

(1969, page 598) state that "when no computer is accessible the chi-square or *G*-tests can be used to yield approximate probabilities when sample sizes are so large as to make desk calculator operation impractical. When *n* is smaller. . . the approximations are not so good". Other statisticians (e. g. KOCH & BHAPKAR, 1982) are more tolerant about the sample size which is judged appropriate when it includes individual counts  $m_{ij} \geq 5$ . WILSON's analysis is based on the following quantities, given as percentages in his paper and translated into integers by me: 0%, 4.5%, 4.5%, 68% of 22 (= 0, 1, 1, 15 genera per category) and 8.3%, 25%, 33.3%, 33.3% of 12 (= 1, 3, 4, 4 genera per category). In the literature, one often finds the suggestion as how to deal with small numbers ( $n < 200$ ) by applying YATE's correction, though its use is not recommended by GRIZZLE (1967), yet this appears unimportant in this context since no mention to the use of correcting factors is made in the paper.

4. The statistical constraints. – WILSON (l. c.) admits that "some genera and subgenera possess more than one trait, and many possess none; hence the percentages do not sum to 100". This violates the basic assumption of independence necessary to any test of contingency. Practically, the data did not conform to the algebraic symmetry of the *G* table which imposes  $(a + c) + (b + d) = (a + b) + (c + d) = a + b + c + d = n$ , where *a*, *b*, *c*, *d*, . . . are the cells in a contingency table and *n* is the total number of observations.

A formally correct and updated contingency table for the Hispaniolan ant genera is presented here in Table 1.

Combining the resulting individual  $2 \times 2$  tables by MANTEL-HAENSZEL statistics gives a non-significant global result with  $p = 0.277$ . This result may be explained, in part, by the small figures relative to the variable apterous vs. winged gyne (recorded in 0, 0, 1 and 1 cases respectively). Association between the variables extinction and

Tab. 1. Distribution of three potentially significant traits considered by WILSON (1985 c) among the ant genera known from Hispaniola.

Ant genera	Status	Gyne	Old World	Count
<i>Neivamyrmex</i>	extinct	apterous	absent	1
<i>Leptomyrme</i> (1)	extinct	apterous	present	1
<i>Acanthognathus</i> , <i>Acanthostichus</i> , <i>Apterostigma</i> , <i>Azteca</i> , <i>Cylindromyrme</i> , <i>Dendromyrme</i> , <i>Erebomyrma</i> , <i>Ilemomyrme</i> , new genus A, new genus B, <i>Octostruma</i> , <i>Oxydris</i> , <i>Paraponera</i> , <i>Pogonomyrme</i>	extinct	winged	absent	14
<i>Discothyrea</i> , <i>Dolichoderus</i> , <i>Prionopelta</i> , <i>Proceratium</i>	extinct	winged	present	4
none	extant	apterous	absent	0
none	extant	apterous	present	0
<i>Brachymyrme</i> , <i>Cyphomyrme</i> , <i>Ephebomyrme</i> , <i>Linepithema</i> (2), <i>Mycocarpus</i> , <i>Myrmelachista</i> , <i>Pseudomyrme</i> , <i>Trachymyrme</i> , <i>Wasmannia</i> (2), <i>Zacryptocerus</i>	extant	winged	absent	10
<i>Acropyga</i> , <i>Anochetus</i> , <i>Aphaenogaster</i> , <i>Camponotus</i> , <i>Crematogaster</i> , <i>Diplorhoptum</i> , <i>Eurhopalothrix</i> , <i>Gnamptogenys</i> , <i>Hypoponera</i> , <i>Leptogenys</i> , <i>Leptothorax</i> , <i>Monomorium</i> , <i>Pachycondyla</i> , <i>Pheidole</i> , <i>Platythyrea</i> , <i>Prenolepis</i> , <i>Odontomachus</i> , <i>Solenopsis</i> , <i>Strumigenys</i> , <i>Tapinoma</i>	extant	winged	present	20

(1) SHATTUCK (1992) reports the presence of winged gynes in some undescribed species, but these species show a very different habitus from "usual" *Leptomyrme* as the one described from amber.

(2) Old World records due to human introduction not considered.