REFINING THE DIAGNOSTIC CHARACTERS AND DISTRIBUTION OF *HERMEUPTYCHIA INTRICATA* (NYMPHALIDAE: SATYRINAE: SATYRINI)

Andrew D. Warren[1], Denise Tan[1], Keith R. Willmott[1] and Nick V. Grishin[2]

[1]McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, 3215 Hull Rd., UF Cultural Plaza, PO Box 112710, Gainesville, FL, USA 32611-2710; hesperioidea@yahoo.com

[2]Howard Hughes Medical Institute, Departments of Biophysics and Biochemistry, University of Texas Southwestern Medical Center, 5323 Harry Hines Blvd., Dallas, TX, USA 75390-9050

Abstract - The absence of androconia on the dorsal surface of the wings is established as an external diagnostic character of male *Hermeuptychia intricata* Grishin, 2014, that distinguishes this newly described species from males of the sympatric *H. sosybius* (Fabricius, 1793). Additional United States records of *H. intricata* are reviewed, extending its distribution to include North Carolina, Georgia, Mississippi, and central Texas. Observations on the phenology and behavior of *H. intricata* and *H. sosybius* in northern Florida are given.

Key words: cryptic species, identification, southeastern United States, sympatry.

Resumen - Se establece la ausencia de androconia en la superficie dorsal de las alas como un carácter diagnóstico externo del macho de *Hermeuptychia intricata* Grishin, 2014, para distinguir esta especie de reciente descripción de los machos simpátricos de *H. sosybius* (Fabricius, 1793). Se revisan registros adicionales de *H. intricata* de los Estados Unidos, cuales amplían su distribución para incluir North Carolina, Georgia, Mississippi y Texas central. Se dan observaciones sobre la fenología y el comportamiento de *H. intricata* y *H. sosybius* en el norte de Florida.

Palabras clave: especies crípticas, identificación, sudeste de los Estados Unidos, sympatria.

The butterfly fauna of the eastern United States is likely to be the best documented in the New World. Some of the first butterflies named by Linnaeus originated in this region, and over the past 250 years the butterflies of the eastern US have been intensively scrutinized. However, despite such attention, new species continue to be discovered (e.g., Pavulaan & Wright 2002, 2005).

Hermeuptychia intricata Grishin was recently described from the southeastern United States (Cong & Grishin 2014) as a new cryptic species formerly confused with the sympatric *H. sosybius* (Fabricius, 1793). The new species was diagnosed based on differences in the male and female genitalia between it and *H. sosybius*, as well as differences in the COI DNA 'barcode' between the two species. While a discussion of possible diagnostic characters on the ventral wings of *H. intricata* was provided, Cong & Grishin (2014) concluded that they "were not able to find reliable wing pattern characters to tell a difference between the two species."

Shortly after the publication of the original description of *H. intricata*, we realized that the dorsal surface of the male wings does, in fact, contain a diagnostic character that readily separates it from *H. sosybius*. Dark androconial scales cover most of the forewing and part of the hindwing in *H. sosybius*, giving its wings a two-toned appearance with a darker base and paler outer third (Fig. 1b, f, j). *Hermeuptychia intricata* lacks androconia, and its wings are thus more uniformly colored (Fig. 1a, e, i). Discovery of this easily-observed character facilitated the search of collections to refine the distributional range of *H. intricata*. Here, we discuss and illustrate the androconia of *H. sosybius*, as well as other wing characters that may be useful for separating the two species. In addition, we present new distributional records for *H. intricata,* and provide preliminary notes on the biology of the species in Florida.

MATERIALS AND METHODS

Specimens were examined in the following collections, either directly, or via the collection caretaker: Brian Scholtens personal collection, Charleston, South Carolina, USA (BSC); John Calhoun personal collection, Palm Harbor, Florida, USA (JCC); Mississippi Entomological Museum, Mississippi State University, Mississippi State, Mississippi, USA (MEM); McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, Gainesville, Florida, USA (MGCL); Nick Grishin personal collection, Dallas, Texas, USA (NGC); Richard Fleischer personal collection, Burleson, Texas, USA (RFC); Shinichi Nakahara personal collection, Gainesville, Florida, USA (SNC); Terhune Dickel personal collection, Anthony, Florida, USA (TDC); Texas Lepidoptera Survey, Houston, Texas, USA (TLS); University of Texas at Austin Insect Collection, Austin, Texas, USA (TMMC); Zoologische Staatssammlung München, Munich, Germany (ZSM). Genitalia were dissected to confirm identifications using standard techniques, with abdomens being soaked in hot 10% KOH for 10-15 minutes, dissected and subsequently stored in glycerine. Body morphology and dissections were studied using a stereomicroscope at 50x magnification. Wings of males were examined under stereomicroscope at up to 100x magnification, and images were taken with a Canon EOS 50D digital SLR camera mounted on a Microptics Digital Imaging System (Microptics, Inc., Ashland, VA), using CF3, CF4 and Achrovid 10X lenses. Latitude and longitude coordinates for label localities were obtained using the GEOlocate web server <http://www.museum.tulane.edu/geolocate/>, in addition to online searches and subsequent refinement using Google Earth. Coordinates vary in their likely precision, depending on the quality of information on labels and the precision with which

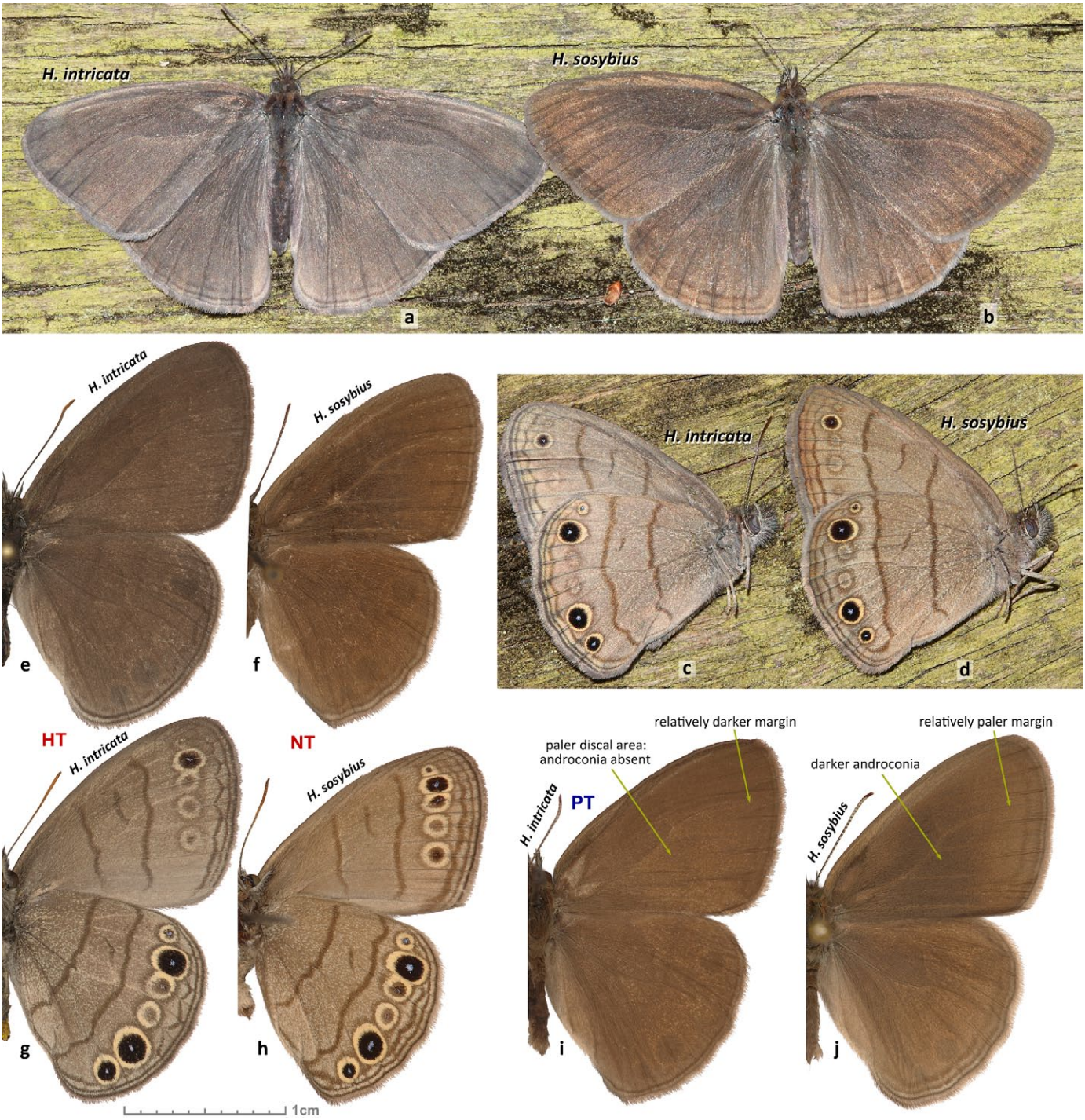

Fig. 1. Dark androconia is a diagnostic character for *H. sosybius* (b, f, d, h, j) vs. *H. intricata* (a, e, c, g, i). a-d. FLORIDA: Levy Co., vic. Waccasassa River, Hwy. 24, 6.8-8.8 mi SW Bronson, 6-IV-2014, A. D. Warren; **e**, **g**. Holotype; **f**, **h**. Neotype; **i**. Paratype, LOUISIANA: Jackson Parish, Jonesboro, 4-VI-1920, G. W. Rawson [USNM]; **j**. TEXAS: Brazoria Co., Bar-X Ranch, Rd. 971N, ex ovum, eclosed 18-IV-2000, N. V. Grishin [NGC]. The scale bar refers to spread specimens.

collectors specified collecting sites. Images of *Hermeuptychia* were searched for on the internet, in particular at http://www.inaturalist.org/. Fieldwork on *Hermeuptychia* was conducted in March, April and May, 2014, by the senior author (ADW) in Levy County, Florida, in a variety of habitats, but mainly in swamp and hammock habitats SW of Bronson.

RESULTS AND DISCUSSION

The basal two-thirds of the forewings of *H. sosybius* are covered with a layer of dark androconial scales, leaving the outer third distinctly paler than the darker base (Fig. 2a). Under a stereomicroscope, these scales appear markedly more

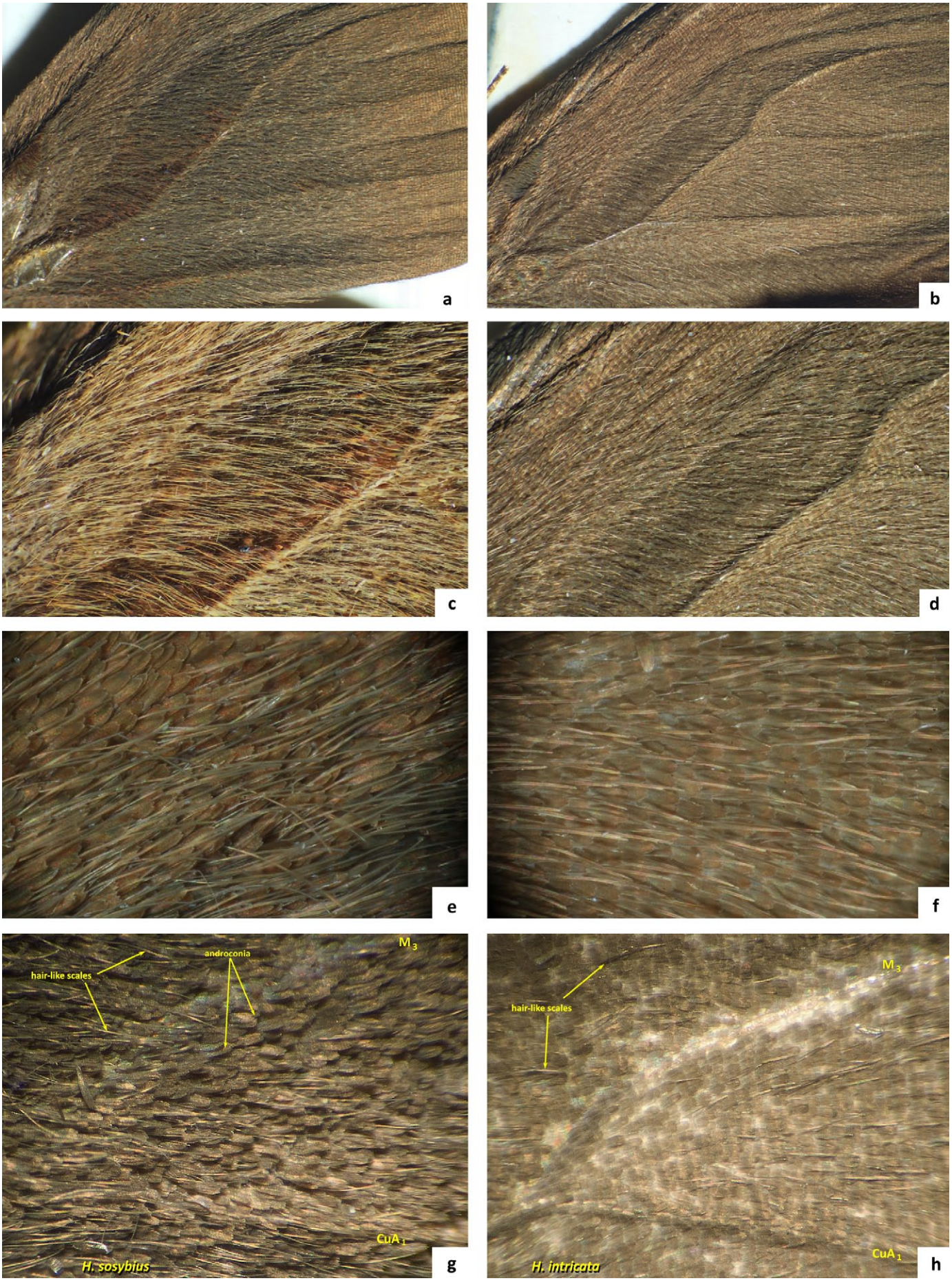
a
b
c
d
e
f
androconia
hair-like scales
M3
CuA1
H. sosybius
g
hair-like scales
M3
CuA1
H. intricata
h

Fig. 3. *Hermeuptychia* live individuals. a-h. *H. sosybius*; **i-n**. *H. intricata*; **o**. unidentified: **a**. male, FLORIDA: Jefferson Co., SW of Lloyd, 8-IV-2007, © Paul Rebman; **b, c**. females, FLORIDA: Levy Co., vic. Waccasassa River, Hwy. 24, 6.8-8.8 mi SW Bronson, 4-V-2014, © A. D. Warren; **d**. FLORIDA: Levy Co., Goethe State Forest, © Kathy Malone; **e**. FLORIDA: Levy Co., CR336, © Kathy Malone; **f**. FLORIDA: Alachua Co., Gainesville, Kanapaha Pines III, 30-X-2011, © A. D. Warren; **g**. TENNESSEE: Williamson Co., Thompson's Station, © Kathy Malone; **h**. NORTH CAROLINA: Clay Co., 13-V-2006, © Jeffrey Pippen; **i**. NORTH CAROLINA: Craven Co., Croatan National Forest, 26-VIII-2012, © Salman Abdulali; **j**. FLORIDA: Wakulla Co., St. Marks NWR, 26-V-2007, © Paul Rebman; **k**. ALABAMA: Bibb Co., Blue Girth Creek, © Vitaly Charny; **l**. TEXAS: Houston Co., Davy Crockett National Forest, Ratcliff Lake Recreation Area, 26-III-2008, © Greg Lasley; **m**. TEXAS: Polk Co. (30.504, -94.689), 18-XI-2013, © Linda Gail Price; **n**. TEXAS: probably near Houston, prior to 1996, © John and Gloria Tveten, this photograph is reproduced in Tveten & Tveten (1996) and Brock & Kaufman (2003); **o**. NORTH CAROLINA: Raleigh Co., Raleigh, Durant Nature Park (35.890, -78.588), © Roger Shaw, identification uncertain. Photographs d, e, i, k, l, n, o are left-right inverted.

Fig. 2. *Hermeuptychia* male dorsal forewings. Images of *H. sosybius* (left) and *H. intricata* (right) were taken using the FLMNH Microptics system CF3 (a & b), CF4 (c & d), 10X lens (e & f), and a Nikon D 200 camera through a dissection microscope at 4.5X magnification (g & h).
a, c, e. FL: Dade Co.; **b, d, f.** FL: Jefferson Co.; **g.**TX: Liberty Co.; **h.** TX: San Jacinto Co. **g, h.** Base of forewing cell M_3-CuA_1, indicating positions of veins and showing hair-like scales; androconial scales of *H. sosybius* (g) are positioned at an angle instead of being shingled flat as regular scales.

Fig. 4. A series of male *Hermeuptychia* specimens. FLORIDA: Levy Co., vic. Waccasassa River, Hwy. 24, 6.8-8.8 mi SW Bronson, 16-III-2014 (a-l) and 6-IV-2014 (m-f), A. D. Warren: *H. sosybius* (a-b, m-t) and *H. intricata* (c-l, u-x).

elongate and dense than surrounding scales, with only the distal 25% of each scale being visible (Fig. 2e,g), while in *H. intricata* the scales in the same part of the wing are arranged in more regular rows, with approximately 50% of each scale visible (Fig. 2f,h). A region of dark androconia is also found on the dorsal hindwing of *H. sosybius*, concentrated in the discal cell, which contrasts with the paler wing areas around it. Males of *H. intricata*, on the other hand, completely lack the dark androconia above, resulting in a nearly uniformly-colored dorsal surface (Fig. 2b). In some cases, the outer margin and cell of the forewing may even be slightly darker than basal areas - essentially the reverse of the pattern seen on *H. sosybius*. While subtle, this difference is easily observed in photos, as well as pinned specimens and live individuals, as long as they are not too worn. Male dorsal forewings (and the discal cell area of the dorsal hindwings) of both species possess long, hair-like scales scattered across the basal two thirds of the wings. Under 100x magnification, these scales are much more numerous and densely packed on *H. sosybius*, giving the basal portion of the wings (overlapping the areas with dark androconia), a distinctly more "hairy" appearance (Fig. 2c,d). It should be noted that androconia are actually an unusual feature in *Hermeuptychia*, but that they are also present in *H. hermybius* Grishin, 2014, the recently described sister species of *H. sosybius*, which occurs at least in S Texas and NE Mexico. Similar differences in the presence or absence of male wing androconia may thus be a useful quick tool for identification of otherwise similar *Hermeuptychia* in the Neotropics. We haven't yet noticed any diagnostic characters on the uppersides of female *Hermeuptychia* that readily separate *H. intricata* and *H. sosybius*.

In addition to the presence or absence of dark forewing androconia on males, there are other subtle differences that are sometimes useful in separating *H. intricata* from *H. sosybius*, including females, some of which were discussed in the original description of *H. intricata* (Cong & Grishin 2014, p. 84). While not always diagnostic, the postmedian line on the ventral hindwing of most specimens of *H. sosybius* bulges basad around vein M_1 (basad of the large eyespot near the apex), while on *H. intricata* this region of the postmedian line is usually straighter. On *H. intricata*, the ventral hindwing postmedian line frequently bulges distad around vein M_3 (basad between the two smaller eyespots), but it rarely does so in *H. sosybius*. The bend in the ventral forewing postmedian line, discussed in the original description of *H. intricata*, seems too variable between the two species to be very useful in separating them. While difficult to quantify, the forewing of *H. intricata* appears to be slightly longer near the apex than that of *H. sosybius*, which has a somewhat more rounded forewing apex. As a result, some individuals of *H. intricata* have a shallowly concave outer margin to the forewing, a feature rarely seen on *H. sosybius*. Finally, very fresh specimens of *H. intricata* and *H. sosybius* may differ subtly in their overall coloration. As shown in Fig. 1a–d, fresh individuals of *H. sosybius* usually have an overall warm brown tone, above and below, while those of *H. intricata* have a colder gray tone. After the butterflies have flown for a day or two, these color differences are no longer apparent. Both *H. intricata* and *H. sosybius* are seasonally variable; spring adults of both are generally larger, with smaller eyespots below, while summer adults are usually smaller, with larger eyespots below. We haven't yet detected any definitive geographic variation in either species, although available samples of *H. intricata* remain limited.

Once the presence or absence of dorsal forewing androconia had been recognized as a diagnostic character, and confirmed through genitalic dissections, males of *H. intricata* were easily

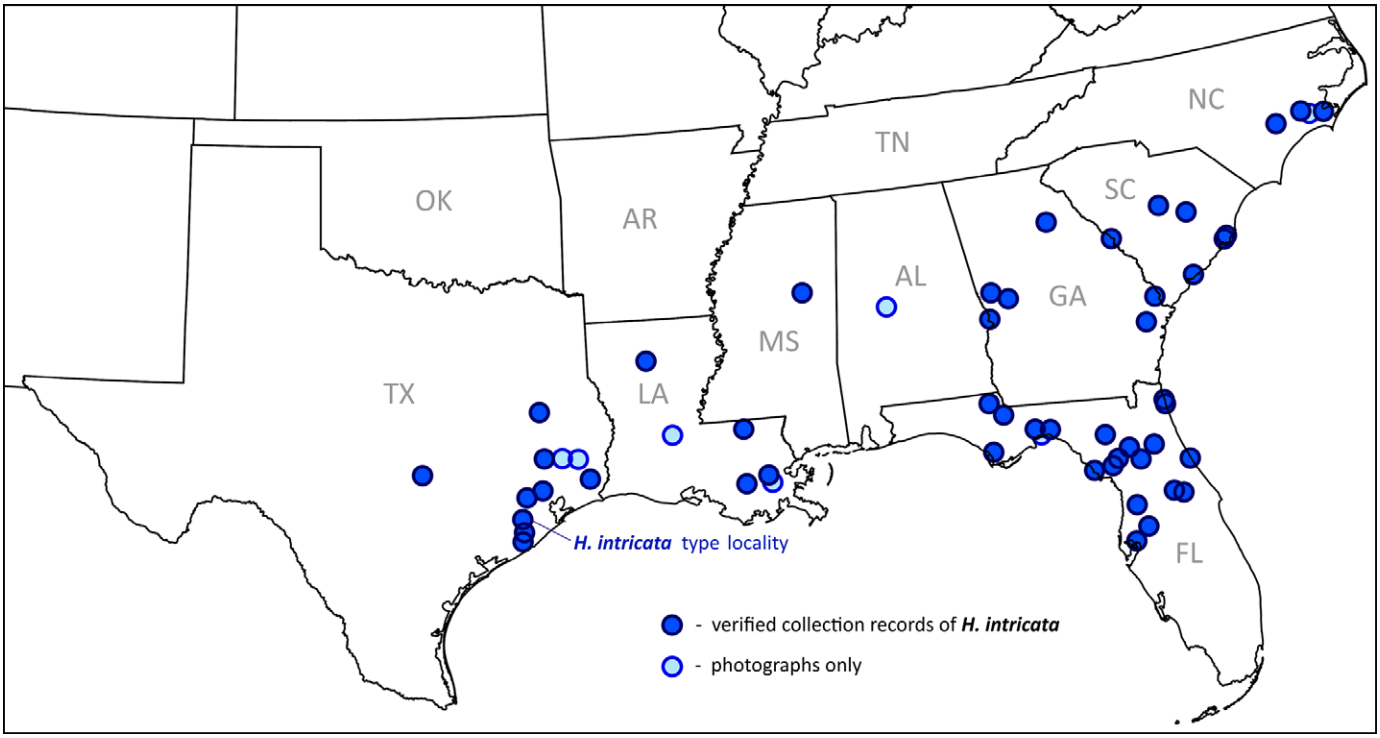

Fig. 5. Distribution records for *H. intricata*. Specimen-based records with unambiguous identifications are shown as dark blue circles and photographic records are indicated as pale-blue circles. The type locality is indicated.

identified among series of *H. sosybius* in the collection at the McGuire Center for Lepidoptera and Biodiversity (MGCL), as well as other collections and among online images (see Appendix), thus providing an opportunity to further define the overall geographic range of *H. intricata*. The original description cited specimens of *H. intricata* from eastern Texas, Louisiana, Florida and South Carolina, and discussed probable photographic records from Texas and Alabama. Specimens are now also known from Mississippi, Georgia and North Carolina. It seems likely that *H. intricata* is widespread in Mississippi and Alabama, at least in the southern parts of those states, and it may extend into southeastern Arkansas, Tennessee, and southeastern Virginia as well. Extensive series of *Hermeuptychia* from Oklahoma (collected by J. M. Nelson) and Missouri (collected by R. J. Heitzman) in the MGCL did not include any *H. intricata*, nor was it found among specimens from Ohio and Kentucky in the collection of John Calhoun. Within Florida, *H. intricata* appears to be very widespread in the Panhandle, east to Jacksonville, and extending southward at least to Orange and Hillsborough Counties. While *H. sosybius* is common in southern Florida (excluding the Florida Keys), we have yet to examine specimens of *H. intricata* from south of Hillsborough County (Tampa area).

We reviewed various publications on North American butterflies to get a feel for how often *H. intricata* has previously been figured as *H. sosybius*. Surprisingly, we haven't yet found any image of the upperside of a male *H. intricata*, allowing conclusive identification, which was published before the original description of that species. We found just one ventral image which, based on the discussion above, is likely to be *H. intricata*, by Tveten & Tveten (1996: 186, ventral); this was reproduced by Brock & Kaufman (2003: 231, right ventral; Fig. 3n herein). Other published images of *H. sosybius* we've reviewed to date have indeed appeared to be *H. sosybius*, although our search of images has been far from exhaustive.

The senior author (ADW) spent several days in March and April of 2014 studying populations of *H. intricata* and *H. sosybius* in Levy County of northern peninsular Florida (see appendix); at all sites and on all days, the two species flew in sympatry. Near the beginning of the first annual flights, on March 16th, in swampy hammock habitats SW of Bronson, *H. intricata* was far more abundant than *H. sosybius*, and both species were in fresh condition (Fig. 4a–l). By April 6th, at the same sites, *H. sosybius* had become far more abundant than *H. intricata*; adults of both species were largely worn, although some fresh individuals of *H. sosybius* were still present (Fig. 4m–x). Finally, on May 4th, no *H. intricata* were found, and only a few female *H. sosybius* remained (Fig. 3b-c). Thus, at least in 2014 (a year with a somewhat delayed spring locally), in Levy County, it appears as if the first flight of *H. intricata* was earlier than that of *H. sosybius*. No obvious differences in behavior were observed between adults of the two species. We have yet to detect a habitat difference between the two species; in Levy County, both species were found in habitats ranging from swampy hammocks (where both species are most common) to dry sandhill scrub.

The remarkable discovery of *H. intricata*, which is now known from eight US states, is a powerful reminder of the continued need for the scientific study and collection of common, widespread butterflies. This example, together with other recent cases of "common" butterflies in the region containing undetected or undescribed cryptic species (Warren & Calhoun 2011, 2012; Pavulaan & Wright 2002, 2005), clearly demonstrates that the butterfly fauna of the eastern United States remains incompletely understood, and suggests that additional unexpected discoveries may await us.

ACKNOWLEDGMENTS

We thank Charles Bordelon (TLS), Richard Brown (MEM), John Calhoun, Terhune Dickel (TDC), Peter Eliazar, Thomas Emmel, Richard Fleischer (RFC), Axel Hausmann (ZSM), Shinichi Nakahara (SNC), Harry Pavulaan, James R. Reddell (TMMC), and Brian Scholtens (BSC) for providing access to collections, data and/or specimens of *Hermeuptychia* for this study. Thanks to Katrina Lane for preparing various papered *Hermeuptychia* specimens at the McGuire Center for Lepidoptera and Biodiversity, and John Calhoun and two anonymous reviewers for detailed reviews of the manuscript. We also thank Parker Backstrom, Bill Bouton, Kathy Adams Clark, Alana Edwards, Greg Lasley, Kenn Kaufman, Kathy Malone, Sean McCann, Jeff Pippen, Linda Gail Price, Paul Rebman, Roger Shaw, Kim Stringer and Barbara Woodmansee for sharing their photos of *Hermeuptychia* and for discussions. We acknowledge support from the U.S. National Science Foundation (NSF-1256742) to KRW.

REFERENCES CITED

Brock, J. P. & K. Kaufman
2003. *Butterflies of North America.* New York, Hillstar Editions L. C. 384pp.

Cong, Q. & N. V. Grishin
2014. A new *Hermeuptychia* (Lepidoptera, Nymphalidae, Satyrinae) is sympatric and synchronic with *H. sosybius* in southeast US coastal plains, while another new *Hermeuptychia* species – not *hermes* – inhabits south Texas and northeast Mexico. *ZooKeys* 379:43-91.

Pavulaan, H. & D. M. Wright
2002. *Pterourus appalachiensis* (Papilionidae: Papilioninae), a new swallowtail butterfly from the Appalachian region of the United States. *Taxonomic Report of the International Lepidoptera Survey* 3(7):1-10.

Pavulaan, H. & D. M. Wright
2005. *Celastrina serotina* (Lycaenidae: Polyommatinae): a new butterfly species from the northeastern United States and eastern Canada. *Taxonomic Report of the International Lepidoptera Survey* 6(6):1-18.

Tveten, J. L. & G. A. Tveten
1996. *Butterflies of Houston and Southeast Texas.* Austin, University of Texas Press. x + 292pp.

Warren, A. D., K. J. Davis, E. M. Stangeland, J. P. Pelham & N. V. Grishin
2014. Illustrated Lists of American Butterflies. http://www.butterfliesofamerica.com (last accessed 05-21-2014)

Warren, A. D. & J. V. Calhoun
2011. Notes on the historical occurrence of *Aphrissa neleis* in southern Florida, USA (Lepidoptera: Pieridae: Coliadinae). *News of the Lepidopterists' Society* 53(1):3-7.

Warren, A. D. & J. V. Calhoun
2012. A treasure hidden in plain sight: *Aphrissa neleis* is a resident in southern Florida, USA (Lepidoptera: Pieridae: Coliadinae). *News of the Lepidopterists' Society* 53(4):133-134.

APPENDIX

Data for specimens and images of *Hermeuptychia intricata* examined in this study. All specimen records are from MGCL unless indicated otherwise (see Materials and Methods for collection abbreviations). Additional specimen data upon which the distribution map (Fig. 5) is based are from Cong & Grishin (2014).

Specimens of *Hermeuptychia intricata* examined (with decimal latitude and longitude from subsequent locality georeferencing):

TEXAS: **Brazoria Co**.: Nannie M. Stringfellow WMA (28.961, -95.372) J. & F. Preston (1f); **Harris Co**.: Eisenhower Park, in NE Houston (29.909, -95.136), 9-X-1991, J. & F. Preston (1f); 1-X-1992, J. & F. Preston (1f); 2-X-1993, J. & F. Preston (3m, 2f); nr. Alexander Deussen Park (29.913, -95.153), 2-X-1988, J. & F. Preston (1m); Spring Valley (29.789, -95.503), 8-IV-2003, C. W. Bordelon & E. Knudson (1m, TLS); **Houston Co**.: Ratcliff Lake (31.387, -95.151), 5-IX-2004, Richard Fleischer (1m, RFC); **Jefferson Co**.: Beaumont (30.086, -94.102), 15-V-1985, C. W. Bordelon (1m, TLS); 21-III-1990, C. W. Bordelon (1m, TLS); **San Jacinto Co**.: Sam Houston National Forest, Big Creek Scenic Area (30.507, -95.090), 11-IV-2014, N. V. Grishin (1m, NGC); 12-IV-2104, N. V. Grishin (3m, 1f, NGC); **Travis Co**.: Austin, Barton Creek Greenbelt, Backdoor Spring to State Highway Loop 1 (30.246, -97.812), 23-IX-2004, C. J. Durden (1m, TMMC).

LOUISIANA: **Lafourche Par**.: 4 mi S Kraemer (29.809, -90.697), 11-III-1961, G. N. Ross (3m); **St. Helena Par**.: Greensburg (30.831, -90.672) 22-VII-1978, V. Brou (1m).

MISSISSIPPI: **Winston Co**.: Tombigbee National Forest (33.268, -89.084), 10-VIII-1999, D. M. Pollock (1m, MEM).

FLORIDA: **Alachua Co**.: Gainesville (29.651, -82.325), 11-IX-1962, R. T. Arbogast (1m); Gainesville, Agric. Exp. Station (29.645, -82.345), [no date], J. R. W. (3m); Gainesville, vic. Bartram Hall, University of Florida campus (29.643, -82.345), 1972, T. C. Emmel & P. Eliazar (many, various dates); Gainesville, Hogtown Creek at NW 8th Ave. (29.660, -82.362), 22-III-2014, Shinichi Nakahara (2m, SNC); **Dixie Co**.: vic. Suwannee (29.329, -83.144), 15-III-2014, A. D. Warren (2m); **Duval Co**.: Kathryn Abbey Hanna Park, Atlantic Beach (30.371, -81.402), 12-VI-1977, L. Koehn (1m, 1f); Jacksonville, 15-III-1964, C. F. Zeiger (2m); Kingsley Plantation, Fort George Island (30.439, -81.438), 11-IV-1980, M. Furr (3f); 13-IV-1980, M. Furr (1m); **Gulf Co**.: Smith Cr. Landing Cpgd., 20 mi NW Green Point (29.913, -85.272), 17-III-1974, J. B. Heppner (1m); **Hernando Co**.: Chinsegut Hill, 4 mi NE Brooksville (28.596, -82.341), 21-VII-1972, Larry Brown (1m); Nobleton, along Withlacoochee River (28.648, -82.270), 24-V-2014, J. Calhoun (1m, JCC); **Hillsborough Co**.: USF Campus (28.062, -82.414), [no date] 1968, Larry Brown (1m); **Jackson Co**.: Florida Caverns State Park (30.814, -85.233), malaise trap, 1-IX-1977, H. N. Greenbaum (1m); **Jefferson Co**.: Aucilla Wild. Mgt. Area, 14 mi S Wacissa (30.188, -83.978), 16-III-1974, J. B. Heppner (5m); **Levy Co**.: vic. Waccasassa River, Hwy. 24, 6.8-8.8 mi SW Bronson (29.365, -82.737), 16-III-2014, A. D. Warren (12m, 2f); 6-IV-2014, A. D. Warren (9m, 1f); 3.5 mi NE Bronson (29.483, -82.601), 13-IV-2014, A. D. Warren (2m); **Liberty Co**.: Torreya State Park (30.569, -84.948), 15-VIII-1968, H. V. Weems, Jr. (1m, 1f); 19-III-1974, J. B. Heppner (1m, 1f); 31-III-1979, C. F. Zeiger (1m); 18-III-1980, F. D. Fee (3m), 19-III-1980, F. D. Fee (2m); **Marion Co**.: Anthony (29.412, -82.110), pers. comm. via Terry Dickel, III-2014 (2m, TDC); **Orange Co**.: Kelly Park (28.758, -81.501), 24-II-1980, L. C. Dow (4m, 1f); **Pasco Co**.: Crystal Springs (28.181, -82.158), 1-VIII-1972, Larry Brown (1m); **Seminole Co**.: Winter Springs (28.699, -81.308), 18-IV-1981, L. C. Dow (1f); [no locality], 10-III-1935, E. M. Davis (1m, 1f); **Sumter Co**.: E of Nobleton, anong Withlacoochee River (28.644, 82.257), 24-V-2014, J. Calhoun (5m, 5f, JCC); **Suwannee Co**.: Hildreth (29.953, -82.806), 30-V-1977, C. F. Zeiger (1m); **Volusia Co**.: Ormond Beach (29.286, -81.056), 22-VIII-1975, L. Godefroi (1m); 22-II-1988, D. L. Bauer (1m, 1f); **Wakulla Co**.: River Sink, near Wakulla Springs (30.233, -84.305), 23-III-1961, C. V. Covell, Jr. (1m).

GEORGIA: **Chattahoochie Co**.: Fort Benning, Kelly Hill Area (32.352, -84.969), 13-IV-1993, Ron Hirzel (1m); **Clarke Co**.: [no locality], 3-VII-1983, E. Vargo (1m, TMMC); **Effingham Co**.: Rincon (32.296, -81.236), 10-IV-1980, S. Dunkle (1m); **Harris Co**.: Callaway Gardens, Pine Mountain (32.835, -84.854), 24-IV-1973, B. Hollister (1f); **Long Co**.: Fort Stewart (31.863, -81.518), 22-IV-1993, R. F. Hirzel; **Richmond Co**.: Augusta (33.471, -81.975), 15-VI-1975, P. Milner (1m); **Talbot Co**.: 13 mi E Talbotton (32.677, -84.488), 31-III-1974, Abner A. Towers (1m).

SOUTH CAROLINA: **Charleston Co**.: The Wedge Plantation, 5 mi NE McClellanville, marsh (33.139, -79.400), 25-VI-1971, L. D. & J. Y. Miller (2m); Edisto Island (32.559, -80.295), 24-VIII-1978, J. Hyatt (1m); **Richland Co**.: Congaree NP, boardwalk vic. Visitor Center (33.831, -80.823), 7-XI-2009, B. G. Scholtens (1m, BSC).

NORTH CAROLINA: **Carteret Co**.: Marrimon Rd. (34.949, -76.640), 2-V-1971, J. Bolling Sullivan (1m); **Duplin Co**.: Beulaville (34.924, -77.774), 16-VIII-1970, R. W. Boscoe (1m); 18-VIII-1972, R. W. Boscoe (1m); **Jones Co**.: Island Creek (35.048, -77.150), 21-VIII-1971, J. Bolling Sullivan (4m); 24-IV-1973, J. Bolling Sullivan (1f).

Probable records of *Hermeuptychia intricata* based on photos:

TEXAS: **Hardin Co**.: Big Thicket National Preserve, Turkey Creek Unit (30.476, -94.341), 19-X-2013, "teamlepidoptera" (1m, spread specimen, at inaturalist.org, obs. 455128); **Houston Co**.: Ratcliff Lake Recreation Area, Davy Crockett National Forest (31.392, -95.159), 28-III-2008, Greg Lasley (1m, at inaturalist.org, obs. 195473); **Polk Co**.: (30.504, -94.689), 18-XI-2013, Linda Gail Price (1m, at inaturalist.org, obs. 462640).

LOUISIANA: **Evangeline Par**.: Chicot (30.819, -92.243), 4-8-IV-1972, G. Heinrich (1m, ventral specimen photo, ZSM); **Jefferson Par**.: Estelle, Jean Lafitte National Historic Park and Preserve (29.793, -90.133), 6-IV-2014, Scott Loarie (1m, at inaturalist.org, obs. 612222).

ALABAMA: **Bibb Co**.: Blue Girth Creek (32.832, -87.234), 8-VIII-2004, Vitaly Charny (1m, figured by Warren et al. [2014]).

FLORIDA: **Wakulla Co**.: St. Marks NWR (30.114, -84.183), 26-V-2007, Paul Rebman (1m, figured at wildflphoto.com).

NORTH CAROLINA: **Craven Co**.: Croatan National Forest (34.968, -76.969), 26-VIII-2012, Salman Abdulali (1m).