

## WATCH FOR *ERYNNIS FUNERALIS* (HESPERIIDAE) IN THE EAST

BY

JOHN V. CALHOUN

The range of *Erynnis funeralis* (Funereal Duskywing) was originally believed to be limited to the southwestern United States, south through Mexico and Central America to Argentina. In his groundbreaking treatise on the genus *Erynnis*, Burns (1964) listed records of *E. funeralis* from Arizona, California, New Mexico, and Texas, noting that it “probably appears from time to time in various parts of the Great Basin in Nevada, Utah, and eastern Colorado.” East of the Rocky Mountains, it was known to occur irregularly in Arkansas, Colorado, Kansas, Nebraska, and Oklahoma. Burns (1964) also mentioned four old male specimens from the Florida Panhandle and a “possible *funeralis* x *zarucco* hybrid” from Louisiana.

The very similar *Erynnis zarucco* (Zarucco Duskywing) is mostly established east of the Mississippi River, across the southeastern United States, with strays northward to Massachusetts, Pennsylvania, and Ontario. It also occurs in Cuba and Hispaniola. The easiest method to differentiate these species is the color of the hindwing fringe; it is snowy white in *E. funeralis* and typically brown or buff-colored in *E. zarucco*. However, some *E. zarucco* (especially females) from the lower Florida Keys can have a nearly white fringe, leading to speculation about the genetic influence of *E. funeralis* in that population (Minno & Emmel 1993). Adults of *E. zarucco* from elsewhere in the southeast can also have a very pale or mostly white fringe. Such phenotypes may be hybrids or the result of past genetic introgression from *E. funeralis*. The forewings of *E. funeralis* also tend to be longer, and their ground color is darker on average. Burns (1964) considered *E. funeralis* and *E. zarucco* to be differentiates of one superspecies (*E. zarucco*), yet he accepted them as separate species. Although Scott (1986) subsequently recognized them as subspecies of *E. zarucco*, these butterflies are most often treated as discrete species (e.g. Lamas 2004, Mielke 2005, Pohl et al. 2018, Pelham 2019).

By the mid-1990s, *E. funeralis* was documented from other localities in northern Florida, as well as in Indiana, Kentucky, and Missouri. Although this species was thought to be a rare stray in the east, Carpenter (2015) concluded that it is a regular, seasonal immigrant that establishes temporary populations in much of eastern North America. Larvae of *E. funeralis* are known to feed on various legumes, but its food plants east of Texas are uncertain. A female was photographed ovipositing on naturalized rattlebox, *Sesbania punicea*,

in the Florida panhandle (L. Atherton, pers. comm.), and it was possibly observed ovipositing on peavine, *Lathyrus* sp., in Illinois (Carpenter 2015).

After learning of several new reports of *E. funeralis* in Florida, I became curious about other recent eastern records. I searched numerous published and unpublished sources, including regional books and lists, the Lepidopterists' Society season summaries, and regional reports in the Southern Lepidopterists' News. I also consulted online databases and talk groups, including BugGuide ([bugguide.net/node/view/15740](http://bugguide.net/node/view/15740)), Butterflies and Moths of North America (BAMONA; [butterfliesandmoths.org](http://butterfliesandmoths.org)), Carolina Butterfly Discussion ([lists.duke.edu/sympa/arc/carolinaleps](http://lists.duke.edu/sympa/arc/carolinaleps)), eButterfly ([ebutterfly.org](http://ebutterfly.org)), Flickr ([flickr.com](http://flickr.com)), Global Biodiversity Information Facility ([gbif.org](http://gbif.org)), iNaturalist ([inaturalist.org](http://inaturalist.org)), KY Butterfly Net Database ([kylepidopterists.org/database.html](http://kylepidopterists.org/database.html)), North American Butterfly Association (NABA; [sightings.naba.org](http://sightings.naba.org)), Ohio Lepidopterists webpage ([ohiolepidopterists.org](http://ohiolepidopterists.org)), Symbiota Collections of Arthropods Network (SCAN; [scan-bugs.org/portal/](http://scan-bugs.org/portal/)), and Wisconsin Butterflies ([wisconsinbutterflies.org/butterfly](http://wisconsinbutterflies.org/butterfly)). Additional information was obtained directly from observers and state data coordinators. Most records were confirmed via photographs.

The following list is not intended to be a comprehensive summary of all known eastern records of *E. funeralis*, but it gives a good idea of just how many have been documented east of the Mississippi River (excluding eastern Minnesota and southeastern Louisiana) within the past two decades. Several county records comprise multiple reports during the same year.

**CANADA: ONTARIO** (first record 1981): many records between 1999 and 2019 from Point Pelee, north to Toronto. **UNITED STATES: ALABAMA:** 2014 (Baldwin and Colbert cos.; first records), 2015 (Baldwin Co.), 2016 (Baldwin Co.), 2018 (Baldwin, Jackson, Jefferson, and Marshall cos.), 2019 (Baldwin and Mobile cos.); **FLORIDA** (Figs. 1-5) (first record 1914): 2003 (Alachua, Franklin, and Jackson cos.), 2004 (Franklin and Jackson cos.), 2005 (Alachua and Jackson cos.), 2006, (Okaloosa Co.), 2007 (Franklin and Gilchrist cos.), 2009 (Okaloosa and Taylor cos.), 2012 (Wakulla Co.), 2015 (Marion Co.), 2018 (Franklin, Gulf, Taylor, and Wakulla cos.), 2019 (Polk and Wakulla cos.); **GEORGIA** (first record 1950): 2000 (Fulton Co.), 2019 (McIntosh Co.) (Fig. 6); **ILLINOIS** (first

record 1998): 1999 (Alexander and Saline cos.), 2004 (La Salle Co.), 2007 (Christian Co.), 2010 (DuPage, Fulton, Henderson, Lake, McHenry, and Will cos.), 2011 (Alexander, Cook, and DuPage cos.), 2012 (Clay, Fayette, Grundy, Kankakee, Lake, La Salle, McLean cos.), 2013 (Champaign Co.), 2015 (McHenry Co.), 2017 (DuPage Co.), 2019 (Coles, Cook, Hancock, Lake cos.); **INDIANA** (first record 1936): 2001 (Porter Co.), 2003 (Vigo Co.), 2004 (Bartholomew Co.), 2010 (Tippecanoe Co.), 2012 (Tippecanoe Co.), 2014 (Brown and Madison cos.), 2016 (Hamilton Co.), 2019 (Dearborn Co.); **KENTUCKY** (first record 1981): 1999 (Carlisle Co.), 2001 (Fulton Co.), 2010 (Fulton and Menifee cos.); **MARYLAND**: 2019 (Worcester Co.; first record); **MICHIGAN**: 2001 (Chippewa Co.; first record), 2018 (Grand Traverse and Kalamazoo cos.); **MISSISSIPPI** (first record 1970): 1999 (Jackson Co.), 2001 (Jackson and Warren cos.), 2014 (Sharkey Co.), 2016 (Lafayette Co.), 2017 (Adams Co.), 2018 (Adams, Issaquena, Jackson cos.); **NEW JERSEY**: 2014 (Morris Co.; first record); **NEW YORK**: 2019 (New York Co.; first record); **NORTH CAROLINA**: 2000 (New Hanover Co.; first record), 2010 (Brunswick Co.), 2019

(Chatham Co.); **OHIO**: 2008 (Franklin Co.; first record), 2011 (Lake Co.), 2012 (Logan Co.), 2015 (Montgomery Co.), 2017 (Montgomery Co.), 2018 (Cuyahoga and Montgomery cos.), 2019 (Franklin, Licking, Lucas, Montgomery, and Wayne cos.); **PENNSYLVANIA**: 2003 (Allegheny Co.; first record), 2018 (Warren Co.), 2019 (Allegheny Co.); **RHODE ISLAND**: 2010 (Washington Co.; first record); **SOUTH CAROLINA**: 2010 (Williamsburg Co.; first record), 2015 (Clarendon Co.); **TENNESSEE**: 2007 (Shelby Co.; first record), 2009 (Stewart Co.), 2010 (DeKalb, Lake, and Lauderdale cos.), 2011 (Stewart Co.), 2012 (Davidson and Shelby cos.), 2016 (Dyer Co.), 2019 (Lake, Lewis, and Shelby cos.); **VIRGINIA**: 2017 (Greene Co.; first record); **WISCONSIN**: 2002 (Trempealeau Co.; first record), 2007 (Dane Co.), 2010 (Dane, Milwaukee, and Vernon cos.), 2012 (Crawford and Milwaukee cos.), 2015 (Columbia, Crawford, Jackson, Milwaukee, Sheboygan, and Waukesha cos.), 2017 (Jackson and Walworth cos.), 2018 (Dane, Dodge, Lafayette, Milwaukee, Sauk, and Waushara cos.), 2019 (Dane and Milwaukee cos.).



Figs. 1-6. *Erynnis funeralis* from Florida and Georgia. 1, Okaloosa Co., FL, 19.vii.2009 (M. A. Friedman). 2, Taylor Co., FL, 19.ix.2009 (D. Jue). 3, Marion Co., FL, 4.x.2015, (T. Palmer). 4, Wakulla Co., FL, 16.ix.2012 (D. Jue). 5, Taylor Co., FL, 9.ix.2018 (D. Jue). 6, McIntosh Co., GA, 14.x.2019 (J. & N. Crosby).

These records imply that large numbers of *E. funeralis* regularly invade eastern North America. As noted by Carpenter (2015), this species probably does not overwinter in the east, but it appears to be capable of producing at least two broods during a given season. Records from the most distant eastern localities are few and presumably result when more temporary colonies are established as the species spreads eastward. The majority of eastern records are from August-October, though many are from June-July. A few are from April-May, especially westward. The species evidently

begins to disperse from its southwestern strongholds during early spring and reaches distant eastern areas later in the season. The first known record from Georgia, a fresh male from Coweta County, dated 25 March 1950 (Milwaukee Public Museum, Milwaukee, Wisconsin), suggests that adults begin moving eastward very early during some years. The species has been recorded as early as February in southern Louisiana (Marks 2018). The significant increase in eastern reports of *E. funeralis* during the last decade is probably due to a greater number of observers and the

growing availability of options to publicly share data. Continuing research will hopefully reveal more about the biology of *E. funeralis* in the east and its relationship with *E. zarucco*.

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(John V. Calhoun, Email: [bretcall@verizon.net](mailto:bretcall@verizon.net))

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