



The Taxonomic Report

OF THE INTERNATIONAL LEPIDOPTERA SURVEY



AN EXAMINATION OF SOUTHEASTERN U.S. *SATYRIUM* (LYCAENIDAE: THECLINAE).

PART TWO:

THE IDENTIFICATION AND DELIMITATION OF NOMINATE *SATYRIUM LIPAROPS* AND THE DESCRIPTION OF A NEW SUBSPECIES FROM WEST CENTRAL PENINSULAR FLORIDA.

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ABSTRACT. The name *Satyrium liparops liparops* has traditionally been applied to all *liparops* populations from eastern Georgia southward. This tradition is shown to be in error. The type locality of nominate *liparops* is restricted by original description to Screven County, Georgia. A neotype is designated from Screven County and deposited in the MOTH collection Goose Creek, South Carolina. The range of nominate *liparops* is projected to be from coastal South Carolina across the far southern United States (including the Florida panhandle) and into Texas. The population in west central peninsular Florida is described as new subspecies *Satyrium liparops floridensis* type locality Withlacoochee State Forest, Citrus County, Florida. The *floridensis* holotype is deposited in the MOTH collection Goose Creek, South Carolina. Specimens from Alachua County, Florida, to southeast Georgia are intermediate to these two subspecies. *Satyrium liparops floridensis* always has medium to large yellowish burnt-orange patches on the forewings in both sexes. The forewing patch on *liparops liparops* is red-orange and varies from fairly large to none, with most specimens having no patch. Both southern subspecies have long tails. The ventral ground color in *S. l. floridensis* is deep chocolate brown in both sexes. In *S. l. liparops* the ventral ground color is medium to dark brown in males and somewhat lighter in females. This coloration is as it occurs in fresh specimens.

Additional key words: *Satyrium liparops aliparops*, *Satyrium liparops strigosum*, step cline.

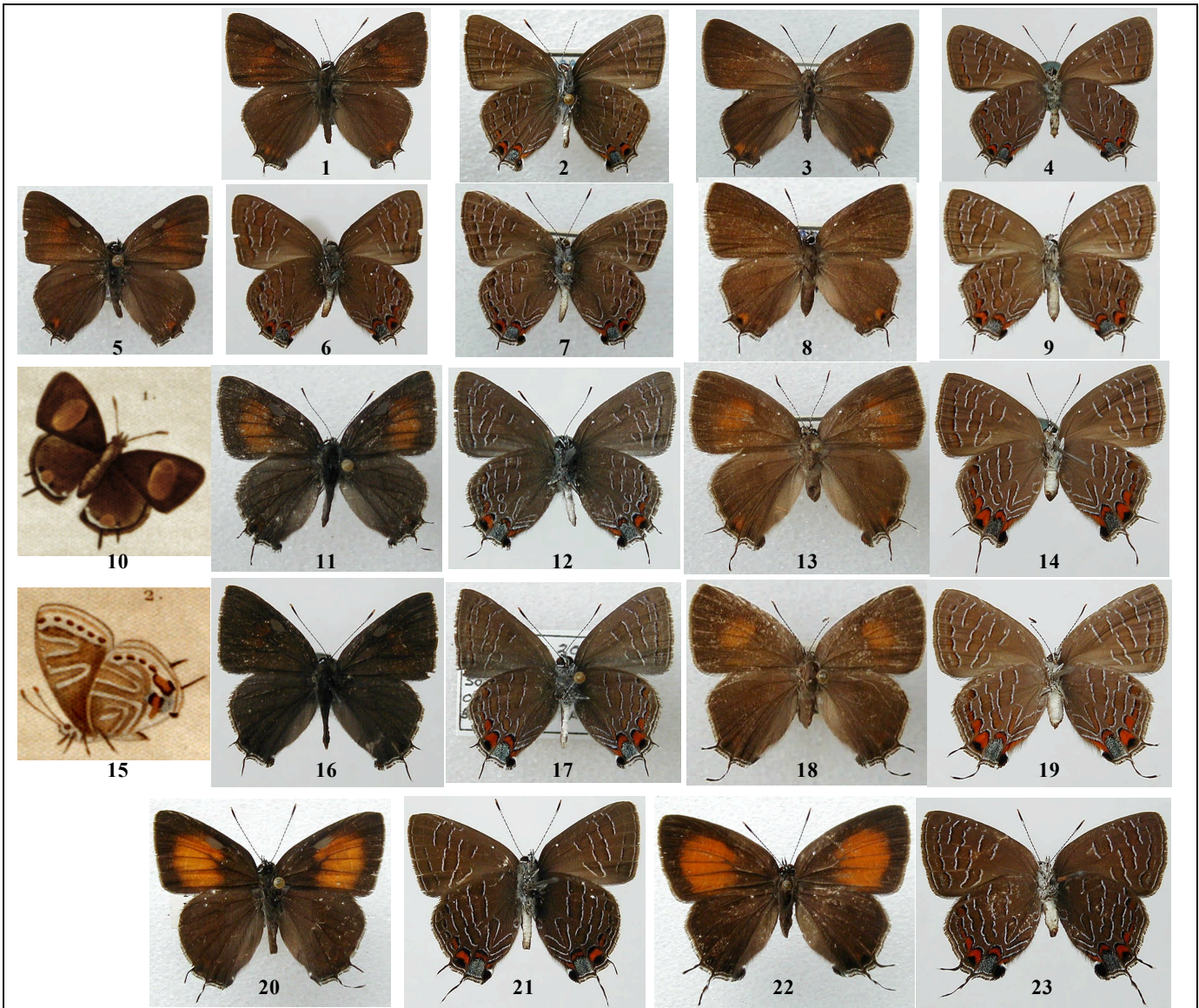
IDENTIFYING NOMINATE *SATYRIUM LIPAROPS*

The name *Thecla liparops* was introduced into the scientific literature by Le Conte in 1833. This name was based on a painting by John Abbot (Figs. 10/15) which in turn was based on that population of this taxon that is resident to the region of upper Screven County, Georgia. Abbot's paintings are exquisite and life like. Unfortunately, the figures in the original description are not Abbot's originals but poor copies. In the publication process of that time copyists were employed who were obviously greatly inferior in their artistic ability to that of John Abbot. These copies are almost cartoon like and while usually recognizable, are inaccurate representations of the taxon being presented. But even the finest paintings and photographs of butterflies relay nothing to us of the natural degree of variation that occurs in a given wild population.

Scientific names are not really names. They are technical labels which are affixed to organisms to distinguish and organize them according to their present relationships with near relatives as attained by their past evolutionary path. Each unique identifying label (name) is affixed to a specific population and can not

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be moved by subsequent workers to apply to another population of a different evolutionary station – be it another species or subspecies. The linguistic identity of an organism is understood by these Latinized scientific labels. The biological identity of these same organisms is understood by the designation of a type specimen. In the case of Le Conte's *liparops* there is no type. It is the custom of some to consider an original illustration (painting) as the type. (This is a scientific absurdity in my view. The fact that this has been allowed by the ICZN (International Code of Zoological Nomenclature) is one of the primary factors that has made it difficult for today's taxonomists to deal with sibling and cryptic species.)



Figures 1-23. *Satyrium liparops* subspecies. **Figs. 1-4.** *aliparops*. **Figs. 5-9.** *strigosum*. **Figs. 11-14, 16-19.** *liparops*. **Figs. 20-23.** *floridensis*. **Figs. 10/5.** Copies of Abbot paintings from Le Conte's original 1833 description. **Figs. 1-2.** D/V ♂ *aliparops*: Colorado, Jefferson Co., Chimney Gulch, 4 July 1981 (leg. M. Fisher). **Figs. 3-4.** D/V ♀ *aliparops*: Colorado, Douglas Co., Baldwin Gulch, 12 July 1975 (leg. M. Fisher). **Figs. 5-6.** D/V ♂ *strigosum*: Massachusetts, Sherborn, 2 July 1973 (leg. Willis). **Fig. 7.** V ♂ *strigosum*: Michigan, Cass Co., Wakelee, 1 July 1973 (leg. unknown). **Figs. 8-9.** D/V ♀ *strigosum*: Massachusetts, Sherborn, 5 July 1973 (leg. Willis). **Figs. 11-12.** D/V NEOTYPE ♂ *S. l. liparops*: Georgia, Screven Co., Millhaven Plantation nr. Brier Ck., 9 June 1994 (leg. Gatrell). **Figs. 13-14.** D/V ♀ *liparops*: Florida, Liberty Co., nr. Torreya St. Pk., 10 May 1975 (leg. Gatrell). **Figs. 16-17.** D/V ♂ *liparops*: South Carolina, Orangeburg Co., nr. Bull Swamp, 24 May 2001 (leg. Gatrell). **Figs. 18-19.** D/V ♀ *liparops*: South Carolina, Charleston Co., Hwy 17 at Boone Hall Plantation, 19 May 1974 (leg. Gatrell). **Figs. 20-21.** D/V HOLOTYPE ♂ *S. l. floridensis*: Data on text page 7. **Figs. 22-23.** D/V Allotype ♀ *S. l. floridensis*: Data on text page 7. (All photos by Joe Mueller. Specimens X 1.25. D=dorsal, V=ventral.)

In examining the taxon *Satyrium liparops liparops* (Leconte, 1833) we must first determine which geographic population (and thus what evolutionary entity) this label was affixed to. Then we must examine a large enough sample of specimens from that region to understand what the normal morphological parameters are within which this biological entity is defined. The only person to undertake this was the late Harry Clench in 1972. Clench's paper is foundational to this current study. I shall only give some summary and highlights of it here and urge the reader to consult the entire paper.

In his 1972 paper titled: *The Boundary Between Satyrium liparops and its Subspecies strigosum* (*Lepidoptera: Lycaenidae*), Clench gives a thorough account of how this species was originally described. He explains why Boisduval did not want his name associated with this new species and how it became attributed to Le Conte alone. Clench establishes that the type locality should be Screven County, Georgia where Abbot lived and collected his *liparops* specimens. Clench stated the following on page 12.

The type locality of *liparops* is given in the original description simply as "Georgie." Klots (1951) designated Screven Co., Georgia, without explanation, but presumably because Abbot lived there. There is interesting confirmation of this, however, in the common name that Abbot gave to *liparops* (see above [Abbot called *liparops* the Ogeechee Brown hair streak butterfly]). Ogeechee is the name of the river that forms the southwestern boundary of Screven County; it is also the name of a small creek that courses through the middle of the county; and finally, it is the name of a small town, also in the county. We many never know which of the three Abbot had in mind, but he undoubtedly found his *liparops* somewhere in Screven County.

I will add that Abbot's residence was near Brier Creek (which is actually a small river) just to the north of the town of Sylvania. Ogeechee Creek flows just to the west of Sylvania. It is my opinion that it is this local Ogeechee near his home that Abbot was referring to. The significance here is that this places the type locality not only in Screven County but in its northern half. The southern two thirds of Screven County lies in the lower coastal plain and is dominated by coastal maritime forest and swamps. The northern/northwestern area of the county is in the upper coastal plain (Harris, 1972) and is dominated by the Sandhills Region which is largely xeric in nature. I agree with Klots and Clench that Abbot's *liparops* was found in and reared from a population near his home in upper Screven County, Georgia.

Clench discussed the absence of a type specimen and would have designated a neotype but did not because he felt none of the specimens he had found were geographically close enough to where Abbot first found *liparops* to be a proper biological representative of this taxon. The closest geographic specimen he had found in 1972 was from 10 miles north of Savannah, Georgia, in Chatham County. This was about 35 miles from Screven County (and 50 from the type locality as delimited by this paper). This was very perceptive on the part of Clench as he stated the following on page 3.

The nature of this change [in phenotype] is such that 35 miles is by no means close enough for the [Chatham Co.] specimen to be reliably representative.

This sentence clearly relays Clench's technical view that a neotype must not come from the coast of eastern Georgia and that it must come from far enough inland to be a true representative of the original Screven County population. It goes without saying that it would be totally improper, in Clench's learned opinion, to designate a neotype from southern Georgia or farther to the south in Florida. If Clench would have thought that proper he would have done so as he had several specimens from those areas. His Chatham county specimen was also in "poor" condition and possessed a small to medium sized red spot on the dorsal forewing - a character which Clench considered transitional to subspecies *S. l. strigosum* (Harris, 1862). It is apparent to me that Clench suspected that the population which is true *liparops* in Screven County would turn out to not be a large patched population. He was correct - it is not.

I have collected one specimen of *liparops* in Screven County. The specimen (Figs. 11-12) is a male and was collected 9 June 1994 along the west side of Brier Creek on Millhaven Plantation in the northern portion of the county. I am aware of no other specimen from Screven County. I here designate this unique specimen as neotype of *Thecla liparops* Le Conte, 1833. This is both necessary and appropriate to provide

a biological entity and biogeographical population on which the name *liparops liparops* is based. I have placed a red label on this specimen that reads (all hand written): NEOTYPE, *Thecla liparops*, Le Conte 1833, designated by R. Gatrelle in TTR 3:3, June 2001. There is a white data label on the specimen with the hand written information of its origin as follows: 9 June 1994, Screven Co., GA, Millhaven Plantation nr. Brier Ck. A third small white label states: Ronald R. Gatrelle collector. This action further defines and restricts the type locality of *Satyrium liparops* to the northern third of Screven County.

In his paper, Clench focused solely on the size of the fulvous patch in defining subspecies *liparops* and *strigosum*. As we shall see this was an error. One of the more significant statements Clench made in his paper is his acknowledgement that other morphological features (which he totally omitted from his analysis) are less variable than the fulvous spot. He states on page 13.

For present purposes I have adopted the development of the fulvous forewing patch as the primary trait separating the two subspecies, but it should be borne in mind that other relevant characters also exist, and some, at least, do not vary in the same geographic pattern.

These unidentified characters are: tail length, ventral ground color, degree of contrast between the white in the stripes and the ground color, and the pattern and amount of red along the margin of the ventral hind wings. In distinguishing *liparops liparops* and *liparops strigosum* these characters are more consistently different between the two subspecies and thus more indicative of their evolutionary subspecific relationship. Had Clench fully incorporated these characters into his analysis he would not only have come away with a much different diagram of the ranges of *liparops* and *strigosum* but an entirely different definition of these taxa. He would have determined that the fulvous patch, while a very pretty and noticeable character, was nonetheless merely a variable character in both *liparops liparops* and *liparops strigosum* that occurred most often in the extreme southeastern part of the range of *liparops liparops*. In other words, the size and frequency of the red fulvous patch in *liparops* and *strigosum* is only a minor secondary character with the above mentioned set of characters being the primary differentiating subspecific elements.

The fulvous patch is present in all subspecies of *liparops*. It is smallest and least frequent (unusual or rare) in subspecies *S. l. strigosum* and *S. l. aliparops* (Michener and dos Passos, 1942). It is occasional to frequent in subspecies *liparops*. It is largest and most frequent (usual) in the Canadian subspecies *S. l. fletcheri* (Michener and dos Passos, 1942) and (always present) in the new subspecies described herein from west central Florida. In this new Floridian taxon this area is a yellowish burnt-orange while in all the other subspecies it is a red, or rust, orange (when present).

Clench gives a thorough and accurate historic biogeographical assessment of *liparops* in the Southeast and correctly determines that two subspecies are present and that they, as evidenced by a narrow step cline, are the product of two distinct subspecific evolutionary paths that have now come into hybrid contact. He and I are in agreement on this. We differ on two points. One I have already dealt with, which is that *Satyrium liparops liparops* is most properly defined by the set of characters mentioned above and not by its variable fulvous patch – which is, unfortunately, the only character he took into consideration. The other is that the discovery of a massive population further to the south in Florida adds a previously missing and significant piece to this species subspecific evolutionary puzzle that dramatically changes the area and context of his step cline.

In 1973, the year after Clench published this paper, Dr. Larry N. Brown (1976) discovered a population of *liparops* well to the south of the then known range of this taxon in Citrus County, Florida. This population is now known to be a large and robust one that also encompasses the Withlacoochee State Forest in Hernando County. Over the years various collectors have often found *liparops* in this region in large numbers. However, there has never been a taxonomic assessment of this population against nominate *liparops*. I have done this and determined that this population in west central Florida is quite distinct phenotypically and evolutionarily and warrants recognition as a subspecific entity.

In reference to Clench's paper, this population represents his hypothesized relict from the Florida refugium rather than those he understood as such in northeast Florida and southeast Georgia. This discovery of the true Wisconsin glacial relict in conjunction with a proper phenotypic definition of nominate *liparops* and a comparison of this relict's unique phenotype against true nominate *liparops* from Screven County, Georgia, necessitates that the step cline is actually further to the southeast of where Clench estimated it was. The tension zone area and population is in fact that which Clench called nominate *liparops*. This is not a radical position as Clench made it very clear in his paper that his findings were very subjective due to the limited number of specimens in his sample and resultant imprecise information he had to work with. The tenuous geographic placement of his step cline in his own mind is evidenced by the following from his page 16.

Satyrium liparops is altogether too rare to expect anything that approaches this ideal in the near future. Mr. Neel's samples, however, are remarkably large for such a scarce species, and they are well disposed. Accordingly I have attempted such a map, even though it has to be approximate rather than precise and definitive.

There is one other very important factor in all this that is not detectable through museum specimens or laboratory analysis. Collectors often pick over specimens they find in the field and only take those which possess some special feature that they are looking for. When these specimens are viewed as a museum series they thus give the wrong impression as to what the actual variation in size and appearance is of the wild population from which they were taken. When collectors "go after" southeastern *liparops* they are usually "looking" for those specimens with the showy orange patch on the forewings. They may either not curate or not even catch those specimens which lack this character.

I have not only viewed curated specimens of *liparops* from various areas of Florida (and collected it in the panhandle), I have spoken with those who have witnessed the natural variation of this entity in the field. Those who have collected the Citrus/Hernando region *liparops* have told me that all the specimens they have seen have the orange patch in both sexes and that it is usually very large. (This is several hundred total specimens witnessed over 20 years.) The field observations of Jeff Slotten are uniquely pertinent to our understanding of where the step cline zone between *liparops* and the new Floridian subspecies lies.

Slotten is a well known lepidopterist and long time resident of Gainesville, Alachua County, Florida. Alachua County lies in the middle of what Clench speculated would be the range of nominate *liparops* as he misunderstood it. Slotten has a great deal of field experience with *liparops* in Alachua, Citrus and Hernando counties. Jeff states that in the Citrus and Hernando County area he has only seen individuals with prominent orange patches on the dorsal forewings. However, in Alachua County he has seen many specimens with very restricted or no orange on the dorsal forewings. He has also told me that the Citrus- Hernando population has a brighter patch than those in his home county of Alachua. Thus, the blend zone between the west central Florida subspecies and true nominate *liparops* begins somewhere to the south of Gainesville, and in conjunction with Clench's analysis, continues to the northeast into southeast Georgia.

In light of what we now know of the range and variation of *liparops* in Florida, we see that what Clench defined was not the southern most evolutionary subspecific unit of *liparops* but the tension zone between true nominate *liparops* of the southern US mainland and the then unknown subspecies that inhabits west central peninsular Florida.

There are three primary evolutionary units within the species *liparops*. Two of these units have each evolved into two subspecies while the third has one. The new subspecies described herein from Florida comprises one unit and is evolved from the Florida refugium as hypothesized by Clench. *Liparops liparops* and *liparops strigosum* form another unit with *strigosum* having arisen from *liparops* with *liparops* being a very old taxon of the Sandhill refugium from Georgia to Mississippi. The third unit is comprised of *liparops aliparops* and *liparops fletcheri* (Michener and Dos Passos, 1942) with *fletcheri* having arisen out of *aliparops* with *aliparops* arising from a western or southwestern refugium. *Fletcheri* and *strigosum*, as residents of glaciated North America, are the most recently evolved taxa.

DIFFERENTIATING *LIPAROPS* AND *STRIGOSUM*

When producing his 1972 paper, no South Carolina or Mississippi specimens were known to Clench. While in press, he received a letter from myself and a drawing of a female *liparops* I had collected here in Charleston, South Carolina. He included a footnote on this at the bottom of his page 16. On his page 22 he also mentions that after the manuscript had been completed he received a series of nine *liparops* collected along the coast of Mississippi by Kergosien. My specimen had a medium sized fulvous patch; five of the nine Mississippi specimens had no patch. However, four of the Mississippi specimens did have small red patches. Most importantly however, Clench remarked that all specimens had long tails and more extensive orange lunules on the underside of their hindwings than northern populations. These are two of the main characters that differentiate southern *liparops* from northern *strigosum*.

Since the early seventies, I have collected and observed scores of nominate *liparops* in Charleston, Berkeley, Jasper, Aiken and Orangeburg counties South Carolina. All of these populations are nominate *liparops*. I have also personally collected nominate *liparops* in Liberty County, Florida (Figs. 13-14). Red patched individuals occur in all these populations with great regularity. This patch, when present, is usually small to medium sized but some individuals have large prominent red fulvous patches.

Nominate *liparops* ranges from the coast of South Carolina across the southern states and probably into eastern Texas. Specimens I have collected, or observed in other collections, from the mountains of western North Carolina and extreme northern Georgia are near subspecies *strigosum*. In these specimens the tails are markedly shorter and the red of the ventral hindwing margins reduced – however the white lines on the ventral are still fairly prominent and the ground color variable. It is my opinion that these populations are part of the blend zone between these two subspecies.

Strigosum was described from Massachusetts. This is fortunate as the populations of *strigosum* there are very distinct from southern *liparops*. The blend zone between *strigosum* and *liparops* is expected to be wide. It is inevitable that various workers will define the characters and region of integration between *liparops* and *strigosum* differently. Thus, it is pointless for me to do so here. I will simply say that my view is that this blend zone is likely wide and covers much of southern Virginia and northern North Carolina. Photos of *liparops* I have seen from southeastern North Carolina indicate that these may well be good *liparops liparops*.

True *strigosum* from the New England states is very different from *liparops* of the deep south. The tails on *liparops liparops* are doubled and quite long even on males (Figs. 11-14,16-19). In *strigosum* males have very small tails and often only one on each hindwing, and while females have two tails they are still very short compared to the two southern subspecies (Figs. 5-9). Table I gives the minimum and maximum measurements of tails on specimens I have seen from the region of their respective original descriptions. The *strigosum* measurements are from 10 specimens from Sherborn, Massachusetts; those for *liparops* are from a series of 65 specimens from Charleston, Aiken and Orangeburg counties South Carolina and the one male from Screven County, Georgia; those for *floridensis* are from the 28 specimens that compose the type series from Hernando County, Florida.

TABLE I. LENGTH OF TAILS IN MILLIMETERS (at veins CU 1 and CU 2)

SUBSPECIES	male minimum	male maximum	female minimum	female maximum
<i>floridensis</i>	CU1 – 2.50 CU2 – 4.75	CU1 – 3.50 CU2 – 5.75	CU1 – 3.00 CU2 – 5.50	CU1 – 3.75 CU2 – 6.75
<i>liparops</i>	CU1 – 1.50 CU2 – 3.50	CU1 – 2.50 CU2 – 5.20	CU1 – 2.50 CU2 – 4.50	CU1 – 3.25 CU2 – 5.75
<i>strigosum</i>	CU1 – 0.20 CU2 – 1.75	CU1 – 0.75 CU2 – 2.75	CU1 – 0.75 CU2 – 2.75	CU1 – 1.50 CU2 – 3.25

In addition to tail length, three ventral features differentiate subspecies *liparops* and *strigosum*. In *liparops* the white lines that highlight the bands are much bolder, the red spots along the outer margin of the ventral hindwings are consistently larger, and the ventral ground color in *liparops* is a dark purplish brown in fresh males and deep brown in females while in *strigosum* the ground is a lighter warmer brown.

Satyrium liparops floridensis

The relict subspecies of *liparops* in west central Florida is unique in the yellowish burnt-orange color of its dorsal fulvous patch. Specimens in the tension zone of the step cline to *liparops liparops* occasionally have this color, or very close to it, on their forewings also. However, in the tension zone many individuals are also found with little or no fulvous and others in which the fulvous is a dusky red-orange as in the more northern races (see Slotten's comments on page 5). This is the only subspecies of *liparops* that always has fulvous on the forewings. In Clench's 1972 paper the maximum size of the fulvous area in specimens he had before him was 6 X 7 millimeters. Several specimens in the type series have this patch up to 8 X 9 millimeters. These specimens are the same overall size as nominate *liparops* from Charleston, South Carolina. Likewise, as seen in Table I, the tails on this new subspecies are extremely long also even though the adult size is basically the same as in subspecies *liparops*.

In this new subspecies the red markings on the ventral hindwings are not greatly different from those of nominate *liparops* - being only somewhat more expansive. While I consider the amount of red on the ventral surface to be a subspecific character between *liparops* and *strigosum*, I considerer this feature of minimal import in assessing the two southern subspecies.

The major feature of the ventral surface is the dramatic contrast between the dark chocolate brown ground color and the vivid white striping of the banding in both sexes. In subspecies *aliparops*, *fletcheri* and *strigosum* this white banding is occasionally almost obsolete in many specimens, especially in *aliparops*. These differences are readily observed from the specimens figured on page two and further verbal description would add nothing more to them.

There can be no question about the subspecific distinctness of this Floridian segregate. Further, the location and population to which the name *liparops* is affixed, by the rules of science, renders that name totally unavailable for this unique and beautiful entity. It is my privilege to have been able to work out the taxonomy of this subspecies and give it a scientific identity (name). Many others have much more experience with this in the field than I, beginning with Dr. Larry N. Brown on 15 May 1973. I had thought about naming it after one of the fine field lepidopterists familiar with it. But that would be unfair to the ones not so acknowledged. I therefore simply affix an identity to it in reference to the state of Florida from which it arose evolutionally and to which it is presently confined.

Satyrium liparops floridensis Gatrell, new subspecies

Description. Male (Figs. 20-21). *Head, thorax, abdomen* and appendages as in nominate *liparops*. *Forewings*: dorsally, uniform dark brown ground with large median yellowish burnt-orange patch occupying over half the surface of the wing; an elongate stigma is situate along the coastal margin; ventrally, ground color deep chocolate brown (purplish in fresh specimens), white dash lines prominent and far apart with the areas between the lines the same color as ground or only slightly darker and otherwise unmarked. *Hindwings*: dorsally, ground same as on forewing and unmarked except rarely with a slight amount of red orange scaling along the outer margin in cell Cu1; tails black with white tips very long and double with one shorter at vein Cu1 and one longer at Cu2 with the longest usually over 5 millimeters long; along the entire outer margin is a series of red spots with those in cells Cu1 and Cu2 capping black and blue marginal spots respectively, there is also a thin white line all along the margin just inside the brown fringe; there is a large black dot at the anal angle capped with white and then red orange. **Female** (Figs. 22-23). In all aspects as in the male with the following exceptions. *Forewings*: dorsal, lacks stigma; the fulvous patch tends to be more reddish but is likewise large; ventral, often with a series of small diffuse red spots along the outer margin; ground color sometimes slightly lighter than in male. *Hindwings*: dorsally, the red orange scaling along the outer margin is more frequent and larger to actually form a spot; longest tail often 6 millimeters long; ventrally, the marginal red markings more pronounced than in male.

Types. ALL: FLORIDA. Holotype ♂ (Figs. 20-21): Citrus Co., Withlacoochee St. Forest, Rd. 11, 2 May 1985 (leg. Baggett). **Allotype** ♀ (Figs. 22-23): Hernando Co., Withlacoochee St. Forest, 29 April 1979 (leg. Slotten). **Paratypes**: 8 ♂♂, 18 ♀♀: Hernando Co., Withlacoochee St. Forest: 1 ♂, 6 ♀♀, 29 April 1979 (leg. Slotten); 5 ♂♂, 3 ♀♀, 20 April 1980 (leg. Baggett); 2 ♀♀, 25 April 1981 (leg. Baggett); 1 ♂, 2 ♀♀, 1 May 1983 (leg. Godefroi); 1 ♀, 28 March, 1 ♀, 29 March, 1 ♀, 22 April 2000 (leg. Slotten). Citrus Co., Withlacoochee St. Forest: 2 ♀♀, 2 May, 1 ♂, 27 April 1985 (leg. Baggett). The Holotype

and allotype are currently deposited in the Museum of the Hemispheres (MOTH), Goose Creek, South Carolina. The 26 paratypes are deposited as follows: MOTH, Goose Creek, SC. (5), FSCA, Gainesville, Florida (16), personal collection of Jeff Slotten (5).

Type locality. Withlacoochee State Forest, Citrus County, Florida.

Etymology. Named after the state of Florida. I recommend Sparkleberry Hairstreak as its common name as this shrub is both a primary larval host and usual adult nectar source at the type locality.

Remarks. It would not be unexpected to eventually find that *floridensis* ranges across mid Florida to the Atlantic coast. The historic record from Flagler County, Florida, while farther to the north and on the east coast may be of this subspecies. I say this as it is very typical for taxa to range farther north on the east coast of Florida than on its west coast. However, the geologic history of Florida is such that at one time the west coast area extended vastly to the west into what is now the Gulf of Mexico. There is indication that some taxa on the east and west coasts of Florida evolved from different routes. Sparkleberry (*Vaccinium arboreum* Marshall) is the primary host of *S. liparops floridensis* in the Withlacoochee State Forest area. This butterfly is local but may be fairly common where found.

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