

THE HOLY GRAIL OF NEW MEXICO LEPIDOPTERA: SACRAMENTO MOUNTAINS *SPEYERIA NOKOMIS* (W. H. EDWARDS)(NYMPHALIDAE)**Additional key words:** extirpated species, Otero Co, Paul Grey, oral tradition

How long does oral tradition persist reliably? I personally am inclined to question anything older than 100 years in the absence of contemporary documentation. To think otherwise endorses claims of living people in non-literate cultures to be 130 years or more of age. Even in America, cults have sprung up that deny the lunar landings and the Holocaust—in the absence of contemporary written records, these denials would become almost impossible to refute by 2060 or 2070.

Let me now examine the case for the existence at some time, past or present, of *Speyeria nokomis* (W. H. Edwards) at a site separated from all other *S. nokomis* by 200 miles, in the Sacramento Mountains of Lincoln and Otero Counties of New Mexico. Such a colony would connect the evolution of the northeast Mexican *S. nokomis wenona* dos Passos & Grey to the mainstream of the species. However,

1. No living person has ever seen a living specimen.
2. No living person has ever seen a museum specimen.
3. No living person knows who took or saw the specimens.
4. No living person has ever seen a first-person written record of a capture or sighting.
5. I know of no pre-1945 (i.e., contemporary) written third-person record of a capture or sighting. (I am disregarding the report of three males from the junction of Hubble and Wills Canyons, near Weed, Otero Co., in 1973, which I am virtually positive is bogus).

Within my lifetime, the credibility of this entity has shifted from the realm of quantifiable doubt to the realm of myth/legend, where myth/legend is defined to be an event devoid of even third-person contemporary documentation. In fact, it is only due to the diligence of Steve Cary (Cary 2003) that I even know of a collector who could have been in this part of the world at an early enough date to have taken the Sacramento Mts. *S. nokomis*.

There are, however, two historical records from the Sacramento Mts. that I personally accept (Toliver *et al.* 2001). One is from Fort Stanton, site of the infamous incarceration of our Apache and Navajo people in

the 1860s and 1870s. This site is now so disturbed that it is impossible to tell precisely where a *S. nokomis* colony once existed, as all the groundwater has been tapped for human follies, ranging from “taming” wild Indians to taming tuberculosis. The United States established Fort Stanton, Lincoln County, in 1855 (Julyan 1996).

The other record is from Bent in Otero County on the dramatic 3000-foot western escarpment of the Sacramento Mts. Apparently a now-capped underground stream once flowed out of the escarpment here in a scenario reminiscent of the well-known Sierran Round Valley home of the *Speyeria nokomis apacheana* (Skinner) colony in Inyo County, California. The Bent area was slightly more recently settled than Fort Stanton, probably around 1870—it was likely named after the family of Governor Bent, the first American governor of New Mexico, who was assassinated in 1847. Bent is sort of a suburb of Tularosa, the oldest European outpost in the Tularosa Valley. Specifically, Julyan (1996) states, “In 1862 Hispanic settlers arrived at the edge of the marshy land where Tularosa Creek fans out and loses itself among reeds and marsh grass about a mile from the mouth of Tularosa Canyon.” It is highly probable that this marshy area was once the aboriginal home of the Sacramento Mts. *Speyeria nokomis*, and, as the water was tapped, the butterfly retreated up Tularosa Canyon, making a last stand at Bent.

Another Lepidopteran also dependent on a copious desert water supply, *Papaipema dribi* (Barnes & Benjamin), was also known from a similar site at High Rolls, about 20 miles south of Bent, but now is presumably also extirpated (Barnes & Benjamin 1926). (J.R. Wiker, caretaker of the Moth Photographers' *Papaipema* section, has informed me that no *P. dribi* have been taken anywhere since the type series (one pair), which is housed at the United States National Museum (Wiker pers. comm.). High Rolls, in Fresno Canyon, differs from Bent in being about midway down the Sacramento West Escarpment instead of near its base. Both Tularosa and Fresno Canyon drain into the closed Tularosa Basin, which includes White Sands National Monument and Missile Range.

I, thus, believe the *Speyeria* population in question was observed and extinguished between 1855 and 1900,

and most likely between 1885 and 1900.

As alluded to above, Cary had determined that it would have been physically possible for the early New Mexican collector W. J. Howard to have been at the above sites before 1890 without appealing to time travel. I am not stating that the *Speyeria* records are due to Howard, or that there is any evidence Howard ever visited either site—I merely point out that we do not need to add a sixth problem to the above list. We can, at least, say that someone with a butterfly net could have been in the Sacramento Mts. at the time demanded. Moreover, Howard may have spoken to some unknown third party—possibly a soldier stationed at Fort Stanton—and encouraged him to write home about the butterflies or even to catch some. There is some chance Henry Viereck could have been the primary source of the Bent records—he is known to have collected at High Rolls at least as early as 1902 (Cary and Holland 1992).

I do think that *S. nokomis* was gone, at least from Bent, by 1900, because Bent is not that far from Las Cruces, where a world-class naturalist, T. D. A. Cockerell, then resided (Weber 1976). Cockerell described two varieties of *S. nokomis* from northern New Mexico that decade, and it seems unlikely that anything this spectacular would have totally escaped his purview (Cockerell & Cockerell 1900; Cockerell 1909). By 1900, reports of *S. nokomis* were even being published from the Sierra Madre in Chihuahua (Holland 1900).

At this point, I need to explain my personal involvement with this enigma. In July 1965, just before I relocated from Boston to Albuquerque, I spent a weekend with Paul Grey, co-author of the landmark *Speyeria* revision (dos Passos & Grey 1947) reducing the species number of American *Speyeria* from 109 to 13. Both Sacramento Mts. reports for *Speyeria nokomis* that I consider credible reached me orally from Paul Grey; he told me, in person, of the old records from Bent and Fort Stanton. He suggested I try to confirm them. In 1965, I did not know this was going to lead to the ultimate New Mexican butterfly mystery.

In summary, the historical reality connecting us to a Sacramento Mts. *Speyeria nokomis* is less than that connecting us to the Lost Continent of Atlantis. In Plato's writings, there is at least a quasi-contemporary third-person mention of Atlantis (see the dialogues Timalos and Kritias (Plato 355 BC)), so only the first four of the five above problems lie between us and Atlantis. On the other hand, dos Passos & Grey's revision does not even mention the Sacramento *nokomis*. My contribution here is to evaluate the credibility and the judgment of the three scholars in this

matter whom I have known personally (and to add my own experiences).

It is also my objective to place my personal intuition and experience in a position that obstructs application of the 100-year rule about oral tradition to the validity of these old records. This note is intended to undermine Objection 3 in this case—I think Paul Grey probably did know someone who saw the genuine article.

#### ACKNOWLEDGEMENTS

The list of persons touched by this enigma is unparalleled in the annals of the study of our Lepidoptera—it reads like a who's who of the best of us: I acknowledge Fred Rindge, Mike Toliver, John Rawlins, T. D. A. Cockerell, F. M. Brown, Harry Clench, Otto Poling, Paul Opler, Henry Viereck, Paul Grey, Cyril dos Passos, Paul Ehrlich, Steve Cary, Chuck Bridges, Joanna McCaffrey, W. J. Townsend, Prof. Snow, W. J. Holland, and one anonymous source.

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#### POSTSCRIPT

After this article had been submitted, I tried a rather unlikely final attack on the Sacramento Mountains mystery. I knew that Paul Grey's *Speyeria* collection at the AMNH had always been separately maintained and not integrated into the rest of the AMNH holdings—largely due to its unique and pivotal role in the history of parsimonious taxonomy. Consequently, I wrote there and explicitly asked the current curator to search the Paul Grey collection for the Holy Grail. In reply, I received the astonishing news that *two specimens had been discovered as a result of my inquiry*. As I had predicted, they were taken in Bent, but considerably more recently than my guess of 1900 for the extinction of the population. Specifically, two males turned up, one bearing the label "New Mexico, Otero Co., vic. Bent, ex Ehrlich Coll." and the other bearing the label "Bent, Otero Co., New Mex. Aug. 12, Ex. Coll. Ehrlich" plus the additional label "Coll. of L. P. Grey". All three labels to me appear to be in Paul Grey's hand. Both are *Speyeria nokomis nokomis*. To

Suzanne Rab Green, AMNH docent, I owe a debt beyond measure, as it was she who actually located the specimens.

Not wishing to be overshadowed, this discovery caused the CMNH people to dive into cabinets unexplored since the demise of the .400 batter, wherefrom they surfaced with two specimens labeled “Mescalero, N. Mex. VIII 13, 1931, W. Huber” and “Exch. A.N.S.P., C.M.Acc.20359.” On one of the labels, the VIII is just VII. I suggest this is probably a misprint, as it is unlikely these treasures would have been taken exactly a month apart. The second label refers to an exchange of vertebrates for invertebrates that took place between the Carnegie Museum and the Philadelphia Academy of Sciences around 1940. These are female *Speyeria nokomis nr. nokomis*. W. Huber was head mammalogist at the Philadelphia Academy of Sciences in 1931, and regularly spent summers doing fieldwork around Tularosa, New Mexico. Since the reliability of the Ehrlichs, Paul Grey, and W. Huber is absolute, it now appears this greatest of all New Mexico butterfly mysteries is resolved. I have wondered if this Ehrlich collector was the Paul Ehrlich we all know and love, or rather a relative. (The Paul Grey collection was transferred to the AMNH in 1948, when our Paul Ehrlich would have been about 15—rather a young age

at which to have collected the material, donated it to Paul Grey, and have had it redonated to the AMNH). I contacted Paul Ehrlich and he reports having no knowledge of the material. There is no year of collection noted on the Ehrlich specimens. Photos of both sexes of this population are attached without comment (Fig. 1) — other than a huge thanks to Ms. Green and John Rawlins.

I am also greatly in debt to one of my tenants, Wenyun Zuo, a visiting bio-ecology graduate student at the University of New Mexico. Ms. Zuo made the initial personal contact with the Carnegie Museum while visiting Pittsburgh in May of 2007. Wendy’s personal charm contributed greatly to initiating this search on a very positive note. But by far the greatest help has come from my life partner, Martha Romero, whose assistance with living, running a business, and becoming an instant expert on Lepidopteran literature and curation has kept me productive far into the ravages of Parkinson’s disease.

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FIG. 1. The Sacramento Mountains population of *Speyeria nokomis nokomis*, now presumably extinct. Top: male, Bent, Otero County, New Mexico, ca 6000', Aug. 12, AMNH collection, ex. Paul Grey Coll, ex. Ehrlich collection. Year is not specified, but Paul Grey donated his collection to the AMNH in 1948, placing a clear minimum age on the insect. Bottom: female: Mescalero, Tularosa River, Otero Co, New Mexico, ca 7000', July 13, 1931, leg. W. Huber, CMNH collection, ex Philadelphia Academy of Sciences Collection. There is evidence the female may have been taken Aug. 13, 1931.