noseleaf of
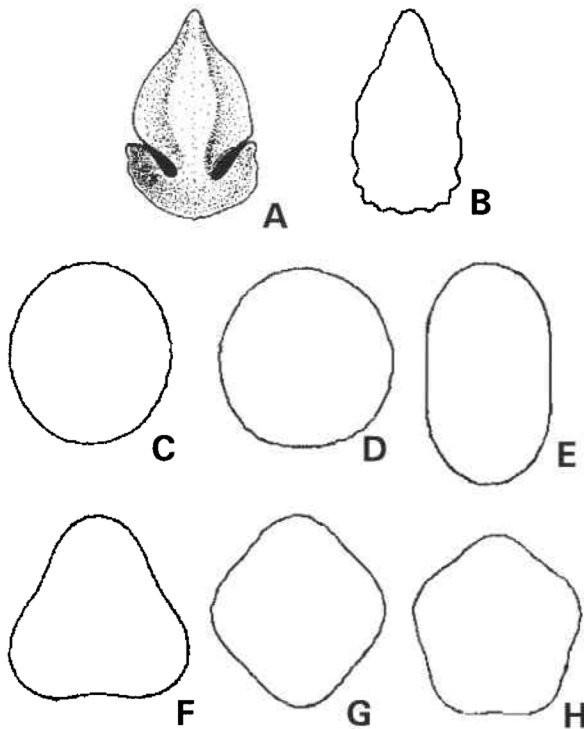

Figure 1.-A. Noseleaf of a phyllostomid bat, *Phyllostomus hastatus* (from Goodwin and Greenhall, 1961). B. Reconstruction of the noseleaf of *P. hastatus* using 18 Fourier parameters. C-H. Reconstruction of the noseleaf using the zeroth parameter (C), zeroth and first parameters (D), zeroth and second (E), second and third (F), zeroth and fourth (G), and zeroth and fifth (H).