Score for Burgio, Kevin

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Excellent

Explanation to Applicant

The applicant has an outstanding GPA, recognized by several scholarships and awards, previous research experience as an intern, leadership training through the Air Force, and a history of team and individual accomplishments. The proposal describes a study of the invasive monk parakeet, which logically builds on the applicants previous research work. The project would involve both field and laboratory work. The proposal is well-written, incorporating three, clear, testable hypotheses.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

I think the description of the broader impacts should address both what the research means and how the research is conducted. In this case the work should relate to growing concerns about invasive species and how they can alter ecosystems. The applicant has a track record of successful interaction with a variety of stakeholder in similar work. Furthermore, he has experience managing a variety of team efforts and community outreach initiatives.

Score for Burgio, Kevin

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Excellent

Explanation to Applicant

Previous receipt of national and local prestigious awards and outstanding academic record suggest potential for success. The applicant has a diversity of prior research experiences. The applicant has authored a submitted manuscript, but more competitive applicants often have accepted or published papers, and regional or national conference presentations. Work on physiological limits of torpor in an invasive bird is novel. Research plan is well written and hypothesis driven.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

Broader impacts are effectively integrated throughout the application. There is a clear record of outreach and service. The applicant is a leader in community involvement and already has developed web-based outreach in relation to his project

Score for Burgio, Kevin

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Very Good

Explanation to Applicant

Although I don't know of any specific studies looking at the use of fat, woodpeckers commonly focus on feeders providing beef suet during periods of cold weather – suggesting the possibility of selection for fat. Actually, Monk Parakeets occur in areas of South America with considerable snowfall. They are a very widespread species in their native land, spanning a tremendous diversity of climate. Their distribution in North America reflects their native range of climates. Are there any parrots known to go into torpor? Is there any evidence that Monk Parakeets might use torpor? What if they don't? In comparing populations of Monk Parakeets, it is going to be essential to also incorporate photoperiod into analyses. The short photoperiods of north temperate winters mean less time to feed – and photoperiod might thus be very important – perhaps as important as temperature. Christmas Bird Count data and Breeding Bird Survey data are both useful for some things, but must be used cautiously because of elements of variation as a result of diversity of observers.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Good

Explanation to Applicant

The lack of information on whether or not torpor occurs in Monk Parakeets is critical to the research and critical to any discussion of broader impacts. This is a social species and communal roosting might provide adequate compensation that allows them to withstand cold. How might students (K-12, undergraduate) be involved in the project so that they could learn about the birds and the problems and also get a taste of science. Sharing your enthusiasm at all levels is very important.