

THE BUTTERFLY DRAWINGS BY JOHN ABBOT IN THE HARGRETT RARE BOOK AND  
MANUSCRIPT LIBRARY, UNIVERSITY OF GEORGIA.JOHN V. CALHOUN<sup>1</sup>  
977 Wicks Dr., Palm Harbor, FL 34684

**ABSTRACT.** Artist-naturalist John Abbot completed 105 drawings of insects that are now deposited in the Hargrett Rare Book and Manuscript Library, University of Georgia. The provenance of these drawings is unknown, but available evidence dates them to ca. 1820–1825. The adults in the 32 butterfly drawings are identified and the figures of larvae and pupae are assessed for accuracy. The illustrated plants are also identified and their status as valid hosts is examined. Abbot's accompanying notes are transcribed and analyzed. Erroneous figures of larvae, pupae, and hostplants are discussed using examples from the Hargrett Library. At least four of the butterfly species portrayed in the drawings were probably more widespread in eastern Georgia during Abbot's lifetime.

**Additional key words:** Larva, Lepidoptera, pupa, watercolors

In 1776, the English artist-naturalist John Abbot (1751–ca.1840) arrived in Georgia, where he documented species of animals and plants for the next six decades. Living in Burke, Bullock, Chatham, and Screven Counties of eastern Georgia, he explored a region roughly bound by the cities of Augusta and Savannah, between the Oconee, Altamaha, and Savannah Rivers. Abbot longed to expand his travels, writing in 1819, "I had thoughts of taking a Trip to the back State of Tennessee to collect insects and Birds, but I think when Florida is taken possession of and settled by the United States, it will afford an ample field for collecting if Life and health permits" (William Swainson correspondence, Linnean Society of London). Abbot never fulfilled his desire to explore Tennessee and Florida, yet he worked tirelessly in Georgia for the remainder of his life.

Abbot was the first to record thousands of New World species. His drawings and specimens formed the basis of numerous new taxa that were described by prominent American and European naturalists. His drawings continue to serve as an important source of information about the flora and fauna of southeastern North America. However, Abbot's illustrations and written observations often contradict our current understanding of many species (Calhoun 2007). It is helpful to examine his artwork more closely and over the course of his long career in America. I have previously analyzed Abbot's entomological contributions in Calhoun (2003, 2004, 2005, 2006a, 2006b, 2007). As another installment in this study, I present a review of Abbot's butterfly drawings that are preserved in the Hargrett Rare Books and Manuscript Library, University of Georgia.

## METHODS

I visited the Hargrett Rare Book and Manuscript Library (University of Georgia) in April, 2005. Digital photographs were taken of John Abbot's butterfly drawings and their accompanying notes. The adult butterflies were identified and the figures compared with those in other sets of Abbot's drawings that are deposited elsewhere (e.g. the Houghton Library, Harvard University, and the Alexander Turnbull Library, Wellington, New Zealand). Figures of butterfly larvae and pupae were analyzed for accuracy using written descriptions, line drawings, and photographs of living specimens. Botanist Mark A. Garland provided identifications of the depicted plants, which were then evaluated as hosts.

## RESULTS

**Analysis.** The insect drawings by John Abbot in the Hargrett Library are contained in two volumes, each bound in full contemporary brown leather. The gilt spine titles read "MOTHS OF GEORGIA" with an indication of volume number. The board covers are adorned with elaborate gilt borders and blind tooling. Both volumes include yellow marbled endpapers. The volumes are enclosed in a modern rigid black case with a gilt spine title that reads "MOTHS OF GEORGIA/JOHN ABBOT/WATER-COLOUR MANUSCRIPT."

This set of 105 insect drawings includes Coleoptera (3), Hemiptera (1), Hymenoptera (1), Lepidoptera (99), and Orthoptera (1). The drawings are rendered on cream-colored wove paper, measuring 25.1 × 34.3 cm (9.5 × 13.5 in). Some sheets of paper possess undated watermarks of "T G & C" (T G & Co). This paper was manufactured by Thomas and Joshua Gilpin, whose mill was located north of Wilmington, Delaware from 1787 until 1837 (Gravell & Miller 1979). Other sheets with the watermark of "W B" came from the mills of William

<sup>1</sup>Research Associate, Florida State Collection of Arthropods, DPI, FDACS, Gainesville, Florida 32614, USA

Barber (Barbour), who produced paper in Berks County, Pennsylvania as early as 1808 (Gravell & Miller 1979). Although Abbot employed English papers earlier in his career, he was now primarily using American papers. The Lepidoptera drawings are intended to portray the life history of each species and include figures of the larva, pupa, and a supposed hostplant (Figs. 1–4). Thirty-two of these drawings portray butterflies (Table 1). Drawing no. 9 was figured by Sotheby's (1985a).

The accompanying eleven pages of manuscript notes are included separately and written in Abbot's hand on wove paper measuring 20.7 × 31.8 cm (8.13 × 12.5 in). They are entitled "Notes to the Drawings of Insects" and include numbered entries that correspond to the drawings. Abbot identified the insects and plants in his drawings using either English or Latin names. When he completed these illustrations he was using Latin names more regularly, even though their spelling and application were inexact (Calhoun 2007). The insect and plant names that Abbot used in his notes are inscribed in pencil on many of the drawings in an unknown hand. Based on the calligraphic style, these inscriptions were probably added by an early owner and likely date to the early or mid-nineteenth century. For most butterflies, Abbot recorded the dates that each species "tyed up" (larva suspended prior to pupation), "changed" (pupated), and "bred" (eclosed as an adult). For skipper butterflies of the family Hesperidae, he recorded when the larva "spun up" or "spun up in the leaves" (pupated).

Virtually nothing is known about the provenance of these drawings. In 1985, they were purchased at a Sotheby's auction in London for £11,000 by the London bookseller Maggs Brothers (Sotheby's 1985a, Sotheby's 1985b, Leab & Leab 1986). Sotheby's (1985a) mistakenly believed that they were not the work of Abbot, but instead were "undoubtedly executed by a pupil or imitator." This opinion was based on the higher quality of Abbot's earlier drawings that are preserved in The Natural History Museum, London. Sotheby's (1985a) hesitantly dated the drawings to ca. 1820. Not long after this auction, the volumes were purchased by the New York City bookseller Donald A. Heald, who sold them in 1998 to the University of Georgia (M. E. Brooks pers comm.). Also included in this sale were a set of Abbot's spider drawings and a unique copy of Smith & Abbot (1797) that contains plates printed on vellum (Calhoun 2006a). Owing to the British spelling of "Water-Colour" on the spine, the black case was added by either Sotheby's or Maggs Brothers. The name "J. McDougal" is inscribed in modern blue ink on a flyleaf of each volume. This is possibly the signature

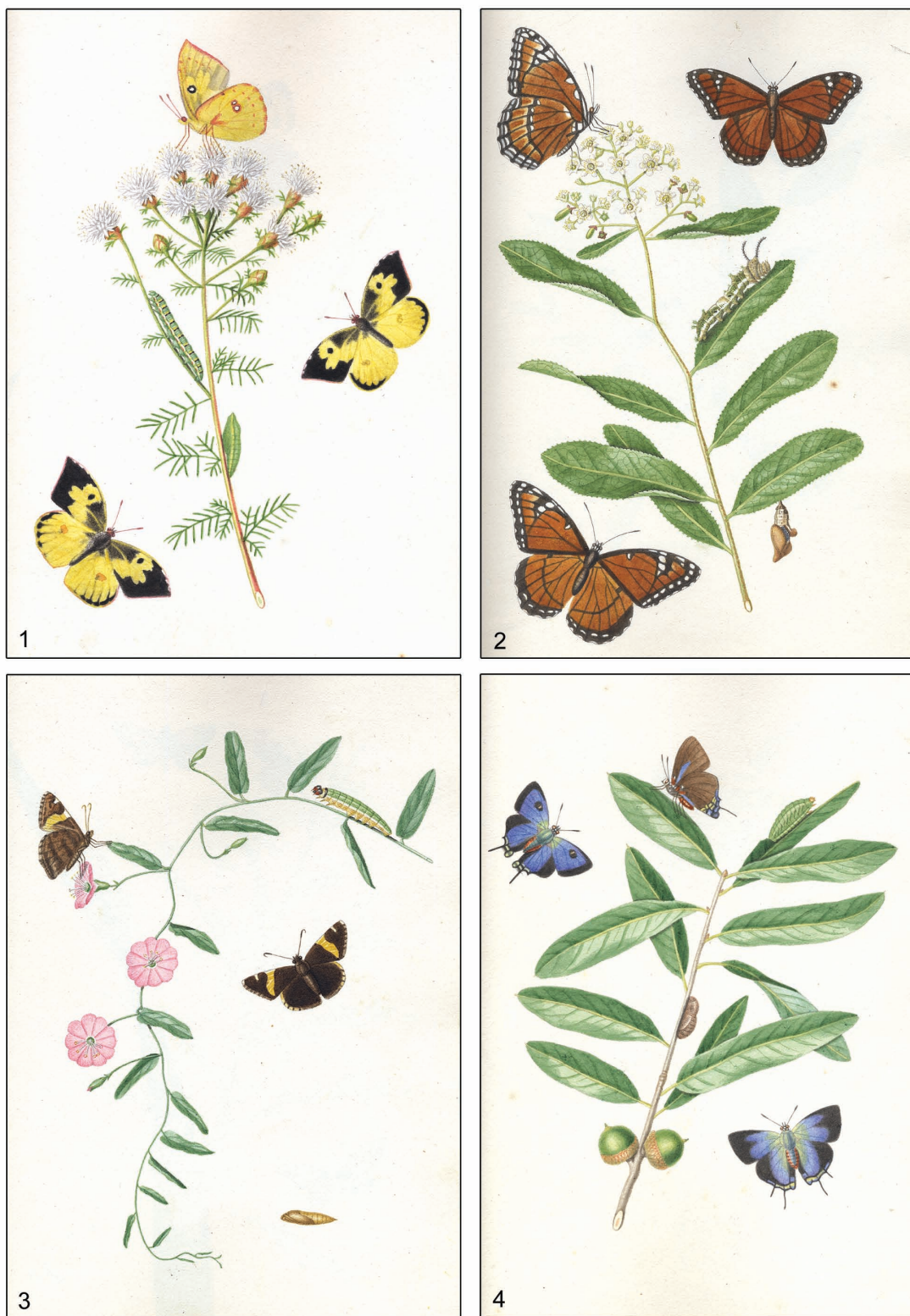
of the consignee for the Sotheby's auction. Sotheby's (1985a) did not identify the prior owner.

**Completion.** Because nothing is known about the early history of these drawings, existing evidence was used to determine their age. Aspects of Abbot's artistic methods and written observations were discussed in Calhoun (2006a, 2007). The Hargrett Library drawings are arranged in simple numerical order and are not haphazardly numbered like drawings that Abbot had completed ca. 1800–1810. Many of the butterfly compositions are duplicates of Abbot's life history drawings, ca. 1810–1815, that were copied for color plates in Boisduval & Le Conte (1829–[1837]) (Calhoun 2004). Entries in the accompanying notes for those drawings are also similar to the Hargrett Library notes. A large number of the Hargrett Library drawings are duplicated within a set of 103 watercolors that Abbot completed between 1816 and 1818 for the English naturalist William Swainson (Calhoun 2007). The associated notes and watermarks of these drawings are likewise very similar. Although Abbot duplicated compositions for many years, the diminished quality of the Hargrett Library drawings is reminiscent of his later work. It seems that Abbot abandoned life history drawings during the late 1820s in favor of less complex geometric patterns of adult insects.

Abbot employed a greater number of Latin names for the Hargrett Library drawings than those for William Swainson. Over the years, Abbot less often recorded when butterfly larvae "tyed up." The notes for the Swainson drawings include 17 such references, while those at the Hargrett Library include only three. Some of the Hargrett Library notes incorporate additional comments that are not found in the Swainson set. The binding of the Hargrett Library volumes is very similar to copies of Smith & Abbot (1797) that were bound in Britain around 1825 (Calhoun 2006a). Based on this evidence, the Hargrett Library drawings were probably completed ca. 1820–1825. They may represent some of Abbot's last drawings of this type. After residing in London for over 160 years, the drawings were returned to within 270 km (168 mi) of their origin in Bullock Co., Georgia, where Abbot lived from 1818 until his death.

#### DISCUSSION

**Erroneous associations.** Abbot's life history drawings frequently deviate from reality and those in the Hargrett Library are no exception. His figures of larvae and pupae are sometimes inconsistent with the associated adults. Others are too imprecise to identify, clearly fabricated, or "borrowed" from his illustrations of other species. The depicted hostplants are often untenable or require confirmation (Calhoun 2006a,



FIGS. 1-4. John Abbot butterfly drawings in the Hargrett Library. **1**, *Zerene cesonia* (no. 17). **2**, *Limenitis archippus* (no. 10). **3**, *Autochton cellus* (no. 21). **4**, *Atlides halesus* (no. 31) (erroneous larva and hostplant).

TABLE 1. Adult butterflies, early stages, and plants depicted in John Abbot drawings in the Hargrett Rare Book and Manuscript Library. Abbot's original manuscript entries are included for each (Abbot's grammar and spelling are preserved). Insect nomenclature follows Opler & Warren (2003). Adult insect figures: D=dorsal, V=ventral, m=male, f=female. Early stages: L=larva, P=pupa, a=acceptable, u=unacceptable. Status of figured hostplants (in brackets): C=confirmed, NC=needs confirmation, E=erroneous.

Drawing No.	Figured adults and early stages	Plant species and host status	Manuscript entry by J. Abbot
6	<i>Papilio glaucus</i> Linnaeus Df, Vf, La, Pa	<i>Styrax americanus</i> Lam. (Styracaceae) [C] “ <i>Styrax laevigata</i> ” is a synonym of <i>S. americanus</i> . “Swamp Ash” (probably <i>Fraxinus pennsylvanica</i> Marsh.) (Oleaceae) and “Hiccory” [hickory] ( <i>Carya</i> sp.) (Juglandaceae) are also confirmed hostplants.	6. <i>Papilio Glaucus</i> . The Caterpillar feeds on the plant figured, <i>Styrax laevigata</i> , Swamp Ash and Hiccory. Tied itself up by the tail 11 <sup>th</sup> Oct <sup>r</sup> Changed the 13 <sup>th</sup> into Chrysalis. The Butterfly was bred 2 <sup>d</sup> April. It also breeds again in the Summer. The Caterpillar is very rare, and the Butterfly not common.
7	<i>Papilio cresphontes</i> Cramer Dm, Vm, La, Pa	<i>Zanthoxylum clava-herculis</i> L. (Rutaceae) [C] “ <i>Xanthoxylum Clava sterenlus</i> ” is a misspelled reference to <i>Z. clava-herculis</i> (Rutaceae). “Orange tree” ( <i>Citrus</i> sp.) (Rutaceae) is also a confirmed hostplant.	7. <i>Papilio Thoas</i> . Feeds on the <i>Xanthoxylum Clava sterenlus</i> , and the orange tree. Tied up the 6 <sup>th</sup> May, changed the 7 <sup>th</sup> bred 27 <sup>th</sup> another that changed the 15 <sup>th</sup> May, was bred 3 <sup>d</sup> June, and another that changed the 30 <sup>th</sup> June, bred 19 <sup>th</sup> July. It frequents in, and in the neighbourhood of Savannah, but is not to be met with a few miles inland.
8	<i>Papilio glaucus</i> Linnaeus Dm, Vm, La, Pa	<i>Ptelea trifoliata</i> L. (Rutaceae) [C] “Swamp Ash” (probably <i>Fraxinus pennsylvanica</i> Marsh.) (Oleaceae) is also a confirmed hostplant.	8. <i>Papilio</i> Eq. Gr. Turnus. Feeds on the <i>Ptelia trifoliata</i> , and Swamp Ash, changed the 20 <sup>th</sup> June, bred 4 <sup>th</sup> July. May be met with thinly scattered in most parts of the Country
9	<i>Papilio palamedes</i> Drury Dm, Vm, La, Pa	<i>Magnolia virginiana</i> L. (Magnoliaceae) [E] “ <i>Magnolia Glauca</i> ” is a synonym of <i>M. virginiana</i> .	9. <i>Papilio Chalcas</i> . Feeds on the <i>Magnolia Glauca</i> , changed the 31 <sup>st</sup> May, bred 14 <sup>th</sup> June another that changed the 18 <sup>th</sup> Sep <sup>r</sup> bred the 24 <sup>th</sup> March. Continues to breed all the Summer, and is frequent all over the Country

NOTES: only the dark form of the female is portrayed. Duplicate figures by Abbot were reproduced for Plates 8 and 9 of Boisduval & Le Conte (1829–[1837]). It is interesting that Abbot followed contemporary wisdom in treating this form as a separate species from the butterflies in drawing no. 8, especially since he reared both and noted that each fed on “Swamp Ash”. Moreover, he portrayed slightly different immatures in these drawings. Abbot possibly knew the truth about this form, but was hesitant to refute more “learned” naturalists who were also paying customers.

NOTES: duplicate figures by Abbot were reproduced for Plates 12 and 13 of Boisduval & Le Conte (1829–[1837]). The cultivation of orange trees was probably responsible for the occurrence of this butterfly “in the neighbourhood of Savannah.” Specimens of *P. cresphontes* were generally identified as *Papilio thoas* Linnaeus until they were recognized as a different species.

NOTES: see drawing no. 6. Duplicate figures by Abbot were reproduced for Plates 6 and 7 of Boisduval & Le Conte (1829–[1837]). Abbot's name for the butterfly was derived from the Linnaean classification system; “Eq.” refers to the group *Equites* (*Eques*) and “Gr.” a mistake for “Tr.” refers to the subgroup *Trojani* (*Troës*). This subgroup is also in error, as the name *Papilio turnus* L. was originally placed by Linnaeus into the subgroup *Achivi*.

NOTES: a duplicate drawing by Abbot was figured in Calhoun (2007). Duplicate figures of the larva and pupa by Abbot were reproduced for Plate 5 of Boisduval & Le Conte (1829–[1837]). The erroneous association of this butterfly with *Magnolia virginiana* was discussed in Calhoun (2007). The pupa is too colorful, but conceptually accurate. “*Papilio Chalcas*” (i.e. *Papilio chalcas* Fabricius) is now considered to be a junior synonym of *P. palamedes*.

TABLE 1. Continued

Drawing No.	Figured adults and early stages	Plant species and host status	Manuscript entry by J. Abbot
10	<i>Limenitis archippus</i> (Cramer)  Dm, Df, Vf, La, Pa	<i>Licania michauxii</i> Prance (Chrysobalanaceae) [NC]  “Papaw” apparently refers to the depicted plant (commonly known as gopher apple), though Abbot validly used this name for species of <i>Asimina</i> (Annonaceae). “Willow” ( <i>Salix</i> sp.) (Salicaceae) is a valid hostplant.	10. Black veined orange Butterfly. Feeds on the species of Papaw figured, but is most frequent on Willow changed the 31 <sup>st</sup> July, bred 7 <sup>th</sup> August, neither the Caterpillar or Butterfly is common.
<p>NOTES: see Fig. 1. Portions of a duplicate drawing by Abbot were reproduced for Plate 55 of Boisduval &amp; Le Conte (1829–[1837]). The depicted plant may be the result of an association error or an aesthetic substitution. Based on a penciled inscription on a duplicate drawing at Harvard University, Scudder (1888–1889) identified the plant as <i>Chrysobalanus oblongifolius</i> Michx., which is now considered to be a synonym of <i>L. michauxii</i>.</p>			
11	<i>Astererocampa clyton</i> (Boisduval & Le Conte)  Dm, Df, Vf, La, Pu	<i>Vaccinium stamineum</i> L. (Ericaceae) [E]  “Sugarberry” refers to <i>Celtis</i> .	11. Orange coloured Butterfly. Feeds on the wild Gooseberry, changed 21 <sup>st</sup> May, bred 9 <sup>th</sup> June, is very rare.
<p>NOTES: Calhoun (2007) figured a duplicate drawing by Abbot and discussed the erroneous larva, pupa, and hostplant in this composition (see text). Scudder (1888–1889) identified the larva as <i>P. interrogationis</i> and the pupa as <i>Polygonia comma</i> (Harris). However, I have found no evidence that Abbot ever encountered <i>P. comma</i> in Georgia, nor does the larva resemble that species.</p>			
12	<i>Chlosyne gorgone</i> (Hübner)  Dm, Df, Vm, La, Pa	<i>Helianthus divaricatus</i> L. (Asteraceae) [C]  “Cross wort” apparently refers to <i>H. divaricatus</i> (see Calhoun 2003). This is possibly a misapplication of a common name for the British yellow-flowered herb, <i>Cruciata laevipes</i> Opiz (Rubiaceae). “Sunflower” probably indicates another species of <i>Helianthus</i> .	12. Cross wort Fritillary Butterfly. Feeds on the Cross wort, and sunflower, changed 17 <sup>th</sup> May, bred 26 <sup>th</sup> . Frequents the Oak Woods of Burke County but is not in the lower parts of the Country.
<p>NOTES: : this drawing was figured in Parkinson &amp; Rogers-Price (1984) and Calhoun (2003). Duplicate figures by Abbot were reproduced for Plate 46 of Boisduval &amp; Le Conte (1829–[1837]) to accompany the original description of the enigmatic taxon <i>Melitaea ismeria</i> (Calhoun 2003, 2004, 2005). It is believed that Abbot’s mention of “the lower parts of the Country” refers to bottomland habitats. This phrase, not included in the accompanying notes for three other known duplicates of this drawing, offers further evidence that Abbot did not consider <i>C. gorgone</i> to be the same species as <i>Chlosyne nycteis</i> (Doubleday) as suggested by Gatrelle (2003). The larva in this composition is conceptually consistent with <i>C. gorgone</i>. “Fritillary” is a misspelling of the British name “Fritillary.”</p>			
13	<i>Phyciodes phaon</i> (Edwards)  Dm  <i>Phyciodes tharos</i> (Drury)  Df, Vf, La, Pa	<i>Chrysopsis mariana</i> (L.)Elliott (Asteraceae) [NC/E]	13. Small Fritillary Butterfly. Feeds on the flower figured, changed the 10 <sup>th</sup> June, bred 21 <sup>st</sup> . The Caterpillar is rare, but the Butterfly is frequent in all parts of the Country, the whole Summer.
<p>NOTES: Abbot obviously did not distinguish between these two species of butterflies. The larva and pupa are most consistent with <i>P. tharos</i>. The plant may be a possible natural host of <i>P. tharos</i>, but not of <i>P. phaon</i>, which is known to feed almost exclusively on species of <i>Phyla</i> (Verbenaceae) (see text).</p>			
14	<i>Asterocampa celtis</i> (Boisduval & Le Conte)  Dm, Df, Vm, Lu, Pa	<i>Celtis cf. tenuifolia</i> Nutt. (Celtaceae) [C]  “Sugarberry” refers to the figured <i>Celtis</i> .	14. <i>Papilio Portlandia</i> . Feeds on the Sugar berry, changed 7 <sup>th</sup> May, bred 20 <sup>th</sup> . Is very rare
<p>NOTES: portions of a duplicate drawing by Abbot were reproduced on Plate 57 of Boisduval &amp; Le Conte (1829–[1837]) to accompany the original description of this species. The larva, and possibly also the pupa, is <i>A. clyton</i> (see drawing no. 11). Boisduval &amp; Le Conte (1829–[1837]) and Scudder (1888–1889) identified the depicted plant as <i>Celtis occidentalis</i> L. (Celtaceae). Abbot repeatedly misapplied the name “<i>Papilio Portlandia</i>” (i.e. <i>Papilio portlandia</i> Fabricius) to this species (Calhoun 2007).</p>			

TABLE 1. Continued

Drawing No.	Figured adults and early stages	Plant species and host status	Manuscript entry by J. Abbot
15	<i>Libytheana carinenta</i> (Cramer) Dm, Vm, La, Pa	<i>Celtis cf. tenuifolia</i> Nutt. (Celtaceae) [C] "Sugarberry" and "Hackberry" refers to <i>Celtis</i> .	15. Snout Butterfly. Feeds on the Sugarberry, or Hackberry, changed 29 <sup>th</sup> April, bred 8 <sup>th</sup> May, is rare.
NOTES: a duplicate drawing by Abbot was figured in Calhoun (2004). With the exception of the adult figures, most of another duplicate drawing by Abbot was reproduced for Plate 64 of Boisduval & Le Conte (1829–[1837]). Scudder (1888–1889) identified the plant in duplicate drawings as <i>Celtis occidentalis</i> L. (Celtaceae). Species of Libytheidae have long been called "Snout" butterflies in Britain.			
16	<i>Ascia monuste</i> (Linnaeus) Dm, Df(2), Vf, La, Pa	<i>Cleome gynandra</i> L. (Capparaceae) [C] "Cleome pentaphyllas," a misspelling of <i>C. pentaphylla</i> L., is a synonym of <i>C. gynandra</i> .	16. White Butterfly Vanessa. Feeds on the Cleome pentaphyllas. changed 17 <sup>th</sup> July, bred 23 <sup>rd</sup> , many of the female Butterflies varies being of a dingy black as figured, They are some Years in plenty in, and about Savannah.
NOTES: duplicate drawings by Abbot were figured in Gilbert (1998) and Calhoun (2004). Duplicate figures by Abbot were reproduced for Plate 16 of Boisduval & Le Conte (1829–[1837]) (Calhoun 2004). Abbot's notes aptly describe the irregular migratory presence of the subspecies <i>A. m. phileta</i> (Fabricius) in coastal Georgia (Calhoun 2004). Abbot's name for this species, "Vanessa," is misapplied. In an 1813 letter, the botanist William Baldwin noted that the figured hostplant, <i>C. gynandra</i> , grew "spontaneously about the suburbs of Savannah" (Darlington 1843).			
17	<i>Zerene cesonia</i> (Stoll) Dm, Df, Vm, La, Pa	<i>Dalea pinnata</i> (J. F. Gmelin) Barneby (Fabaceae) [C]	17. Clouded yellow Butterfly. P. Philippi. Feeds on the plant figured, changed 19 <sup>th</sup> April, bred 2 <sup>d</sup> May, continues to breed all the Summer and Autumn. Is most common in the Pine woods. often settles several together to suck the moist places in roads, and other places.
NOTES: see Fig. 1. The late season form of this species is portrayed. Duplicate figures of the larva and pupa by Abbot were reproduced for Plate 22 of Boisduval & Le Conte (1829–[1837]). Boisduval & Le Conte misidentified the depicted plant as <i>Tagetes papposa</i> Vent., a synonym of <i>Dyssodia papposa</i> (Vent.) Hitchc. (Asteraceae). Abbot's Latin name, "P. Philippi," is a misspelling of <i>Papilio philippa</i> Fabricius, a junior synonym of <i>Papilio cesonia</i> .			
18	<i>Cercyonis pegala</i> (Fabricius) Dm, Df, Vf, La, Pa	<i>Panicum</i> sp, possibly <i>P. dichotomiflorum</i> Michx. or <i>P. rigidulum</i> Nees (Poaceae) [NC]	18. Great meadow brown Butterfly. Feeds on the grass figured, and other grasses, changed 20 <sup>th</sup> June, bred 5 <sup>th</sup> July. Frequents the Pine woods, is not common.
NOTES: portions of a duplicate drawing by Abbot were reproduced for Plate 59 of Boisduval & Le Conte (1829–[1837]) (the figure of the larva was reversed). Additional comments about this composition were included in Calhoun (2007). Abbot's English name for this butterfly was derived from its superficial resemblance to the common European butterfly, <i>Maniola jurtina</i> (L.), known in Britain as the meadow brown since the early eighteenth century.			
19	<i>Cyllopsis gemma</i> (Hübner) Dm, Df, Vm, Lu, Pu	<i>Panicum</i> sp. (Poaceae) [NC] This species feeds on grasses, but natural hostplants are poorly known.	19. Swamp brown Butterfly. Feeds on the grass figured and other grasses. Tied up 10 <sup>th</sup> April, changed the 11 <sup>th</sup> bred 24 <sup>th</sup> . Frequents Swamps and hammocks, is not common.
NOTES: most of a duplicate drawing by Abbot was reproduced for Plate 62 of Boisduval & Le Conte (1829–[1837]). The head of the depicted larva lacks the distinctive horns of this species. This same figure of the larva is found in at least two of Abbot's drawings of <i>Hermeuptychia sosybius</i> (drawing no. 20), suggesting that he "borrowed" it to illustrate the life history of <i>C. gemma</i> . Moreover, the pupa in this drawing also lacks horns and is consistent with <i>H. sosybius</i> .			

TABLE 1. Continued

Drawing No.	Figured adults and early stages	Plant species and host status	Manuscript entry by J. Abbot
20	<i>Hermeupychia sosybius</i> (Fabricius) Dm, Df, Vm, Lu, Pa	<i>Carex</i> sp., possibly <i>C. hyalinolepis</i> Steudel (Cyperaceae) [NC]	20. Small Ringlet Butterfly. Feeds on the Grass figured, and other grasses, changed 24 <sup>th</sup> August, bred 11 <sup>th</sup> Sep <sup>r</sup> . Frequents the Swamps and fields, is frequent in most parts.
NOTES: this butterfly is known to feed only on grasses (Poaceae). Abbot may have collected the wrong plant for his illustration, possibly confusing it with the host of <i>Neonympha areolatus</i> (J. E. Smith), which feeds on sedges (Cyperaceae). To Abbot, sedges were simply “grasses.” The depicted larva lacks the pair of posterior appendages that are found in this species. Abbot included a more accurate larva in at least two other drawings of this species, but later applied it to <i>C. gemma</i> (see drawing no. 19 and text). The name “Ringlet” was derived from its remote similarity to the widespread European species, <i>Aphantopus hyperantus</i> (L.), which has been known as the ringlet in Britain since the mid-eighteenth century.			
21	<i>Autochton cellus</i> (Boisduval & Le Conte) Dm, Vm, La, Pa	<i>Stylisma aquatica</i> (Walter)Raf. (Convolvulaceae) [E] This plant was previously placed in the genus <i>Convolvulus</i> L. as indicated by Abbot.	21. Barr'd Skipper Butterfly. Feeds on the <i>Convolvulus</i> figured, spun up 4 <sup>th</sup> April, bred 25 <sup>th</sup> . Frequents the sides of Swamps, is rare.
NOTES: see Fig. 3. Most of a duplicate drawing by Abbot was reproduced for Plate 73 of Boisduval & Le Conte (1829–[1837]), representing the “original description” of this species. This skipper feeds almost exclusively on <i>Amphicarpea bracteata</i> (L.)Fern.(Fabaceae) in eastern North America (Burns 1984). Abbot's depiction is either an aesthetic substitution or he misidentified the plant when he collected samples for this composition. Scudder (1888-1889) identified the plant on the published plate in Boisduval & Le Conte (1829–[1837]) as <i>Breweria aquatica</i> (Walter)A. Gray, which is now considered to be a synonym of <i>S. aquatica</i> . The pupa is conceptually accurate, but should be stouter in shape.			
22	<i>Problema bulenta</i> (Boisduval & Le Conte) Dm, Df, Vm, La, Pa	<i>Panicum</i> sp., possibly <i>P. dichotomiflorum</i> Michx. or <i>P. virgatum</i> L. (Poaceae) [NC] “Broad grass” refers to this or a similar species of grass.	22. Broad grass Skipper Butterfly. Feeds on the broad grass, folding itself in the leaf, changed 25 <sup>th</sup> July, bred 6 <sup>th</sup> August. Frequents Rice fields, ditches, and the sides of ponds in the lower parts of Georgia. Is not common.
NOTES: duplicate figures by Abbot were reproduced for Plate 67 of Boisduval & Le Conte (1829–[1837]), representing the “original description” of this species. Rather than <i>Panicum</i> , Abbot possibly found his larvae on <i>Zizania aquatica</i> L. (Poaceae) or <i>Zizaniopsis miliacea</i> (Michx.) Döll & Asch. (Poaceae) (Calhoun 2007).			
23	<i>Euphyes arpa</i> (Boisduval & Le Conte) Dm, Df, La, Pa	<i>Rhynchospora latifolia</i> (Baldwin) W.W. Thomas (Cyperaceae) [NC]	23. Georgia Skipper Butterfly. Feeds on the Grass figured, and other grasses, spun up 25 <sup>th</sup> March, bred 12 <sup>th</sup> April. Frequents the sides of ponds in the pine woods, is rare.
NOTES: most of a duplicate drawing by Abbot was reproduced for Plate 68 of Boisduval & Le Conte (1829–[1837]), representing the “original description” of this species. This skipper normally feeds on <i>Serenoa repens</i> (Bartram)Small (Palmae), but Minno (1994) reared it on a species of Cyperaceae, suggesting that Abbot could have successfully reared it on this sedge (Calhoun 2004). The larva is conceptually accurate.			
24	<i>Thorybes bathyllus</i> (J. E. Smith) Dm, Df, Vf, La, Pa	<i>Desmodium</i> sp., possibly <i>D. paniculatum</i> (L.)DC. (Fabaceae) [C] “Begger's lice” refers to the figured <i>Desmodium</i> .	24. Brown Skipper. Feeds on the Beggars lice (figured) spun up in the leaves 18 <sup>th</sup> Oct <sup>r</sup> bred 20 <sup>th</sup> April, is not very common
NOTES: a duplicate of this drawing was reproduced in ATLET (1983). It was also figured by Reynolds (1983) and Rogers-Price (1983). Portions of another duplicate drawing by Abbot were reproduced for Plate 74 of Boisduval & Le Conte (1829–[1837]). Although I have tentatively identified the figures in this composition as <i>T. bathyllus</i> (also see Calhoun 2007), some characters are reminiscent of <i>Thorybes confusus</i> Bell, making it difficult to determine the species with certainty. The plant was identified in ATLET (1983) as <i>Desmodium fernaldii</i> B.G.Schub. (Fabaceae).			

TABLE 1. Continued

Drawing No.	Figured adults and early stages	Plant species and host status	Manuscript entry by J. Abbot
25	<i>Pyrgus communis</i> (Grote)  Dm, Df, Vf, La, Pa	<i>Sida acuta</i> Burm. f. (Malvaceae) [C]	25. <i>Black and white Skipper</i> . Feeds on the plant figured, spun up in the leaves 25 <sup>th</sup> June, bred 7 <sup>th</sup> July. Is to be met with in the Oak woods and fields, is not common.
NOTES: a duplicate drawing by Abbot was figured by Calhoun (2007). The skippers portrayed in this drawing are almost certainly <i>P. communis</i> , as there is no evidence that the similar <i>Pyrgus albescens</i> Plötz occurred in Georgia during Abbot's lifetime (Calhoun 2007).			
26	<i>Ancyloxypha numitor</i> (Fabricius)  Dm, Df, Vm, La, Pa	<i>Justicia ovata</i> (Walter)Lindau (Acanthaceae) [E]	26. <i>Least yellow Skipper</i> . Feeds on the plant figured, changed 12 <sup>th</sup> Sepr bred 22 <sup>d</sup> . Is frequent in Rice fields, and meadowy parts of branches.
NOTES: this species is a grass-feeder. <i>Justicia</i> grows in the wet habitats where this skipper occurs, thus Abbot may have confused the host. However, an earlier composition of <i>A. numitor</i> by Abbot includes another erroneous host, <i>Asclepias verticillata</i> L. (Apocynaceae), which occurs in dry soils. Abbot ambiguously referred to both plants as "the plant figured," suggesting that he did not recall the proper host or inserted these more colorful plants to enhance his compositions.			
27	<i>Erynnis martialis</i> (Scudder)  Dm, Df, Vf, La, Pa	<i>Indigofera caroliniana</i> Mill. (Fabaceae) [E]  In this case, "Wild Indigo" apparently refers to <i>Indigofera</i> , not a species of <i>Baptisia</i> (Fabaceae). "Red root, or red shank" refers to <i>Ceanothus americanus</i> L. (Rhamnaceae), a confirmed hostplant	27. <i>Least dingy Skipper</i> . Feeds on the Wild Indigo, and Red root, or red shank, Spun up in the leaves 25 <sup>th</sup> June, bred 8 <sup>th</sup> July, Frequents the Oak woods, is much less frequent than the other Dingy Skippers.
NOTES: this species is known to feed only on <i>Ceanothus americanus</i> L. (Rhamnaceae) in eastern North America. In fact, Abbot illustrated this skipper with <i>C. americanus</i> for an earlier composition, calling the plant "Red shank or red Root" (see text). Abbot's mistaken recollection of an alternate host may have resulted in the inclusion of <i>I. caroliniana</i> . He called all species of the genus <i>Erynnis</i> "Dingy Skippers," after the European <i>Erynnis tages</i> (L.), which has long been called the dingy skipper in Britain.			
28	<i>Pholisora catullus</i> (Fabricius)  Dm, Df, Vf, La, Pa	<i>Monarda punctata</i> L. (Lamiaceae) [E]  "Rignum" is an old name for <i>M. punctata</i> . "Horse mint" is also a name for this plant. "Careless" ( <i>Amaranthus</i> sp.) (Amaranthaceae) and "lambs quarter" ( <i>Chenopodium</i> sp.) (Amaranthaceae) are confirmed hostplants.	28. <i>Black Skipper Catullus</i> . Feeds on the plant figured called here Rignum and horse mint, common and red careless, and lambs quarter. Spun up 18 <sup>th</sup> June, bred 26 <sup>th</sup> another that spun up 29 <sup>th</sup> July, was bred the 5 <sup>th</sup> August, The Butterfly is frequent in Corn fields and plantations in Burke County.
NOTES: another drawing of this species by Abbot, which included duplicate figures of larva and pupa, was reproduced for Plate 24 of Smith & Abbot (1797) (Calhoun 2006a). Abbot's notes for that earlier drawing include some of the same life history data as for this illustration. Abbot created at least three compositions of this species and all depict <i>Monarda</i> , probably because it is more visually appealing than the true hosts.			
29	<i>Amblyscirtes alternata</i> (Grote & Robinson)  Dm, Df, La, Pa	<i>Sorghastrum secundum</i> (Elliott)Nash (Poaceae) [NC]  "Wild Oats" apparently refers to the depicted grass. Hostplants of this rare skipper are poorly known.	29. <i>Little brown Skipper</i> . Feeds on the wild Oats, spun up in the leaves 31 <sup>st</sup> May, bred 14 <sup>th</sup> June. The Caterpillar is very rare. The Butterfly frequents the pine woods, but is not common.
NOTES: Abbot portrayed fresh specimens of <i>A. alternata</i> , which can be boldly marked as in this drawing, especially ventrally. Duplicate figures were misidentified by Scudder (1872, 1888–1889) and Beirne (1950) as <i>Amblyscirtes hegon</i> (Scudder) (see text).			



TABLE 1. Continued

Drawing No.	Figured adults and early stages	Plant species and host status	Manuscript entry by J. Abbot
30	<i>Feniseca tarquinius</i> (Fabricius) Dm, Df, Lu, Pa	<i>Vaccinium arboreum</i> Marshall (Ericaceae) [E]  “Winter Huckleberry” apparently refers to the depicted plant. “Alder” undoubtedly refers to <i>Alnus serrulata</i> (Aiton)Willd. (Betulaceae), which is also an erroneous hostplant.	30. Little orange Butterfly. Feeds on the winter Huckleberry, but is most frequent on Alder, it is partly covered with a white loose down, changed the 14 <sup>th</sup> of April, bred the 25 <sup>th</sup> . The Butterfly frequents Swamps, but is rare.
NOTES: duplicate figures by Abbot were reproduced for Plate 37 of Boisduval & Le Conte (1829–[1837]). This butterfly feeds only on species of aphids (see text). The depicted larva is a slightly altered version of Abbot’s larva of <i>Callophrys niphon</i> (Hübner), which is very unlike the spiny and more mottled larva of <i>F. tarquinius</i> (see text).			
31	<i>Atlides halesus</i> (Cramer) Dm, Df, Vm, Lu, Pa	<i>Quercus phellos</i> L. (Fagaceae) [E]  “Willow Oak” is a common name for <i>Q. phellos</i> , which Abbot misspelled as “phillos.”	31. Great Purple hair Streak Butterfly. Feeds on the Willow Oak, <i>Quercus phillos</i> , changed the 20 <sup>th</sup> bred 6 <sup>th</sup> Sep <sup>r</sup> is not common.
NOTES: see Fig. 4. Duplicate figures by Abbot were reproduced for Plate 25 of Boisduval & Le Conte (1829–[1837]). This species feeds on mistletoes ( <i>Phoradendron</i> sp.) (Viscaceae), which are common hemi-parasites of oaks. The depicted larva is a duplicate of the larva that he figured in drawings of <i>Satyrium favonius</i> (J. E. Smith) (see text). It is inconsistent with the “swollen” larva of <i>A. halesus</i> .			
32	<i>Parrhasius m-album</i> (Boisduval & Le Conte) Dm, Df, Vm, La, Pa	<i>Astragalus michauxii</i> (Kuntze)F. J. Herm. (Fabaceae) [E?]  “Oaks” ( <i>Quercus</i> sp.) (Fagaceae) are confirmed hostplants.	32. Small purple hair Streak Butterfly. Feeds on the Astragalus, and Oaks, changed 20 <sup>th</sup> Aug <sup>r</sup> bred 5 <sup>th</sup> Sep <sup>r</sup> may be met with in different parts of the County, but is rare in all.
NOTES: duplicate figures by Abbot were reproduced for Plate 27 of Boisduval & Le Conte (1829–[1837]). The figured plant may be an erroneous host for this oak-feeder, which has also been dubiously reported to feed on other legumes. Scudder (1888–1889) identified the plant in a duplicate drawing as <i>Astragalus canadensis</i> L. (Fabaceae).			
33	<i>Calycopis cecrops</i> (Fabricius) Dm, Df, Vm, Lu, Pa	<i>Vaccinium corymbosum</i> L. (Ericaceae) [NC]  “Large black Huckleberry” apparently refers to the depicted plant, but the same plant is portrayed in drawing 36 under a different name.	33. Least purple hair Streak Butterfly. Feeds on the large black Huckleberry, changed 30 <sup>th</sup> April, bred 20 <sup>th</sup> May is frequent in most parts of the Country.
NOTES: a duplicate drawing was reproduced in ATLET (1983). The plant in a duplicate drawing was identified in ATLET (1983) as <i>Gaylussacia frondosa</i> (L.) Torrey & A. Gray ex Torrey) (Ericaceae). The larva of this species is not green as illustrated, but brown or pinkish-brown.			
34	<i>Strymon melinus</i> (Hübner) Dm, Df, Vm, La, Pa	<i>Hypericum myrtifolium</i> Lam. (Clusiaceae) [C]  “Pines” ( <i>Pinus</i> sp.) (Pinaceae) and “snap beans” (prob. <i>Phaseolus vulgaris</i> L.) (Fabaceae) are confirmed hostplants.	34. Red spotted hair streak Butterfly. Feeds on the flower figured, Pines, snap beans &c. changed 30 <sup>th</sup> April bred 14 <sup>th</sup> May. is not very common.
NOTES: duplicate figures by Abbot were reproduced for Plate 28 of Boisduval & Le Conte (1829–[1837]). These authors identified the plant in their duplicate drawing as a <i>Hypericum</i> , hence the name they proposed for this butterfly, <i>Thecla hyperici</i> .			

TABLE 1. Continued

Drawing No.	Figured adults and early stages	Plant species and host status	Manuscript entry by J. Abbot
35	<i>Satyrium liparops</i> (Le Conte)  Dm, Df, La, Pa	<i>Crataegus</i> sp., possibly <i>C. viridis</i> L. (Rosaceae) [C]  "Parsley Haw" refers to <i>Crataegus</i> .	35. Ogeechee brown hair steak Butterfly. Feeds on the Parsley Haw, changed 18 <sup>th</sup> April, bred 5 <sup>th</sup> May, This species frequents the Oak woods on the sides of Ogeechee river swamp, but is very rare.

NOTES: unlike his other butterfly compositions, the ventral surface of the adult is not portrayed. Another drawing by Abbot was reproduced on Plate 31 of Boisduval & Le Conte (1829–[1837]) to accompany the original description of this species, which remained poorly understood for over a century (See Calhoun 2004, 2005). "Ogeechee" is a misspelled reference to the occurrence of this species in the vicinity of the Ogeechee River of eastern Georgia.

36	<i>Callophrys henrici</i> (Grote & Robinson)  Dm, Df, Vm, La, Pa	<i>Vaccinium corymbosum</i> L. (Ericaceae) [C]  "Swamp Huckleberry" probably refers to the figured <i>Vaccinium</i> , but the same plant is portrayed in drawing 33 under a different name. "Judas tree" refers to redbud ( <i>Cercis canadensis</i> L.) (Fabaceae). The adults that Abbot saw frequenting the blossoms of redbud may have included ovipositing females, as this tree is also a confirmed hostplant. "Wild plum" ( <i>Prunus</i> sp.) (Rosaceae) is also a confirmed hostplant.	36. Swamp brown hair streak Butterfly. Feeds on the Swamp Huckleberry, changed 20 <sup>th</sup> April, bred 6 <sup>th</sup> May, frequents the blossoms of the Judas tree, and wild plums, on the sides of swamps, is far from common.
----	--	---	--

NOTES: duplicate figures by Abbot of the larva and pupa were reproduced for Plate 31 of Boisduval & Le Conte (1829–[1837]). Pupae of this species typically overwinter, but Abbot's notes suggest that his larva developed into an adult during the same season.

37	<i>Callophrys irus</i> (Godart)  Dm, Df, Vf, Lu, Pa	<i>Cyrilla racemiflora</i> L. (Cyrillaceae) (E)	37. Little brown hair streak Butterfly. Feeds on the plant figured &c. changed 22 <sup>d</sup> June, bred 20 <sup>th</sup> March is very rare.
----	---	---	--

NOTES: most of a duplicate drawing by Abbot was reproduced for Plate 32 of Boisduval & Le Conte (1829–[1837]) to accompany the original description of *Thecla arsace* Boisduval & Le Conte, now considered a subspecies of *C. irus*. Scott (1986) incorrectly attributed the hostplant association in this composition to *C. henrici*. Gatrell (1999) claimed that Scudder (1888–1889) unsuccessfully attempted to rear *C. henrici* or *C. irus* on *C. racemiflora* as figured, but Scudder actually referred to *Leucothoe racemosa* (L.) A. Gray (Ericaceae). Nonetheless, it is probable that neither of these butterflies would accept *C. racemiflora*, particularly *C. irus*. The illustrated phenotype of this butterfly feeds primarily on species of *Baptisia* (Fabaceae). Although Gatrell (1999) considered the duplicate figure of the larva in Boisduval & Le Conte (1829–[1837]) to be *C. irus*, its shape and coloration are more consistent with *C. henrici*.

2007). Using unpublished and published references, including Allen et al. (2005), Minno et al. (2005), Robinson et al. (2002), and Wagner (2005), I have attempted to evaluate the validity of the associated figures in Abbot's drawings in the Hargrett Library (Table 1). Larvae and pupae were considered "acceptable" if they exhibit fundamental characteristics of the given species.

At least ten of the 32 butterfly drawings in the Hargrett Library (nos. 9, 11, 13, 21, 26, 27, 28, 30, 31, 37) portray erroneous hostplants (Table 1). Two of these emphasize the dubious nature of some of Abbot's compositions. Drawing no. 30 portrays North America's only carnivorous butterfly, *Feniseca tarquinius* (Fabricius). Abbot repeatedly illustrated the larva of this species resting on partially eaten leaves of *Vaccinium arborium* Marshall (Ericaceae) (as in the Hargrett composition), *Viburnum dentatum* L. (Adoxaceae), and *Crataegus* sp. (Rosaceae). He wrote in his accompanying notes that this butterfly most often feeds on alder, *Alnus serrulata* (Aiton)Willd. (Betulaceae). Alder is a common host of wooly alder aphids (*Prociphilus tessellatus* (Fitch)), upon which *F. tarquinius* larvae often feed. Abbot even observed that the larvae were "partly covered with a white loose down," actually a waxy secretion of wooly alder aphids. Entomologists were misled by these drawings until the biology of the species was fully revealed by Edwards (1886). Drawing no. 31 portrays *Atlides halesus* (Cramer) with a sprig of willow oak, *Quercus phellos* (L.) (Fagaceae) (Fig. 4). Although Abbot also referred to this plant in his notes (Table 1), larvae of *A. halesus* feed only on mistletoe (*Phoradendron serotinum* (Raf.)M. C. Johnston) (Viscaceae), which is a common hemi-parasite of oaks in Georgia. Mature larvae of *A. halesus* wander from mistletoe to pupate (Wagner 2005). Abbot probably found larvae of *F. tarquinius* and *A. halesus* on the figured plants and simply assumed that they were the hosts. In addition, the larvae in both of these drawings are inaccurate, suggesting that Abbot illustrated these life histories at a later date. He may have been unable to relocate larvae for his compositions and rendered facsimiles based on the larvae of other species. The larva that he figured in his compositions of *F. tarquinius* is a slightly altered version of the larva that he included in drawings of *Callophrys niphon* (Hübner). His larva of *A. halesus* is a duplicate of the larva that he used for later drawings of *Satyrium favonius* (J. E. Smith). Abbot must have perceived some connection between these butterflies and assumed that their larvae were analogous. Abbot similarly "borrowed" his larva of *Hermeuptychia sosybius* (Fabricius) (no. 20) for his life history

illustrations of *Cyllopsis gemma* (Hübner) (no 19). He subsequently rendered a new, though inaccurate, replacement larva for *H. sosybius*.

Abbot's illustration of the butterfly *Asterocampa clyton* (Boisduval & Le Conte) (no. 11) is one of the most remarkable examples of his proclivity to invent figures (see Calhoun 2007, Fig. 2). He mistakenly applied the larva and pupa of *A. clyton* to the closely related *Asterocampa celtis* (Boisduval & Le Conte). He fabricated figures for *A. clyton*, modeling them after *Polygonia interrogationis* (Fabricius), another orange butterfly that he found feeding on the same *Celtis* trees (Celtaceae).

Abbot occasionally confused species of Lepidoptera, resulting in erroneous host associations (Calhoun 2006a, 2007). Drawing no. 13 in the Hargrett Library portrays two species of similar butterflies as male and female of the same species. The male is *Phyciodes phaon* (Edwards), while the females are *Phyciodes tharos* (Drury) (Table 1). The larva and pupa are most consistent with *P. tharos*. Larvae of *P. tharos* feed on Asteraceae, thus the depicted plant, *Chrysopsis mariana* (L.)Elliott (Asteraceae), could conceivably serve as a host. On the other hand, *P. phaon* feeds almost exclusively on species of *Phyla* (Verbenaceae).

**Duplication.** Abbot duplicated most of his butterfly life history compositions for 20–25 years (Calhoun 2007). At least 31 of the 32 butterfly drawings in the Hargrett Library are duplicated in other sets of Abbot's illustrations, including the life history drawings that were copied for plates in Boisduval & Le Conte (1829–[1837]) (Table 1). Those original drawings are believed lost, but their notes are deposited in the Houghton Library, Harvard University (Calhoun 2004). I previously attempted to match the entries in the Houghton Library notes with Abbot's drawings that appeared in Boisduval & Le Conte (1829–[1837]) (Calhoun 2004). Lacking other evidence, I tentatively attributed six of these entries solely on the basis of the limited information in the notes. Duplicate drawings and notes that I subsequently discovered in the Hargrett Library were instrumental in confirming my identifications of three of these entries. The Hargrett Library set also shares duplicate figures of adults, larvae, and pupae with other plates in Boisduval & Le Conte (1829–[1837]). These drawings, begun in 1813, are now deposited in the Thomas Cooper Library, University of South Carolina (Calhoun 2004).

**Abbot's observations.** The illustrations and notes of John Abbot represent a valuable window through which we can explore the natural history of Georgia before it was substantially altered by human development. Changes were already affecting the local flora and fauna

during the early nineteenth century (Calhoun 2007). Several of the butterflies portrayed in the Hargrett Library now appear to be less widespread in eastern Georgia than during Abbot's lifetime. These include *Autochton cellus* (Boisduval & Le Conte) (no. 21), *Problema bulenta* (Boisduval & Le Conte) (no. 22), *Euphyes arpa* (Boisduval & Le Conte) (no. 23), *Pyrgus communis* (Grote) (no. 25), and *Erynnis martialis* (Scudder) (no. 27). In fact, *P. bulenta* was suspected of being an imaginary species until it was rediscovered in 1925. *Pyrgus communis* is possibly being displaced in eastern Georgia by the closely related *Pyrgus albescens* (Plötz) (Calhoun 2007).

Abbot was the first to document the life histories of virtually all the species that he illustrated. Many of his drawings were the only available source of this information for over a century. The larva and pupa of *A. cellus* were not observed again until 1934 (Clark 1936). Abbot illustrated *E. martialis* with *Ceonothus americanus* (L.) (Rhamnaceae) over 150 years before Burns (1964) confirmed this association. Although the Hargrett Library drawing of *E. martialis* portrays an erroneous hostplant, Abbot still referred to *C. americanus* in his accompanying notes, calling it "Red root, or red shank." Until very recently, researchers knew nothing about the life history of *Amblyscirtes alternata* (Grote & Robinson) (no. 29). Abbot's unpublished drawings of this species were overlooked because they had been misidentified by Scudder (1872, 1888–1889) and Beirne (1950) as *Amblyscirtes hegon* (Scudder). Although the figured hostplants need confirmation, the early stages in these drawings are consistent with *A. alternata*. Despite his artistic indiscretions, Abbot's illustrations continue to offer precious insight into the natural history of an early Georgia.

#### ACKNOWLEDGEMENTS

Thanks are extended to Mary Ellen Brooks (Director of the Hargrett Rare Book and Manuscript Library) for providing access to the drawings in her care and serving as a gracious host during my visit. Nelson Morgan photographed the figured drawings and granted permission to publish them. Mark A. Garland, former State Botanist of Florida, kindly identified the plants portrayed in the butterfly drawings. Beverly Pope (Division of Plant Industry Library, Gainesville, Florida) helped me to obtain necessary literature. James K. Adams, Irving L. Finkelstein, and Eric H. Metzler critically reviewed the manuscript and offered helpful suggestions.

#### LITERATURE CITED

- ALLEN, T. J., J. P. BROCK, & J. GLASSBERG. 2005. Caterpillars in the field and garden: a field guide to the butterfly caterpillars of North America. Oxford Univ. Pr., New York, New York. 232 pp.
- ATLET (Alexander Turnbull Library Endowment Trust). 1983. John Abbot's insects of Georgia. Reproduced from the original watercolours in the Alexander Turnbull Library, Wellington, New Zealand. Fascicle one. Alex. Turnbull Lib. Endowment Trust, Wellington, New Zealand. [18] pp., 6 pl.
- BEIRNE, B. P. 1950. Some original paintings by John Abbot. *Lepid. News* 4(3):25–26.
- BOISDUVAL, J. B. A. D. DE & J. E. LE CONTE. 1829–[1837]. *Histoire générale et iconographie des Lépidoptères et des chenilles de l'Amérique septentrionale*. Librairie Encyclopédique de Roret, Paris. 228 pp., 78 pl.
- BURNS, J. M. 1964. Evolution in skipper butterflies of the genus *Erynnis*. *Univ. California Publ. Entomol.* 37:1–216.
- \_\_\_\_\_. 1984. Evolutionary differentiation. Differentiating gold-banded skippers—*Autochton cellus* and more (Lepidoptera: Hesperidae: Pyrginae). *Smiths. Contrib. Zoology*, No. 405. 38 pp.
- CALHOUN, J. V. 2003. The history and true identity of *Melitaea ismeria* (Boisduval & Le Conte): a remarkable tale of duplication, misinterpretation and presumption. *J. Lepid. Soc.* 57:204–219.
- \_\_\_\_\_. 2004. *Histoire générale et iconographie des Lépidoptères et des chenilles de l'Amérique septentrionale* by Boisduval & Le Conte (1829–[1837]): original drawings for the engraved plates and the true identities of four figured taxa. *J. Lepid. Soc.* 58:143–168.
- \_\_\_\_\_. 2005. An early drawing of *Chlosyne gorgone* (Hübner) (Nymphalidae) by John Abbot. *J. Lepid. Soc.* 59:121–122.
- \_\_\_\_\_. 2006a. A glimpse into a "flora et entomologia": *The Natural History of the Rarer Lepidopterous Insects of Georgia* by J. E. Smith and J. Abbot (1797). *J. Lepid. Soc.* 60:1–37.
- \_\_\_\_\_. 2006b. John Abbot's "lost" drawings for John E. Le Conte in the American Philosophical Society Library, Philadelphia. *J. Lepid. Soc.* 60:211–217.
- \_\_\_\_\_. 2007. John Abbot's butterfly drawings for William Swainson, including general comments about Abbot's artistic methods and written observations. *J. Lepid. Soc.* 61:1–20.
- CLARK, A. H. 1936. The gold-banded skipper (*Rhaboides cellus*) (with eight plates). *Smiths. Misc. Coll.* 95(7):1–50, 8 pl.
- DARLINGTON, W. 1843. *Reliquiae Baldwinianae*: selections from the correspondence of the late William Baldwin, M. D. surgeon in the U. S. Navy, with occasional notes, and a short biographical memoir. Kimber & Sharpless, Philadelphia. 346 pp.
- EDWARDS, W. H. 1886. On the history and the preparatory stages of *Feniseca tarquinius*, Fabr. *Can. Entomol.* 18:141–153.
- GATRELLE, R. R. 1999. An evolutionary subspecific assessment of *Deciduphagus henrici* (Lycaenidae) based its utilization of *Ilex* and non-*Ilex* hosts: description of a third *Ilex* associated subspecies. Designation of a neotype and type locality for *Deciduphagus irus*. *Taxon. Rpt.* 1(6):1–10.
- \_\_\_\_\_. 2003. A taxonomic review of *Chlosyne ismeria* with description of a new subspecies from the southern Appalachian mountains. *Taxon. Rpt.* 4(4):1–15.
- GILBERT, P. 1998. John Abbot: birds, butterflies and other wonders. Merrell Holberton, London. 128 pp.
- GRAVELL, T. L. & G. MILLER. 1979. A catalogue of American watermarks 1690–1835. Garland Publ., New York, New York. 230 pp.
- LEAB, K. Y. & D. J. LEAB (eds). 1986. American book prices current. Vol. 91: the auction season September 1984–August 1985. Bancroft-Parkman, Inc. New York, New York. 1131 pp.
- MINNO, M. C. 1994. Immature stages of the skipper butterflies (Lepidoptera: Hesperidae) of the United States: biology, morphology, and descriptions. Unpubl. Ph.D. dissertation. Univ. Florida, Gainesville. 509 pp.
- MINNO, M. C., J. F. BUTLER, & D. W. HALL. 2005. Florida butterfly caterpillars and their host plants. *Univ. Pr. Florida*, Gainesville. 360 pp.
- OPLER, P. A. & A. D. WARREN. 2003. Butterflies of North America. 2. Scientific names list for butterfly species of North America, north of Mexico (May 15, 2003, with additions). *Contrib. C. P. Gillette Mus. of Arth. Biodiv.*, Colorado State Univ., Ft. Collins, Colorado. 83 pp.
- PARKINSON, P. G. & V. ROGERS-PRICE. 1984. Pioneer naturalist re-

- vived. John Abbot emerges from cocoon of neglect. *Australian Antique Coll.* 28:55–58.
- REYNOLDS, E. P. 1983. John Abbot, pioneer naturalist. *Georgia Review* 37:816–824.
- ROGERS-PRICE, V. 1983. John Abbot in Georgia: the vision of a naturalist artist (1751–ca.1840). *Madison-Morgan Cult. Ctr., Madison, Georgia.* 149 pp.
- ROBINSON, G. S., P. R. ACKERY, I. J. KITCHING, G. W. BECCALONI, & L. M. HERNÁNDEZ. 2002. Hostplants of the moth and butterfly caterpillars of America north of Mexico. *Mem. Amer. Entomol. Inst.* 69:1–824.
- SCOTT, J. A. 1986. *The butterflies of North America: a natural history and field guide.* Stanford Univ. Pr., Stanford, California. 583 pp, 64 pl.
- SCUDDER, S. H. 1872. Abbott's [sic] notes on Georgian butterflies. *Can. Entomol.* 4:73–77, 84–87.
- \_\_\_\_\_. 1888–1889. *Butterflies of the eastern United States and Canada.* 3 vols. Cambridge, Massachusetts. 1958 pp., 89 pl.
- SMITH, J. E. & J. ABBOT. 1797. *The natural history of the rarer lepidopterous insects of Georgia, including their systematic characters, the particulars of their several metamorphoses, and the plants on which they feed, collected from the observations of Mr. John Abbot, many years resident in that country.* 2 vols. J. Edwards, Cadell & Davies, and J. White, London. 214 pp., 104 pl.
- SOTHEBY'S (firm). 1985a. *Natural History, scientific and medical books and books from the collection of the late Irving Davis.* Sotheby's, London. [158] pp.
- \_\_\_\_\_. 1985b. Price list. Sale of printed books, Tuesday/Wednesday, 2nd/3rd April, 1985. Sotheby's, London. [4] pp.
- WAGNER, D. L. 2005. *Caterpillars of eastern North America: a guide to identification and natural history.* Princeton Univ. Pr., Princeton, New Jersey. 512 pp.

*Received for publication 6 February 2007; revised and accepted 17 June 2007.*