

WHY SO MANY FATHERS FOR SUCH A SMALL OLIVE RIDLEY POPULATION IN HONDURAS?

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Female sea turtles are known to be polyandrous and lay egg clutches that show multiple paternity. Varying rates of multiple paternity have been found in all seven species of living sea turtles. Differences in the frequency of multiple paternity also appear among populations of the same species. In the olive ridley sea turtle (*Lepidochelys olivacea*), multiple paternity levels correlate with the abundance of individuals in the mating system, being much higher at arribada rookeries than at solitary nesting sites. We used two highly polymorphic microsatellite markers (Cm84 and Or1) to assess the level of multiple paternity in an olive ridley solitary population nesting in the Gulf of Fonseca, Honduras. We found evidence of multiple paternity in 6 out of 8 clutches (75 %), with a minimum number of two fathers in four clutches, and a minimum of three in the remaining two clutches. This level of multiple paternity, which would correspond to a large population of almost 40,000 females, was unexpectedly high for the Honduran population, whose estimated number of nesting females is below 2,000. Higher than expected rates of multiple paternity found previously in small sea turtle populations have been explained by the high densities of animals reached in specific sites due to geographic constraints. However, this does not appear to be the case for the Honduran olive ridley population. Instead, historical evidence and recent flipper tag and satellite telemetry data suggest that these high rates of multiple paternity may be the result of some nesting females coming from proximal Nicaraguan or Costa Rican arribada beaches.

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