

# MATE CHOICE AND REPRODUCTIVE ECOLOGY IN THE PHOXINUS EOS/ PHOXINUS EOS-NEOGAEUS COMPLEX

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The Northern Redbelly Dace (*Phoxinus eos*) and the Finescale Dace (*Phoxinus neogaeus*) can hybridize to form an all-female, gynogenetic (asexual) “species”, *Phoxinus eos-neogaeus*, which requires sperm from one of the parental species to stimulate development of diploid, clonal ova. This hybrid occurs in Montana along with one of the parental species, *P. eos*. We investigated the reproductive ecology of this complex including mate choice in *P. eos* males and in the hybrid, and various clutch characteristics in both species. Mate choice experiments used a choice-tank with the “choosing” fish in a central section and one “choice” fish at either end behind clear, perforated dividers. Each trial was recorded from above for approximately 8 min, after which the fish at the ends were swapped, and the trial repeated. Results for each “chooser” fish thus consisted of the proportion of time spent in each third of the central section, for two combined trials. Clutch characteristics were determined by dissecting preserved females and counting, weighing and measuring appropriate enlarged oocytes or ova. Results indicated that male *P. eos* showed no preference for either the sexual *P. eos* females or the asexual *P. eos-neogaeus* hybrids. Further, though females of both types preferred larger males to smaller males, the strength of this preference did not differ between the two types of females. Finally, reproductive traits did not differ between the two types of females. We suggest that these results may be due to the incorporation of some sperm into the offspring of the hybrid females.