SHORT COMMUNICATION

Use of Trap Nests with a Neotropical Mud-Dauber, Trypoxylon (Trypargilum) albitarse Fabricius, 1804 (Hymenoptera: Sphecidae)

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RESUMO: É apresentado pela primeira vez o uso de ninhos-armadilhas por Trypoxylon albitarse Fabricius, 1804 (Hymenoptera: Sphecidae). De outubro de 2000 a fevereiro de 2001 foram amostrados, em uma reserva de Cerrado do Estado de São Paulo, sete ninhos-armadilha ocupados por esta espécie. Os diâmetros destes ninhos variaram de 12 a 20 mm e o comprimento de 150 a 200 mm. As fêmeas de T. albitarse não preencheram toda a cavidade dos ninhos-armadilhas e os ninhos amostrados não diferiram na aparência daqueles construídos livremente. Esta é a principal diferença entre os ninhos construídos em ninhos-armadilha por T. albitarse e a espécie norte-americana Trypoxylon politum Say, 1837, para a qual havia o único registro de uso de cavidades preexistentes por espécies do grupo albitarse. São discutidos fatores que poderiam promover esta diferença.

The pipe-organ mud-dauber Trypoxylon albitarse Fabricius, 1804 (Hymenoptera: Sphecidae) is a common species in Brazil whose characteristic nests are easily found on walls of man-made structures (Fig. 1A). Natural nest substrates are trunks and plants stems (Fig. 1B). Some biological aspects of T. albitarse are quite similar to other species of the albitarse group, including the North American T. politum Say, 1837 (Cross et al., 1975; Brockmann and Grafen, 1989, 1992) and the Neotropical T. monteverdeae Coville, 1982 (Brockmann, 1992), T. antropovi Coville, 1985 and T. aestivale Richards, 1934 (Camillo, 1999). Thus, some populations show partial bivoltinism and philopatric behavior of females resulting in large aggregations (Molumby, 1997). Nests are provisioned with araneid spiders, mainly of the genus Eustala Simon, 1895 (Cross et al., 1975; Volkova et al., 1999), and, as in other Trypargilum Richards, 1934 species, a male guards the nest while it is being provisioned (Brockmann, 1988).

From May 1999 to February 2001 trap-nests (bamboo cane closed at one end by the stem node) were placed horizontally on a shelf under the roof of a building in a Natural Reserve (21°35′47″S; 47°49′00″W), São Paulo State, Brazil. The trap nests varied in length (100–200 mm) and in their inner diameter (7–20 mm). They were inspected once a month for Trypoxylon spp., and completed nests were removed to the laboratory for analysis.

Seven nests [Oct. 2000: three; Dec. 2000: three (one active) Feb. 2001: one] of T. albitarse were sampled; five were built in trap nests previously used by other species of Trypoxylon Latreille, 1796 (Fig. 2). The diameter of trap nests that were occupied ranged from 12 to 20 mm (x = 15.6 mm ± 3.93 SD) and the length from 150 to 200 mm (x = 170 mm ± 23.1 SD). All the sampled nests of T. albitarse did not fill the trap nest cavity and the only part lined with mud was the mud tube wall contacting the inner trap nest wall (Fig. 2). The external aspects and cell arrangement of the seven nests made in the trap nests were identical to typical nests of T. albitarse. At the sampled site that species is very common, and its typical nests can be seen in great numbers on building walls and rafters.

Although the similarities between T. politum (Barber and Matthews, 1979) and T. albitarse include their abundance in the sampled areas and occasional use of trap nests, there is a great difference in the manner in which each species used the trap nests. Females of T. politum filled the trap nest cavities with their nests (Barber and Matthews, 1979), while females of T. albitarse did not. This difference might be explained by the use of larger diameter trap nest cavities by T. albitarse in comparison with T. politum (range 9 to 12 mm; Barber and Matthews, 1979); the larger diameter cavities did not permit the female to fill the trap nest cavity with its typical nest. Interestingly, in spite of the fact that females of T. politum are larger (mean forewing length 14.5 mm ± 0.83 SD, N = 52; data from Molumby, 1997) than females of T. albitarse (mean forewing length 13.3 mm ± 0.81 SD; N = 46) (two-tailed Mann-Whitney U-test; Z = 6.30; P < 0.0001) (Zar, 1999), the inside diameter of typical mud nests of T. albitarse [range 9 to 12 mm; (mean ± SD) 10.8 ± 0.8 mm] are larger (mean forewing length 13.3 mm ± 0.81 SD; N = 46) (two-tailed Mann-Whitney U-test; Z = 6.30; P < 0.0001) (Zar, 1999), the inside diameter of typical mud

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