

JOHN STEFFEN, Department of Biology, Shepherd University, Shepherdstown, WV 25443, and LOGAN ROTHSTEIN, Department of Biology, Shepherd University, Shepherdstown, WV 25443. Colorful turtles lack a preference for carotenoid-based food that maintains stripe and spot color.

For animals with carotenoid-based skin or feather color, plant matter can be an important food item because plants contain carotenoids which help maintain that color. Because skin or feather color impacts a species ability to advertise its identity and potentially act as a sexually-selected signal, animals should evolve preferences for eating plants. Adult painted turtles eat a wide variety of aquatic plants and animals, and here we examine whether adult turtles prefer some common native aquatic plants (arrowhead, cat-tails, water lilies, and waterweeds) over a common aquatic fish (juvenile bluegill sunfish). We presented juvenile and adult turtles 3.5 cm² pieces of the aquatic plants and bluegill, observed which items were bitten and eaten, and calculated selectivity and preference for each plant and bluegill fish. We found that juvenile and adult turtles show a strong selectivity and preference for bluegill sunfish. Bluegill may be selected for and preferred by painted turtles because fish is a high calory diet item, rich in proteins and fats, which facilitates the absorption and delivery of carotenoids to the skin.