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# AN ANALYSIS OF THE HELIOTHIDINE TYPES (NOCTUIDAE) OF HERMAN STRECKER WITH LECTOTYPE DESIGNATIONS

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**ABSTRACT.** The authenticity of the nominal type specimens of species of Heliothidinae described by Herman Strecker is evaluated. A number of the nominal type specimens are judged to be spurious. Lectotypes for the following Strecker species are selected: *Schinia approximata, Schinia dolosa, Heliothis fastidiosa, Schinia labe, Schinia lora,* and *Schinia pyraloides.*

In anticipation of future revisionary work on the Heliothidinae I took the opportunity in October of 1976 to examine Herman Strecker's type material belonging to this subfamily at the Field Museum of Natural History in Chicago. Strecker's species names have always presented a problem to Lepidopterists, firstly because his original descriptions were often very brief, and secondly because he evidently had the habit of augmenting or replacing his original type series. Thus, although *Heliothis regia* was described from a single specimen, there are now six specimens each labelled in his hand as "type" of *regia.*

In the earlier years of his career, Strecker evidently had no type concept, or at least a very nebulous one. As a result, many of the specimens on which he based his early original descriptions must have been either destroyed or misplaced. In later years, however, with increasing awareness of the value of type specimens, Strecker presumably tried to rectify his earlier laxity by labelling specimens other than the "originals" as his types.

If such substitutions can be demonstrated, then obviously the spurious types have no status under the "Rules." Nevertheless such pseudotypes do have value in indicating Strecker's concept of his species in the maturity of his later years, and should be considered in any subsequent neotype selection procedures if these are found to be necessary. At the present time the Strecker Collection is housed as a separate entity within the collections of the Field Museum of Natural History, and Strecker's arrangement of species and his hand-printed labels have been retained. In my discussion of type specimens which follows, the species names are arranged alphabetically.

## *Rhododipsa aden* Strecker

Strecker, 1898, p. 11.

The original description of *aden* was based on a single specimen. The male labelled as "original type" in the Strecker collection matches the original descrip-

tion well and is evidently the one on which Strecker based his description. It is labelled as follows: "Col."; "384"; "S. Aden, Orig. Type". There is a major piece of the left hind wing broken off and the anal angle of the right front wing is missing. A genitalic slide (no. FM Hel 1) has been prepared from the holotype.

## *Schinia approximata* Strecker

Strecker, 1898, p. 10.

This species was described on the basis of three specimens collected by Boll near Dallas, Texas. The three females labelled as "original types" match the original description well and are assumed to be authentic. Because of its superior condition the specimen numbered 76 is hereby selected as lectotype; it is labelled as follows: "76", "S. approximata, 374, Orig. Types". A genitalic slide (no. FM Hel 2) has been prepared from the lectotype.

## *Schinia ar* Strecker

Strecker, 1898, p. 10.

The single male in the Strecker Collection labelled as "original type" matches the original description well, and is evidently the one on which the name was based. The specimen is labelled as follows: "371"; "S. ar, 371, Orig. Type". A genitalic slide (no. FM Hel 3) has been prepared from the holotype which is in excellent condition.

## *Schinia dolosa* Strecker

Strecker, 1898, p. 9.

The original description was based on two specimens taken near San Antonio by Boll. The two males in the Strecker Collection labelled as "original types" are evidently authentic. I hereby select the slightly larger specimen as lectotype; it is labelled as follows: "tex"; "S. Dolosa, Orig. Type". A genitalic slide (no. FM Hel 3) has been prepared from the specimen.

## *Heliothis fastidiosa* Strecker

Strecker, 1876, p. 121.

The original description of *fastidiosa* was based upon two specimens collected by Boll in Texas. The two males in the Strecker Collection match the original description well and undoubtedly represent the specimens on which it was based. I hereby select the smaller specimen bearing the individual "31" label as lectotype. The specimen is labelled as follows: "31"; "S. Fastidiosa, 31, Orig. Types". A genitalic slide (no. FM Hel 5) has been prepared from the lectotype.

## *Heliothis gloriosa* Strecker

Strecker, 1877, p. 132.

A single specimen in the Strecker Collection is labelled as "original type" and this is evidently the one on which the original description was based. The specimen, a female, is in excellent condition except for lacking a portion of the right antenna. It expands 1 7/16" and is labelled as follows: "18"; "S. gloriosa Orig. Type". A genitalic slide (no. FM Hel 6) has been prepared from the holotype.

## *Schinia hanga* Strecker

Strecker, 1898, p. 9.

The species was described on the basis of one specimen collected by Boll at Dallas, Texas. The male in the Strecker Collection labelled as "original type" is

evidently this specimen. It expands 1⅛″ and is labelled as follows: "70"; "393"; "S. Hanga, Orig. Type". A genitalic slide (no. FM Hel 7) has been prepared from the holotype, which is in excellent condition.

## *Heliothis imperspicua* Strecker

Strecker, 1876, p. 122.

The original description of *imperspicua* was based upon a single specimen, bearing the number 53, which was collected in Texas by Boll. There are two specimens in the Strecker Collection each labelled as "original type" but these are evidently both spurious. One specimen is labelled as having been collected in Colorado; the other is without a locality label and bears the number "49". Neither specimen differs from the rather generalized original description in any striking detail. The true type of *imperspicua* must be presumed lost.

## *Heliothis inclara* Strecker

Strecker, 1876, p. 122.

The original description was evidently based upon a single specimen collected by Boll in Texas, which was numbered 46. There are now two specimens in the Strecker Collection labelled as "original types". One of these bears the number 78 and is considerably smaller than the specimen cited in the original description. The other specimen is without collection number but corresponds well with the original description and may be the true type.

## *Schinia labe* Strecker

Strecker, 1898, p. 10.

The original description of *labe* was based upon two specimens collected at Dallas, Texas by Boll. The two specimens in the Strecker Collection labelled as "original types" are apparently these. I hereby select the smallest of the two, which bears a separate "372" label, as lectotype. The lectotype is a male expanding slightly less than ¾″ and is labelled as follows: "372"; "S. Labe, 372, Orig. Types". A genitalic slide (FM Hel 10) has been prepared from the specimen.

## *Heliothis lanul* Strecker

Strecker, 1877, p. 132.

There is a single male in the Strecker Collection labelled as "original type" and this is evidently the specimen on which the original description was based. There is no locality data indicated in the original description nor on the specimen. The holotype is labeled as follows: "85"; "S. Lanul, 85., Orig. Type". A genitalic slide (no. FM Hel 11) has been prepared from the type.

## *Schinia lora* Strecker

Strecker, 1898, p. 10.

The original description of *lora* was based on three specimens, two from Boll collected near Dallas, Texas, and one from Heiligbrodt at Bastrop, Texas. Only two specimens in the Strecker Collection are labelled as "original types" and these are apparently authentic. There is another, unlabelled specimen in the collection which may represent the third specimen of the type series. Of the two specimens labelled as "original types" I hereby select the specimen with the separate "73" label as lectotype. The lectotype is a male in generally good condition which bears the following labels "73"; "373"; "S. Lora, 373, Orig. Types". A genitalic slide (no. FM Hel 12) has been prepared from the lectotype.

## *Schinia neglecta* Strecker

Strecker, 1898, p. 10.

The single specimen labelled as "original type" in the Strecker Collection matches the original description well and is evidently the one on which the name *neglecta* was based. According to the original description the holotype was collected at Loveland, Colorado. The specimen is a female, expands 1″, and bears the following labels: "Col."; "377"; "S. Neglecta 377., Orig. Type". A genitalic slide (no. FM Hel 14) has been prepared from the holotype.

## *Heliothis nubila* Strecker

Strecker, 1876, p. 122.

Strecker's original description of *nubila* was evidently based on a single specimen taken in Texas by Boll (number 48). There are two specimens in the Strecker Collection labelled as "original types". Neither of these matches the original description very well, there being no red shading on the underside of the wings, and both are numbered "72" rather than "48". I consider these specimens to be spurious; the three types must be presumed lost.

## *Schinia obscurata* Strecker

Strecker, 1898, p. 10.

The single specimen labelled as original type of *obscurata* in the Strecker Collection is obviously the one on which the original description was based. The holotype is in good condition except for having a notch in the left forewing. The female specimen is labelled as follows: "St. Vincent, Pa."; "378"; "S. Obscurata, 378, Orig. Type". A genitalic slide (no. FM Hel 15) has been prepared from the specimen.

## *Schinia pyraloides* Strecker

Strecker, 1898, p. 9.

The four specimens on which the original description of *pyraloides* was based are in the Strecker Collection and labelled as "original types". The type series was taken at Glenwood Springs, Colorado by Bruce. I hereby select the male specimen with the individual "Col". label as lectotype. The specimen is in generally good condition except for lacking most of the left antenna and having a slit in the right hind wing. The lectotype is labelled as follows: "Col."; "S. Pyraloides, Orig. Type, Colorado". A genitalic slide (no. FM Hel 16) has been prepared from the specimen.

## *Heliothis regia* Strecker

Strecker, 1876, p. 121.

So far as can be determined from the original description, the name *regia* was based upon a single specimen. There are, however, six specimens in the Strecker Collection labelled as "type". According to the original description the holotype was taken in Texas by Boll but none of the six nominal "types" bears a locality label. I have compared each of the specimens with the original description and one female matches it very well, and I construe this to be the true type. It is labelled as follows: "S. Regia, Type". A genitalic slide (no. FM Hel 17) has been prepared from the holotype.

## *Heliothis rubiginosa* Strecker

Strecker, 1876, p. 122.

Strecker's description of *rubiginosa* was evidently based upon a single specimen taken in Texas by Boll; there are now six specimens, each labelled as "Type" in the

Strecker Collection. None of these, however, bear the "50" label mentioned in the original description. One of them, a male, matches the original description well and may represent the true type but the evidence is insufficient to make a definitive judgement.

## *Heliothis siren* Strecker

Strecker, 1876, p. 122.

Strecker's original description of *siren* was evidently based on a single specimen collected by Boll in Texas. There are now two specimens in the Strecker Collection labelled as "original type" but neither of these bears the "45" label mentioned in the original description. One of the two is without number label and the other bears an "80" label. The unnumbered specimen matches the original description well and may represent the true type but there is no way of establishing this with certainty.

## *Heliothis spectanda* Strecker

Strecker, 1876, p. 122.

The original description of *spectanda* was based upon a single specimen taken in Texas by Boll. When the Strecker Collection was examined, no specimen labelled as type of *spectanda* was found. There was, however, a specimen in the series of *Heliothis virescens* bearing the number "52" which was cited in the original description as belonging to the type. The specimen matches the original description very well and I construe it to be the holotype. A genitalic slide (no. FM Hel 20) has been prepared from the specimen which is a female.

## *Heliothis sulmala* Strecker

Strecker, 1878, p. 1862.

The original description of *sulmala* was based upon a single male taken at Pagosa Springs (Colorado). Strecker evidently mislaid the specimen because it was found in 1939 in a drawer of miscellaneous moths; it lacks Strecker's characteristic type label. The specimen matches the original description very well, however, and I construe it to be the holotype. The specimen is labelled as follows: "*Heliothis Sulmala* Streck., Pagosa Springs Col., (Orig. Type), McCauley, Found (1939) in a drawer with misc. moths." A genitalic slide (no. FM Hel 21) has been prepared from the holotype.

## *Schinia tanena* Strecker

Strecker, 1898, p. 10.

Strecker described *tanena* on the basis of a single specimen taken at Bastrop, Texas by Heiligbrodt. There is a single male in the Strecker Collection labelled as "type" and there is no reason to doubt its authenticity. The specimen is labelled as follows: "tex"; "380"; "S Tanena, 380, Orig. Type". A genitalic slide (no. FM Hel 22) has been prepared from the holotype.

## *Schinia ultima* Strecker

Strecker, 1876, p. 122.

The original description of *ultima* was evidently based upon a single specimen taken in Texas by Boll. There are two specimens labelled as "original type" in the Strecker Collection, but both specimens bear the number "71" rather than the "49" indicated in the original description and both specimens differ from the original description in several details. I do not consider either specimen to represent the holotype, and the latter must be presumed lost.

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Letter to the editor:

## A Comment on Monarchs and a "Tragedy of the Commons" in Science

When the paper by Urquhart & Urquhart appeared in this journal (1976, Vol. 30: 153–158), I sat down and wrote a letter criticizing the editorial policy of allowing an observation to be published without providing sufficient information to allow verification by other biologists working with Lepidoptera.

While I shared the fear that publication of the exact locale of the Mexican roost would possibly endanger it, I felt that the authors should have at the very least volunteered to disclose the site to responsible qualified scientists researching monarch biology.

Subsequent events have made me regret not sending in my original comment. Incredibly, a scientist of international reputation, Lincoln Brower, was denied the locality information by Professor Urquhart. I do not consider such secrecy to be in the spirit of modern science, nor necessary in this particular instance.

Anyone familiar with Brower's body of work on the monarch would not question his scientific stature. Anyone who has seen his environmental film on the Connecticut River System cannot doubt his sensitivity to ecological problems.

We all respect the effort that Professor Urquhart has put into studying monarch migration. That does not, however, give him territorial rights over monarch roosting areas or free him from the scientific responsibility of allowing other scientists to verify his results.

Much of the controversy and ill will which apparently has followed L. Brower's independent visit to the Mexican monarch roosting area might have been avoided had the study of the monarch proceeded as unselfish science rather than a race for glory in glossy magazines.

In the future I would hope that this journal will insist that authors be willing to disclose their study sites to responsible colleagues.

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