

FEATURE ARTICLES

POSTOVULATORY FOLLICLES IN MALLARDS: IMPLICATIONS FOR ESTIMATES OF BREEDING PROPENSITY

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Abstract. We evaluated the use of postovulatory follicles (POFs) up to 90 days postlaying to determine breeding propensity and clutch size in Mallards (*Anas platyrhynchos*). During 2002–2003, we examined ovaries from 48 postbreeding female Mallards (24 captive, wild-strain and 24 radio-marked, free-ranging) with known laying histories at periods ranging from 30 to 90 days postlaying. We found that POFs remained identifiable macroscopically (at 4.6–16× magnification) in all females (24 of 24) collected 30–60 days postlaying and in 79% (19 of 24) of females collected 61–90 days postlaying. Using microscopic examination (20–80× magnification), we found that ≥1 POFs remained identifiable in all cross-sectioned ovaries collected from females up to 90 days postlaying. We found a weak correlation between macroscopic POF counts and observed clutch size for females collected 30–60 days postlaying, but not for females collected 61–90 days postlaying. Blind tests using ovaries from known nonbreeding females confirmed that experienced, independent observers correctly distinguished breeding from nonbreeding females 100% of the time up to 60 days postlaying using macroscopic techniques and up to 90 days postlaying using microscopic techniques. These findings indicate that POFs provide a viable method to estimate breeding propensity in free-ranging Mallard populations and potentially other waterfowl species.

Key words: *Anas platyrhynchos*, *breeding propensity*, *clutch size*, *Mallards*, *ovaries*, *postovulatory follicles*, *reproductive effort*.