

**DISCOVERY AND EVALUATION OF PRIMATE COLO VISION POLYMORPHISMS**

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*The presence of significant individual differences in human color vision was already well established by the late eighteenth century when the chemist John Dalton offered insightful comments on the nature of his own defective color vision. From an extension of his observations to include other individuals Dalton also suggested that such defects were sex-linked traits and some 120 years later the discovery of sex chromosomes provided the first glimpses into the mechanism underlying the inheritance patterns of human color vision variations. That other primates might show similar variations in color vision first emerged from the pioneering work of Walter Grether in the 1930s. Grether discovered that Cebus monkeys were significantly less sensitive to differences among the long wavelengths than were comparably tested humans, leading him to conclude that with regard to color vision these monkeys “may represent an intermediate developmental stage between that of lemur and of man.” (W. F. Grether, 1937). Starting in the 1980s, laboratory investigations of color vision in nonhuman primates expanded significantly and (1) established the presence and nature of polymorphic color vision in a variety of platyrrhine monkeys and its effective absence in catarrhine monkeys, (2) revealed many details of the physiology and genetics underlying the polymorphisms, and (3) set the stage for an array of field studies that sought to understand how these color vision polymorphisms could impact primate success. Although much progress has been made toward understanding primate color vision polymorphisms a number of significant issues still lack resolution.*

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