The Crimson Rosella

Participants: Prof Andy T. D. Bennett (PI), Dr Katherine L Buchanan, and Dr Matt Berg (CIE).

Aims and background: We are investigating the crimson rosella (Platycercus elegans) species complex in eastern Australia. This distinctive group of parrots displays a remarkable degree of geographic variation in plumage colour, from deep crimson red to pale yellow. Hybridization between colour forms occurs at some locations. We aim to determine the proximate and ultimate causes of the variation in colour, and the effects of plumage colour variation on reproductive success and survival. The birds breed in approximately 600 nest boxes which we have already established in SE Australia.

This project offers an excellent opportunity for recent graduates to gain training in ecology, evolution and behaviour in one of the best groups in Australia. The project will include training in the following areas: experimental design, behavioural observations, evolutionary biology, scientific publishing, bird capture, spectrophotometry and colour analyses, visual modelling, laboratory analyses, and immune function testing. Scholarships are available to both Australian nationals and international applicants, and can commence in either February 2001, or July 2011. Applicants must hold, or shortly expect to hold 1st class Honours degree or equivalent in zoology, biology, psychology or a related area, be highly motivated and have an enthusiasm for field work and the outdoors. Experience working with birds is desirable but not essential.

Scientific significance and innovation: This project will test the ultimate causes of plumage colour variation in crimson rosellas, one of the most highly colour variable birds species and one of only ca. 25 proposed "ring species" across all taxa in the world. Ring species exhibit increasing divergence across a series of continuous, interbreeding populations and thus offer an excellent opportunity to study how gradual changes between populations can lead to substantial population divergence and eventually speciation.

Potential national benefit and strategic alignment with the aims of the CIE: This project will address the causes and consequences of the remarkable plumage colour variation displayed by crimson rosellas, traits that may play central roles in population divergence and speciation. This project is aligned with the aims of the CIE in that it investigates the interaction of birds with their environment, the phenotypic traits modulating reproductive success, and the consequent evolutionary changes.