

STEFFEN, JOHN, Department of Biology, Shepherd University, Shepherdstown, WV 25443, and DOMINIK WEBSTER, Department of Biology, Shepherd University, Shepherdstown, WV 25443. Disease affects carotenoid-based turtle coloration and may function as a condition-dependent indicator trait.

Carotenoids are photo-accessory pigments found in plants that provide animals with integumentary color as well as a variety of immunological benefits. Carotenoids that are deposited in the feather or skin to advertise color must ultimately be obtained, ingested, absorbed and delivered to an integumentary site. However, carotenoids that serve immune functions cannot be used for integumentary display. As a result, carotenoid-based feather and skin color often indicates condition-dependent (i.e. immunological) phenotypic information because the pigments must be used for one or the other—but not both—roles. Support for the condition-dependent and sexually selective role of carotenoid-based turtle spots and stripes is equivocal. Here we show that carotenoid ingestion—and carotenoid-based color—is affected by *Emydomyces testavorans* fungal infection on the carapace, indicating that stripe and spot color could advertise immunological health altered by fungal infection and function as a condition-dependent indicator trait. This adds to other indirect evidence that painted turtle stripe and color may serve as sexually selective role.