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# Experimental Infection of Short-tailed Bats, *Carollia perspicillata*, with *Besnoitia panamensis* (Protozoa: Toxoplasmatidae)

In the course of studies on a strain of mouse-adapted *Besnoitia panamensis* of lizard origin (Schneider, 1965, J. Parasit. **51:** 340–344), attempts were made to infect a small series of short-tailed bats (*Carollia perspicillata*), one of the most abundant mammals in Panama. The bats were captured in a hollow tree standing on the edge of the Gatuncillo River, about 1 mile from its junction with the Chagres River. Thin blood smears made soon after capture revealed no hematozoa. Shortly after capture, homogenates of heart, lung, and spleen of 30 *Carollia perspicillata* and three vampires (*Desmodus rotundus murinus*) were examined microscopically and by mouse inoculation for the presence of *Besnoitia*, with negative results. Sixteen *Carollia* survived several weeks in a small cage on a diet of bananas and water and were then used in the present experiment. Each was inoculated intraperitoneally with 900,000 proliferative organisms from the 20th mouse passage of the L62 strain of *B. panamensis*. Data were subsequently obtained from 11 of the bats and seven survived until termination of the experiment on the 89th day. All surviving bats appeared healthy and had good appetites although some developed extensive dorsal alopecia.

One bat drowned in its water jar on the 35th day. Parasites were found by direct microscopic examination of homogenized lung; the infection was confirmed by subinoculation of CFW white mice. Other visceral tissues were too macerated for examination.

One bat died on the 42nd day. *Besnoitia* was demonstrated by direct examination of homogenates of liver, spleen, and kidney but not of lung or heart. Only liver and kidney proved infective to mice.

No parasites could be demonstrated, either by direct examination of fresh homogenates or by mouse inoculation, in two bats which died on the 37th and 81st days.

Seven bats survived approximately 3 months and were then killed. The heart, lungs, liver, spleen, and kidneys of each were pooled, homogenized, and each pool inoculated into two mice. Four pools proved infective, one mouse in each group developing acute, fatal besnoitiosis. One mouse died on the 6th and another on the 11th day and two on the 14th day. No attempt was made to pass the infection from bat to bat.

Thus, of 11 bats which were experimentally inoculated with *Besnoitia panamensis*, parasites were demonstrated in six after intervals ranging from 35 to 89 days. The long interval of approximately 3 months which intervened between inoculation and termination of the experiment suggests that the recovery of parasites from at least four of the bats may not have been associated with mere survival of the initial inoculum, but could have represented a true infection. This is the first report of an experimental infection of bats with *Besnoitia*.

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