



Department of Biology  
College of Sciences  
San Diego State University  
5500 Campanile Drive  
San Diego CA 92182 · 4614  
Tel: 619 · 840 · 5518  
Fax: 619 · 594 · 5676

March 23, 2017

Dear US Fish & Wildlife Service,

Thank you for the opportunity to review the *Species Status Assessment for the Hermes copper butterfly (Lycaena [Hermelycaena] hermes) Version 1.0*. I have conducted research on the Hermes copper since 2002, describing the distribution, life history, and threats. In 2014, I started a translocation study with the goal of reintroducing and reestablishing a population following a wildfire. Results from my research are available in several peer-reviewed publications as well as technical reports. Accompanying this letter is the SSA (Word file) with comments and edits included.

**Below are my main comments:**

The Pala 1932 record: When I published a revised distribution in 2010 (Marschalek and Klein 2010), I could not find any information other than a mention of it in Faulkner and Klein's Sensitive Butterfly Workshop booklet. After following up with Faulkner, he was unable to locate any information and Klein (as a coauthor on the publication) could not provide additional details. Considering the habitat near Pala, the distance from other records, and lack of an actual record, I have been omitting this from my work. The Bonsall location is from a dot on a crude map in Thorne (1963), otherwise there appears to be no specimen or other data for this location. It may be appropriate to include this record with caution.

It is unclear whether the most recent paper (Marschalek et al. 2016) regarding the population genetic structure was included. This is a more complete analysis of the genetics and should be used rather than the Strahm et al. 2012 report. Citation: Marschalek, D.A., D.H. Deutschman, S. Strahm and M.E. Berres. 2016. Dynamic landscapes shape post-wildfire recolonization and genetic structure of the endangered Hermes copper (*Lycaena hermes*) butterfly. *Ecological Entomology*. 41:327-337.

A number of times I am cited as a pers. comm. or pers. obs. This information should be included in reports and should be cited as such so that others can more easily find this information and context. In general, pers. comm. and pers. obs. should be used as a last resort because it is less reliable as it lacks context and interpretability.

A couple times a paper was cited, but the citations within that paper are the original work. The original papers should be cited.

The conceptual model should be cited as "Lewison et al. (2012)". It is ok to include Strahm et al. (2012) as well. Citation: Lewison RL, DH Deutschman, E Marnocha, C Tredick, P McIntyre. 2012. Developing conceptual models: translating knowledge into action: building and implementing an integrated framework for monitoring and management in San Diego County. Report for the San Diego Association of Governments. 116 pages.

Several times it is stated that redberry grows on north facing slopes. I think this was restated from Thorne (1963) but it is not a strict requirement as redberry is capable of growing on south facing slopes like Sycuan Peak.

Hollenbeck Canyon is the translocation site, not Sycamore Canyon.

I will be conducting surveys for Hermes copper at both the northern and sentinel sites in 2017. Considering the above average rainfall this past winter, these data will provide information on how these populations are able to respond to drought. I also anticipate being able to assess the relative population sizes of the northern sites and the success of previous translocations to reestablish a population at Hollenbeck Canyon. Considering the last several years have been dry, assessments of occupancy have not been possible due to the suppression of Hermes copper adult numbers. If possible, I would be happy to share results as soon as possible to be included in this assessment.

Please let me know if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dan Mars", is placed on a light blue rectangular background.

Daniel Marschalek