

INHERITANCE AND EVOLUTION OF REPRODUCTIVE TRAITS IN GARTER SNAKES. S. Arnold.

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Birth weight was recorded in large samples of two garter snakes (Thamnophis elegans & T. sirtalis) from a coastal and an inland site in California. T. elegans shows pronounced geographic variation in birth weight: the average inland snake weighs twice as much at birth as the average coastal snake. This probably represents adaptation to local prey. New-born inland snakes must prey on metamorphosed amphibians and a critical size is required to accomplish this. Coastal new-born, on the other hand, prey on slugs which are available in a range of sizes so that small newborn suffer no size penalty. In contrast to elegans, sirtalis shows no geographic variation in birth weight. Both coastal and inland sirtalis prey on metamorphosed amphibians: they are intermediate in birth weight between the two elegans populations. Neonatal selection (still birth) acts against very low birth weight in all populations with intensity always the same relative to the mean. F₁ hybrids show intermediate birth weight¹ in elegans with evidence of a strong maternal effect.

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