brief chase terminated when the squirrel was knocked off balance and became impaled on cactus spines. The wren continued pecking at exposed parts of the impaled, immobilized squirrel. Pecking bouts were alternated with a very intense wing and tail spreading display accompanied by a harsh, stacatto, buzzing vocalization.

A second wren appeared 2½ min after the squirrel became impaled. Both wrens pecked the squirrel for about 2 min until it was knocked out of the cactus. Because of adhering cholla branches, the squirrel was unable to escape after it hit the ground. The birds continued their attack on the ground, both giving the wing-tail display, but with less intensity and without vocalizing.

Shortly, the squirrel freed itself from enough cholla branches to run under a nearby shrub. At this point the wrens flew off. I examined the partially helpless squirrel, and, finding no injuries, released it.

The whitetail antelope ground squirrel (*A. leucurus*), whose range complements that of *A. harrisii*, may be a predator of bird nests. Bradley (J. Mammal. 49:14, 1968) reports finding unidentified feathers in the stomachs of *A. leucurus*. He states that vertebrates are a common component of the diet of *A. leucurus* and may be taken as prey or carrion. Dietary studies of *A. harrisii* have not been done but, considering similarities in ecology and appearance to *A. leucurus*, *A. harrisii* may also prey on bird nests.

Anders H. Anderson (pers. comm.) does not recall seeing the wing-tail display by Cactus Wrens in response to danger. This display, or a modified form of it, is frequently seen as pair formation behavior and is often accompanied by a growling vocalization (Anderson and Anderson, Condor 59:274, 1957).

An interesting aspect of this encounter is the apparent lack of precipitating factors. The Cactus Wren nest in the cholla was an old one, apparently unused for a year or more. The nearest new nest was over 50 ft away in the top of a 20-ft tree and was not a brood nest. Furthermore, there were no fledgling Cactus Wrens found in the vicinity of the encounter.

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WATTLED JACANA CAUGHT BY AN ANACONDA

F. HAVERSCHMIDT

Wolfskuilstraat 16
Ommen, Holland

In the early morning of 5 December 1965 I was wading through the ankle-deep water of a lagoon near Maasstroom (Commewijne District), Surinam, in search of birds. On arriving in an open part of the lagoon without any vegetation I saw in the far distance something in the water which looked like a tire of a motor bicycle.

On approaching I noticed that it was an anaconda (*Eunectes murinus*) with an adult Wattled Jacana (*Jacana jacana*) tightened in its coils. Both animals seemed motionless. The head of the bird was above the water level, so there was no question that it was being drowned. When I gave the snake a few kicks with my foot, it loosened its grip on the bird and vanished with a tremendous splashing of water. The Jacana walked a few feet, looking a bit dizzy, and then flew away, apparently unhurt.

The snake was not a large specimen (about 2 m long). Although it is well known that anacondas lurk in the water to entangle their prey, which often consists of water birds, I have never found mention of the species they actually catch.

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NOTES ON THE TERRITORIALITY OF HAMMOND'S FLYCATCHER (*EMPIDONAX HAMMONDI*) IN WESTERN MONTANA

DAVID A. MANUWAL[1]

School of Forestry
University of Montana
Missoula, Montana 59801

Knowledge of the ecology of Hammond's Flycatcher, *Empidonax hammondi*, comes from Davis (Auk 71: 164, 1954) who studied its breeding biology in the vicinity of Flathead Lake, Montana, and from Johnson (Univ. California Publ. Zool. 66:79, 1963) who studied the biosystematics of sibling species of the *Empidonax hammondi-oberholseri-wrightii* complex. This note supplies supplementary data on the territoriality of *E. hammondi* where it is locally sympatric with *E. oberholseri*. The information was gathered as part of a study of the breeding bird communities of three western Montana avifaunas (Manuwal, MS Thesis, Univ. of Montana, 1968).

The study area was located in the Lubrecht Experimental Forest, 40 mi. NE of Missoula, Montana. It consisted of two miles of narrow creekbottom bordered on the north by a south-facing slope covered by an uneven-aged open stand of Douglas fir (*Pseudotsuga menzeisii*) and ponderosa pine (*Pinus ponderosa*), and on the south by a north-facing slope covered by a mosaic of lodgepole pine (*Pinus contorta*), Douglas fir, Engelmann spruce (*Picea engelmanni*), and alpine fir (*Abies lasiocarpa*). Alders (*Alnus tenuifolia*) provided the overstory in the creekbottom, while dogwood (*Cornus stolonifera*) was the understory, much of which had been removed or damaged by cattle grazing. Between the creekbottom and the south-facing slope there was a wide (12–120 m), grassy opening containing scattered conifers and a well-used dirt road.

Population density and territory delineations were determined by the spot-map method described by Kendeigh (Ecol. Monogr. 14:67, 1944). All three study plots were gridded with one-meter red-topped wooden stakes spaced 30 m apart. Notes on behavior were taken concurrently. In addition, many additional hours were spent observing *E. hammondi* in other locations outside the study area.

Figure 1 shows the territories of *E. hammondi* located on the south-facing slope. Similar territories were occupied in 1967 and 1968 by three different males. Although each territory changed slightly in

[1] Present address: Department of Zoology, University of California, Los Angeles, California 90024.

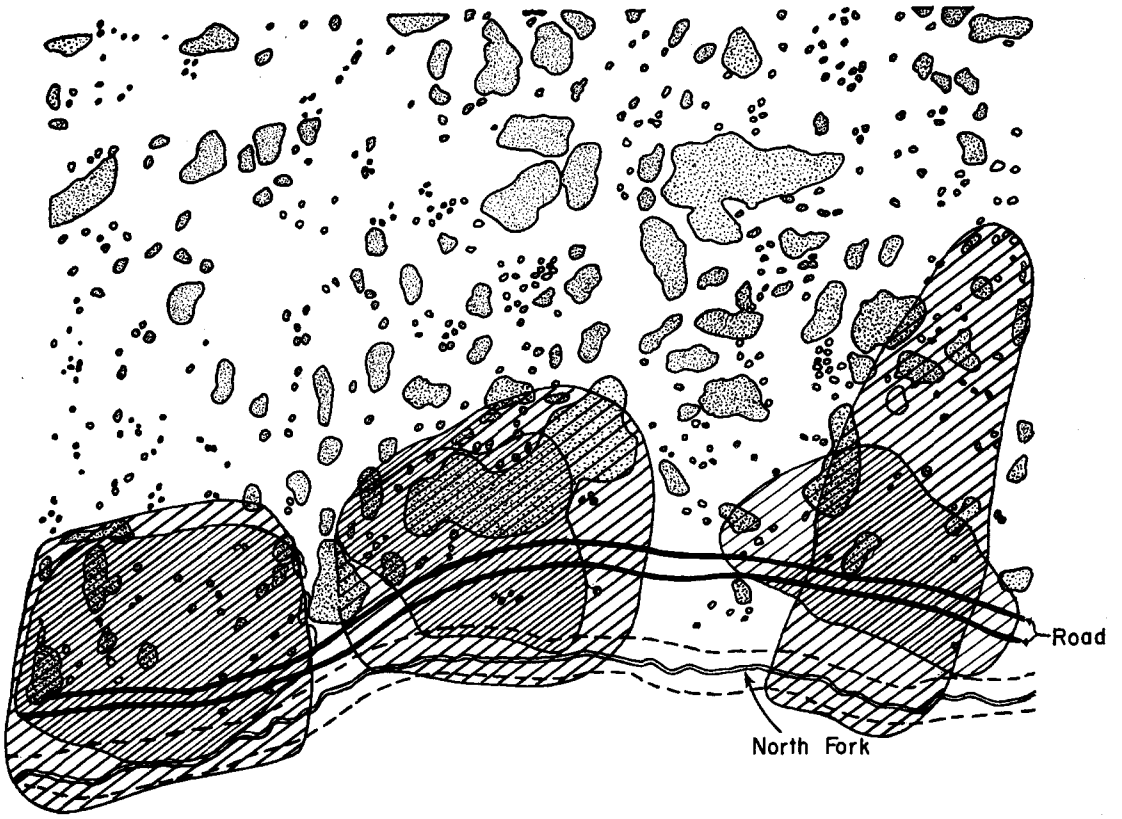

FIGURE 1. Territories of Hammond's Flycatchers in the open Douglas fir-ponderosa pine forest in 1967 and 1968 for each of three locations. The larger territories were plotted in 1968, the smaller in 1967. Stippled areas indicate clumps of conifers at least 6 m high. Broken lines at the bottom indicate edge of riparian habitat.

shape and size from one year to the next, the region occupied in both years contained the same "key" singing posts (those positions that were used most frequently each year). The territories of 16 other *E. hammondi* showed the same pattern as those in figure 1.

Each of the 22 territories I found contained a portion of the creekbottom. Of these, 21 contained the following major components: (1) the open Douglas fir-ponderosa pine type, (2) the wide grassy area containing the road, and (3) the creekbottom. Observations of several other singing males indicated that similar territory components were occupied. An additional territory was established in an opening on the dense north-facing slope.

The open Douglas fir-ponderosa pine area contained in 21 territories had trees of all age classes; however, all territories contained at least one clump of tall (13–20 m) conifers (usually Douglas fir). Davis (Auk 71: 169, 1954) found *E. hammondi* to require tall, dense, mixed vegetation of conifers and hardwoods. Although the vegetation of my study area was not as dense as that studied by Davis, *E. hammondi* did favor the most densely vegetated part, and occupied only those areas where the canopy was frequently broken (fig. 1). The importance of the creekbottom is not clear; however, six of the eight nests found were located in the creekbottom. Two were located in tall Douglas firs on the south-facing slope. Territory size of six males varied from 1.5 to 3.8 acres and averaged 2.6 acres. Population density of *E. hammondi* on the south-facing slope (44 acres) was 7.0 territorial males per 100 acres in 1967, 6.9 in 1968.

It seems apparent then that the territory of *E. hammondi* includes a patchy network of tall, dense conifers interspersed with dense broadleafed vegetation broken up by numerous canopy openings.

The south-facing slope was shared by *E. oberholseri* which occurred where there were extensive canopy openings. All *E. oberholseri* territories contained a shallow draw with small shrubs (1.0–4.0 m), open grassy sites, and scattered clumps of conifers (0.5–10.0 m tall). This corresponds closely to descriptions given by Johnson (Univ. California Publ. Zool. 66: 188, 1963). Favored singing posts were the tops of tall Douglas firs or the upper third of dead trees. Territory size varied from 3.5 to 4.7 acres and averaged 4.0 acres. Nests of five of seven territorial males were located in deciduous shrubs within 2 m of the ground.

Territories of *E. oberholseri* and *E. hammondi* never overlapped and no interactions between territorial males were observed. The average distance between the territories of the two species was about 200 m, with a minimum of 90 m. A more extensive study of these two species in areas of local sympatry would probably reveal that habitat selection is serving as a mechanism of reproductive isolation.

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