Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Very Good

Explanation to Applicant

The applicant has a very strong academic preparation, and has appeared to take advantage of many research opportunities that have been available. Supporting letters are uniformly strong and specific. The scope of the research design is clear and indicates a good understanding of the central issues related to phenotypic plasticity. The hypotheses are general rather than specific, and it is not clear how the experimental results will be tested.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Good

Explanation to Applicant

The applicant has a very good background in science education and outreach to the general public. The broader impacts discussed in the proposal, however, are mostly limited to rather routine scientific outcomes of publication and data sharing, although the applicant plans to work with SMART, an organization that works with inner city elementary students. Far more detail on what he will do, why, and who will be mentored is needed.

Summary Comments

His proposed research is appropriate for a student at his level, and shows promise of returning interesting results. Broader impacts include outreach and mentoring, but the application needs far more detail in what actually would be done.

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Excellent

Explanation to Applicant

Fascinating study using a novel system. High IM that matches the interests of the applicant up well with the lab/advisor.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

High BI for both the study and the applicant. Applicant has the track record and is already implementing plans for additional BI work.

Summary Comments

One of the top three that I reviewed (out of 33). Has both high IM (the study, lab, individual preparation and ability), and high BI (especially the individuals, but also that study and the lab).

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Very Good

Explanation to Applicant

Intellectual Merit was not explicitly addressed, but the students meritorious academic record, GRE scores (as reported in a letter of recommendation) and very well-written proposal speak to the overall intellectual merit. The evolution of phenotypic plasticity is a topic of broad interest to evolutionary biologists. The proposed research seems carefully planned and seems likely to result in significant findings. Although the student has presented research results to local audiences, it would be good to have some oral presentations at scientific meetings under his belt.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Very Good

Explanation to Applicant

Excellent experience in K-12 (and beyond) outreach through AmeriCorps experience, YMCA tutoring, and the Teaching SMART program. The student plans to continue working with elementary schools in the latter program and to mentor one undergraduate students. These are laudable, but it would be nice to tie the proposed research more directly to these and other broader impacts.

Summary Comments

A decidedly well written proposal from an applicant poised to make significant contributions to science. GREAT record of outreach and mentoring. Proposed research is of broad interest and appears very carefully and thoughtfully planned.