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Classical polyandry in the West Indian Woodpecker on Abaco, Bahamas.—Oring (1986) divides avian polyandry into two general types, classical and cooperative. In cooperative polyandry, groups of cooperating males share a single breeding female. Cooperative polyandry has been confirmed for the Acorn Woodpecker (*Melanerpes formicivorus*) (e.g., Mumme et al. 1983, Koenig et al. 1984, Oring 1986). In classical polyandry, individual males breed solitarily, while females divide their attention among males. We here report a case of classical polyandry in the West Indian Woodpecker (*M. superciliaris*).

Study area and methods.—From 10 May to 4 August 1988 and 13 May to 25 June 1989, West Indian Woodpeckers were observed on Abaco, Bahamas. Birds were observed in Marsh Harbour, Dundas Town, Bahama Palm Shores, Casuarina Point, Little Harbour, Snake Cay, and the pine forest south of Bahama Palm Shores. The interior vegetation of the islands consists mainly of large stands of Caribbean pine (*Pinus caribaea*); in settlements the dominant vegetation consists of coconut palms (*Cocos nucifera*) and other introduced tropical trees.

All adult birds referred to in this study were captured on the nest and color banded for individual identification. Observations were made about 10 m from the nest using binoculars. Willimont was at the study site during the summers of 1988 and 1989, and the Jacksons were there from 18 to 25 June 1988.

Results and discussion.—One color-banded female was observed at three nest sites with two different males during the 1988 season (no polyandry was observed during the 1989 season). Four nesting attempts involving this female occurred during the 1988 breeding season (Fig. 1). The female was actively involved at two nests through most of the season, and at one point was involved at three nests. The three nest sites were in dead coconut palms in residential areas of Marsh Harbour. Nest A was 5.5 m high in a 7 m palm, DBH 23 cm. Nest A2 was 2.5 m high in a 4 m palm, DBH 25 cm. Nest B was 3 m high in a 5 m palm, DBH 26 cm

The female shared incubation at nest A with color-banded male 1 while male 2 was excavating at nest B approximately 0.7 km away. Initially, both adults helped feed the chicks at nest A. By 26 May, only male 1 was observed feeding the chicks and the female was observed at nest B with male 2. On 15 June, two days after the chicks from nest A fledged, the chicks in nest B hatched. Both male 2 and the female fed chicks at nest B, although the female contributed approximately ½ as many (25 of 76) feeding trips as the male. While male 1 was feeding chicks at nest A, the female was incubating at nest B and also excavating at nest A2 approximately 50 m from nest A. Incubation at nest A2 began on 10 June, five days before the chicks hatched at nest B. During this time the female incubated at both nests. Nest A2 failed on 21 June, the day the first chick hatched. On 23 June the female and male 1 were observed mutually tapping at nest cavity A, thus re-establishing the pairbond (Kilham 1958). Renewed excavation by male 1 began at cavity A while the female was feeding chicks at nest B. On 13 July, male 2 was killed, presumably by a cat, and the female took over the feeding of the chicks. The chicks at nest B fledged on 14 July. On 19 July the female was again at cavity A with male 1. Incubation began shortly thereafter, and their chicks hatched on 4 August.

From 30 July to 4 August (when observations ended), an unbanded male excavated in nest cavity B. During this time the polyandrous female was not observed near this nest.

Polyandry allows the female to produce multiple clutches (Emlen and Oring 1977). In the case described above, the female successfully increased her reproductive success relative to other female West Indian Woodpeckers studied. Of 28 pairs observed during 1988, only

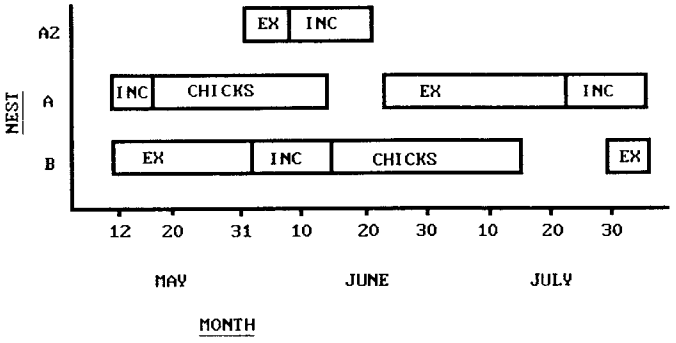

FIG. 1. Nesting phenology of a color-banded female West Indian Woodpecker at Marsh Harbour, Abaco, Bahamas. EX = excavation, INC = incubation.

five were known to have more than one brood, including the polyandrous female. It is possible that other pairs also had more than one brood or were polyandrous. However, we cannot be certain of this since we were not able to follow them throughout the entire breeding season. During 1989, 29 pairs were observed. No polyandry was noted among these pairs, but it was not possible to follow them throughout the entire breeding season or even to second broods. The polyandrous female successfully fledged two nests in 1988 (one with four chicks, the second with at least two chicks) and had chicks in a third nest when the study ended. The breeding season on Abaco appears to be long enough for two but not three broods. Polyandry may be a strategy for overcoming this limitation.

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