Are damselfish sexually dimorphic in ultraviolet?

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Color is an important component of communication in marine fishes, many of which use color to identify different species, sexes, life stages, and individuals. The damselfishes (Pomacentridae) are a family of fishes with a range of coloration (from bright and gaudy to drab), and they have evolved a diverse array of social systems and color patterns. Despite this great variety, one area in which damselfishes lack diversity in color is sexually dimorphic color. Males and females appear indistinguishable to the naked human eye. Many, but not all, damselfish species undergo ontogenetic color change (OCC) over the course of their maturation. In addition, many, but not all, species also display a complex pattern of UV-reflecting patches on the faces of juveniles and adults. Both OCC and UV-reflectance appear important in social dynamics, including the mediation of aggression, and possibly individual recognition, but their roles are mostly unclear. One role that UV-reflectance might play is not only the identification of individuals but of sexes. We examined the sexual dimorphism of UV-reflectance patterns in damselfish. We used an ultraviolet-sensitive camera system and a spectrometer to test for differences in the facial UV-reflectance patterns with regards to sex and report our results here.