

**Use of a Roller Press to Obtain Cuticular Impressions of Guard Hairs on Acetate Strips**



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### USE OF A ROLLER PRESS TO OBTAIN CUTICULAR IMPRESSIONS OF GUARD HAIRS ON ACETATE STRIPS

Hairs of mammalian species can be identified by size, color, banding patterns, and various structural properties (Hausman, 1920; Williams, 1938; Mathiak, 1938; Dearborn, 1939; Nason, 1948; Mayer, 1952; Stains, 1958; Day, 1966). Cuticular patterns of guard hairs provide some of the most diagnostic characteristics for identifying hair samples (Williamson, 1951; DeBlase and Martin, 1974; Korschgen, 1980). Methods used to reveal the type and arrangement of cuticular scales include making hair impressions in glycerin (Koonz and Strandine, 1945) or glycerine jelly (Spence, 1963), and partially embedding hairs in clear fingernail polish, clarite, or stencil correction fluid (Korschgen, 1980). Williamson (1951) made impressions by inserting hairs in a thin film of resin and applying pressure with a home-made press. DeBlase and Martin (1974) recommended covering hairs with plastic cover slips and applying heat to obtain cuticular impressions.

Although these techniques will produce diagnostic impressions of hair cuticular scales, the quality of many preparations is variable and can be time consuming. This paper presents a simplified method for producing reliable impressions of mammalian hairs.

Hairs were impressed in acetate strips using a roller press (Smith, 1954). This device is used commonly to obtain patterns of annuli on fish scales. Two acetate strips (0.05 × 2.54 × 7.62 cm) were placed on a hot plate at 40°C for 3 min. Hairs were placed between the strips and inserted into the roller press to make the final impressions. The roller press was adjusted to prevent curling of the acetate strips. Once this was accomplished, the total process took about 4 min to complete.

This technique is simple to use, creates a clean impression on both acetate strips, and the hair is available for reuse. Cuticular patterns are clearly observable at 100×. The acetate strip can be permanently labelled for identification and cataloging with an indelible marker. The roller press and acetate strips are readily available from Wildlife Supply Company, 301 Cass Street, Saginaw, Michigan 48602.

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### AN ENCOUNTER BETWEEN BUSH DOG (*SPEOTHOS VENATICUS*) AND PACA (*AGOUTI PACA*)

The bush dog (*Speothos venaticus*), cachorro vinagre in Brazil, ranges throughout most of the Neotropical region from Panamá to Paraguay and northern Argentina. This animal has rarely been seen in nature and then only fleetingly in daylight when taken by surprise. An adult with three young trotted by P. O. Simon's camp in Bolivia (Thomas, 1902). In Panamá, E. A. Goldman (1920) was attracted by a bark to a female as she fled past him followed by three young. Goldman later discovered that the group had been living in a burrow near his camp. In Venezuela, González (in Linares, 1968) saw a pack of three bush dogs and killed one before the others fled.

Other information on the behavior of free-living *Speothos venaticus* is scant (Tate, 1931; Cabrera and Yepes, 1945; Bates, 1944; Santos, 1945; Hershkovitz, 1957; Husson, 1978). These reports mention bush dogs hunting in packs of up to 10 or 12 individuals, even hundreds (Husson, 1978), and that prey as large as capybara and deer is attacked but the paca is preferred above all. More information on bush dog biology is based entirely on observations of captive animals (Bates, 1944; Kitchener, 1971; Kleiman, 1972; Collier and Emerson, 1973; Jantschke, 1973; Drüwa, 1977; Brady, 1981; Biben, 1982).

The bush dog we encountered was seen struggling with a large paca in the middle of a three-lane dirt road that passes through the Fazenda Pinheiral (50° 50' W, 13°10'S) in the Município Barra do Garças, Mato Grosso do Norte. The act was witnessed at 0730, 7 November 1977, by M. R. Ramos, Dilson Julião, Milton Soares Carollo, and myself, all members of a research team of the São Paulo Zoological Park Foundation, and by the Fazenda Pinheiral manager, Geraldo C. Geraldo, and Fazenda agents Nuno O. Vecchi and Claudio Padua.

The party, in two cars, sighted the bush dog dragging a paca by the head across the road (Fig. 1). The cars stopped about 20 m from the scene; the occupants alighted and watched the two animals continue fighting with complete disregard for our presence. It was presumed that the dog had captured the paca in or near the Rio Cristalino about 200 m from one side of the road, and had pulled the resisting prey through the intervening pasture to the middle of the road. As we looked on, the dog tired in its efforts but held on to the paca, which then began dragging its attacker toward the river-side of the road. When the exhausted rodent reclined to rest, the dog tried to maneuver into a position where it could reach for its prey's throat but the paca slashed with its incisors at the dog. After about 30 min, the bush dog suddenly released its