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Carving Out a Home

Several species of tropical bats build their own roosts by creating “tents” out of leaves. And recent studies also find roost-making bats building homes out of other plant parts, including stems, roots and even clusters of fruit. Now, research supported by the BCI scholarship fund has discovered yet another roost-making strategy in Malaysia: a fruit bat that carves its home out of the active, arboreal nests of ants and termites.



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The spotted-winged fruit bat (*Balionycteris maculata*), one of the smallest of Old World fruit bats at less than half an ounce (13.5 grams), creates smooth, bell-shaped cavities in the nests that can hold one male and up to nine females with their young. The construction technique has not been confirmed, but it's likely that, as with other tent-making bats, spotted-winged fruit bat males use their teeth and jaws to hollow out the soft interior chambers of the insects' tree-mounted nests.

We find similar roost cavities within the root masses of epiphytic plants (non-parasitic species that grow on the surface of other plants), including birds' nest ferns and epiphytic wild ginger.

Researchers usually attribute bats' tent making to males and associate the behavior with attracting females. The roosts created by spotted-winged fruit bats should provide males with all they need to protect their harems and offspring from wind, rain and sun and conceal them from predators. Whether reproductive success is linked to quality of the roost has not been determined. It is interesting to note, however, that males spend significantly more time around roost sites at night and are more faithful to a single roost site than females.

Spotted-winged fruit bats are found throughout Peninsular Malaysia and northern and western Borneo, with scattered records in southern Thailand and Sumatra. Females typically give birth to up to two single pups a year. In Malaysia, the spotted-winged fruit bat feeds on the fruits of at least 22 species of plants, nearly all of which are restricted to old-growth rain forests. This species is therefore likely to be severely threatened by deforestation and forest fragmentation.

Robert Hodgkison, a BCI Scholar, conducted this research while at the University of Aberdeen in Scotland, in collaboration with Sharon Balding of Aberdeen, Tom Kunz of Boston University and Zubaid Akbar of the Universiti Kebangsaan Malaysia. This study was funded by the Lubee Bat Conservancy and BCI.

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