

FEATURE ARTICLES

**CRYPTIC DICHROMATISM AND SEASONAL COLOR VARIATION IN THE  
DIADEMED Tanager**

PABLO L. TUBARO<sup>1,3</sup>, DARIO A. LIJMAER<sup>1</sup>, AND STEPHEN C. LOUGHEED<sup>2</sup>

<sup>1</sup>*División de Ornitología. Museo Argentino de Ciencias Naturales "Bernardino Rivadavia",  
Buenos Aires, Argentina*

<sup>2</sup>*Department of Biology, Queen's University, Kingston, Ontario, K7L 3N6, Canada*

Manuscript received 11 July 2004; accepted 29 March 2005.

<sup>3</sup>E-mail: [ptubaro@interlink.com.ar](mailto:ptubaro@interlink.com.ar)

*Abstract.* We studied the patterns of sexual dichromatism and seasonal variation in plumage color in the Diademed Tanager (*Stephanophorus diadematus*), a species previously considered devoid of variation in adult plumage. The general coloration of this species is dark blue-violet, with a white-blue and red crown. Plumage reflectance of seven body regions from 33 study skins belonging to adults of both sexes was measured. Reflectance values were used in a principal components analysis (PCA) and hue, short-wave chroma, and UV chroma were also measured directly on the spectra. Both PCA factor scores and these latter variables were subjected to two-way ANCOVAs with sex and season as main factors and the year of capture as a covariate. We found that crowns of males were significantly brighter than those of females. In addition, the nape, chest, and belly showed significant differences in spectral shape, with relatively greater short-wave reflectance and less long-wave reflectance in males than in females. Although sexes were alike in hue, they differed in chroma in almost all body regions. Brightness also differed between seasons, and contrary to our expectation nonbreeding birds were brighter than breeding ones. This result may be a consequence of the particular molt program of tanagers that includes only a complete post-reproductive molt. Despite finding seasonal differences in spectral shape in various body regions, no significant changes in hue, short-wave chroma, or UV chroma were evident. To our knowledge, this is the first report of variation in adult plumage color for the Diademed Tanager, and we suggest that dichromatism in tanagers may be even more pervasive than is currently recognized.

*Key words:* plumage, sexual dimorphism, *Stephanophorus diadematus*, *Thraupidae*, UV, vision.