

## **Hesperia illinois Dodge (Hesperiidae): An Invalid Neotype and the Designation of a Lectotype**

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## *HESPERIA ILLINOIS* DODGE (HESPERIIDAE): AN INVALID NEOTYPE AND THE DESIGNATION OF A LECTOTYPE

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**ABSTRACT.** The nominal taxon *Hesperia illinois* Dodge, 1872 (now recognized as *Euphyes bimacula illinois*) was described from over 40 specimens collected in Bureau County, Illinois, by the brothers Edgar and George Dodge. Since 1999, *H. illinois* has been represented by a neotype from Grundy County, Illinois, but this designation is nomenclaturally invalid for technical reasons. In addition, at least three syntypes of *H. illinois* exist. A lectotype is designated, thereby returning the type locality to Bureau County, Illinois.

**Additional key words:** Edgar A. Dodge, George M. Dodge, *Hesperia acanootus* Scudder, *Hesperia bimacula* Grote & Robinson.

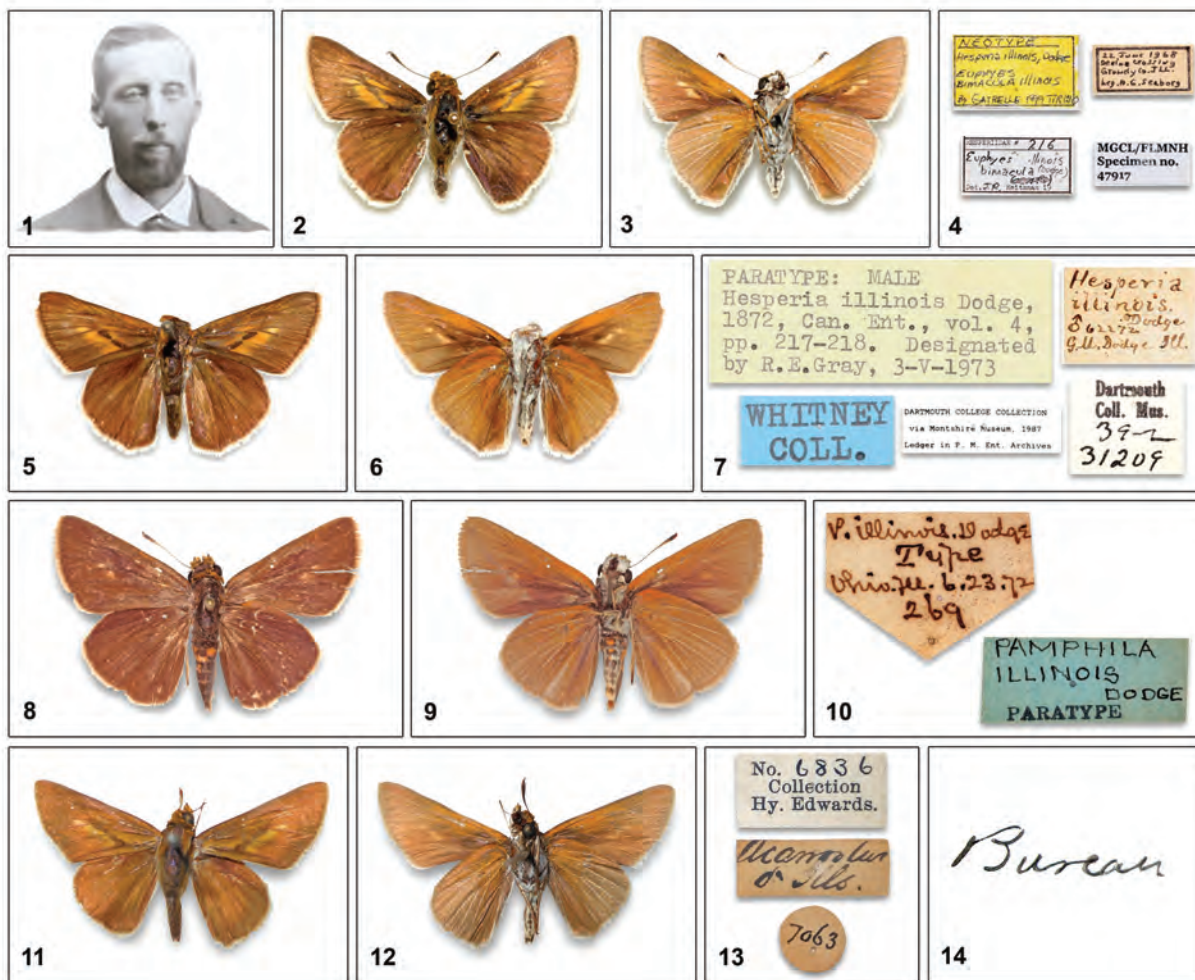
On 20 June 1872, Edgar A. Dodge (1853–1933) discovered some unfamiliar skipper butterflies in Bureau County, Illinois. He and his older brother, George M. Dodge (1846–1912), collected over 40 specimens that season, only nine of which were females. George (Fig. 1) soon after described the species as *Hesperia illinois*, either to honor the native Americans recognized by that name (as in the tradition involving many other skipper butterflies) or the state in which the Dodge family had resided since 1854 (Dodge 1872; Calhoun 2013). Dodge (1872) stated that the species was abundant “upon grassy slopes on the high rolling prairie that forms the divide between the Illinois and Rock Rivers.” Such high rolling prairie occurs in northern Bureau County and is particularly noticeable within the townships of Bureau, Walnut, and Ohio (Matson 1872). The Dodges lived on 32 ha (80 ac) of land, which comprised the northeastern one-eighth of Section 19 of Ohio Township, 4.4 km (2.74 mi) southwest of the town of Ohio in north-central Bureau County (Calhoun 2013). This is located about 160 km (99.4 mi) southwest of present-day downtown Chicago. The specimens of *illinois* were most likely collected in the vicinity of their property. A typesetter for the Canadian Entomologist misread G. M. Dodge’s handwriting (Fig. 14), resulting in an erroneous type locality of “Burcan” County, Illinois, in Dodge (1872). In exchange for other North American butterflies, Dodge (1872) offered syntypes of *H. illinois*, as well as specimens of *Oarisma poweshiek* (Parker), which he and his brother found abundantly at the same locality. Their specimens of *O. poweshiek* remain the only known examples of this species from Illinois (Bouseman et al. 2006). The nominal taxon *Hesperia illinois* is currently represented by a neotype (Gatrelle 1999), but this designation is nomenclaturally invalid for technical reasons and disregards the existence of syntypes.

### METHODS

The original description of *Hesperia illinois* by Dodge (1872) and the subsequent neotype designation by Gatrelle (1999) were reviewed. The relevant provisions of the Code (ITZN 1985; ICZN 1999) were consulted to determine the validity of the neotype. With the kind assistance of staff members, I searched for specimens in the following institutions: The Academy of Natural Sciences (Philadelphia, Pennsylvania; ANSP), the American Museum of Natural History (New York, New York; AMNH), Boston University (Boston, Massachusetts; BU), the California Academy of Natural Sciences (San Francisco, California; CAS), the Carnegie Museum of Natural History (Pittsburgh, Pennsylvania; CMNH), the Field Museum of Natural History (Chicago, Illinois; FMNH), the Illinois Natural History Survey (Champaign, Illinois; INHS), the McGuire Center for Lepidoptera and Biodiversity (Florida Museum of Natural History, Gainesville, Florida; MGCL), the Museum of Comparative Zoology (Harvard University, Cambridge, Massachusetts; MCZ), the National Museum of Natural History (Smithsonian Institution, Washington, D. C.; USNM), The Natural History Museum (London, UK; BMNH), the New York State Museum (Albany, New York, NYSM), and the Peabody Museum of Natural History (Yale University, New Haven, Connecticut; PMNH). Also consulted were letters and manuscripts preserved in the library of FMNH, archives of MGCL, Archives and Special Collections, Olin Library, Rollins College (Winter Park, Florida; RC), and the Charles C. Wise, Jr. Library (West Virginia State Archives, West Virginia University, Morgantown; WVSA; copies at MGCL).

### RESULTS

Soon after the description of *H. illinois* was published, the young New York naturalist Theodore L.



FIGS. 1–14 *Hesperia illinois*. 1, George M. Dodge, 1892. 2, invalid neotype of *H. illinois* (dorsal; MGCL). 3, invalid neotype (ventral). 4, labels of invalid neotype. 5, male lectotype (dorsal; PMNH). 6, lectotype (ventral). 7, labels of lectotype. 8, female paralectotype (dorsal; ANSP). 9, female paralectotype (ventral). 10, labels of female paralectotype. 11, male paralectotype (dorsal; AMNH). 12, male paralectotype (ventral). 13, labels of male paralectotype. 14, “Bureau” as written by G. M. Dodge, resulting in the typesetting error of “Burcan County” in Dodge (1872) (from letter to T. L. Mead, RC).

Mead (1852–1936) notified G. M. Dodge that this species had been described four years earlier as *Hesperia acanootus* Scudder, 1868, which in turn was a synonym of *Hesperia bimacula* Grote & Robinson, 1867 (copy letter, 29.xii.1872, RC). This species is currently recognized as *Euphyes bimacula*. Although the original description of *bimacula* by Grote & Robinson (1867) was detailed, it characterized only the female, did not include figures, and was published in a somewhat obscure journal. Several years after its description, entomologists still struggled to understand its true identity. Scudder (1872) was the first to publish the connection between *acanootus* and *bimacula*. Minot (1872) offered the first detailed description of the male

of *bimacula*, which was published just before G. M. Dodge described *H. illinois*. Prior to describing *illinois*, Dodge had seen neither Scudder’s (1872) updated synonymy nor his earlier description of *acanootus*.

After reviewing the description of *H. illinois*, Mead informed Dodge, “*Acanootus* is a synonym of *Bimacula* G&R of which there is a single ♀ specimen in the Robinson collection of the Amer[ican]. Mus[eum]. Accordingly I made a closer examination of that specimen, probably the original type, and I am afraid they are identical with *Illinois*” (copy letter, 29.xii.1872, RC). As Mead surmised, the specimen of *bimacula* in AMNH was likely the holotype and this represents the last known reference to its existence. The insect



collection of Coleman T. Robinson (1838–1872), who coauthored the description of *H. bimacula*, was donated in early 1870 to the newly founded AMNH. Among Robinson's specimens were the name-bearing types of taxa that he had co-described with Augustus R. Grote (Grote 1873). At that time, the museum was temporarily housed on the second and third floors of the Central Park arsenal building, then known as the "Central Park Museum, Observatory, and Menagerie" (Robinson 1870; Sweeny et al. 1871; Grote 1876). Robinson's donations of 10,000 Lepidoptera, 4,000 shells, and 100 volumes of books were among the earliest to the fledgling museum, where Robinson served without pay as Curator of Entomology from 1870 until his death (Osborn 1911). Construction on the current AMNH building was begun in 1874 and it opened to the public three years later. Mead transferred the Robinson collection into "insect-proof" boxes during late 1872 (Stuart 1872), thus explaining his familiarity with the holotype of *bimacula*. Mead was 20 years old and living with his parents at 596 Madison Avenue, just north of E. 61st Street in New York City (the building address changed on 1 May 1873 to 674 Madison Ave.). His home was located less than three blocks southeast of the arsenal building, which still stands in the southeast corner of Central Park, at the intersection of Fifth Avenue and 64th Street.

The holotype of *bimacula* was evidently collected in the vicinity of Philadelphia (Grote & Robinson 1867), possibly by Charles A. Blake (1834–1903), a local entomologist whose specimens were cited in several publications by Grote and Robinson. Miller and Brown (1981) and Pelham (2008) suggested that this specimen may be deposited in AMNH or NYSM. In his review of *E. bimacula*, Gatrell (1999) did not attempt to find the holotype. I could not locate it at AMNH or NYSM, nor was it found in the collections of BMNH, NYSM, FMNH, or USNM. On at least one occasion, Mead borrowed type material from AMNH on behalf of Grote. The holotype of *bimacula* was perhaps loaned out and never returned.

I likewise was unable to find any recognizable types of *H. acanootus* at MCZ, where the insect collection of Samuel H. Scudder is deposited. According to Scudder (1868), the type (or types) of *acanootus* came from the fellow Massachusetts entomologist Francis G. Sanborn (1838–1884), who collected the species in the vicinity of Lexington, Massachusetts, during the month of August (unusually late for *E. bimacula*). Sanborn was then working as an assistant in the museum of the Boston Society of Natural History (BSNH) (Dickinson 1885), thus it is possible that his specimens of *acanootus* were deposited in the collection of BSNH, whose insects

were given to Boston University during the first half of the 20th century (Boston, Massachusetts; BU) (Johnson 2004). Although specimens from Sanborn exist in the BU collection, no *E. bimacula* from Lexington, Massachusetts, were found.

Because Mead recognized that *acanootus* and *illinois* were synonymous with *bimacula*, he encouraged Dodge to immediately publish a retraction to "correct the error" before anyone else found out (copy letter, 29.xii.1872, RC). Mead reminded a disheartened Dodge that even S. H. Scudder, "the highest authority in America," had made the very same mistake in redescribing an existing species. In his follow-up note, Dodge (1873) confessed that he had not seen any specimens of *acanootus* and was misled by Minot's (1872) description of the male of *bimacula*. Although Dodge blamed himself for re-describing an established species "with injudicious haste," Mead felt responsible: "I should have been more careful in comparing the specimens." Mead later examined a male specimen of *bimacula* from New York and confirmed to Dodge that *illinois* was indeed synonymous (copy letter, 23.iii.1873, RC).

Dodge (1873) observed that the majority of his female specimens of *H. illinois* differed from *H. acanootus* as described by Scudder (1868). Such minor differences largely went unnoticed until Stanford (1981) tentatively recognized *illinois* as a western subspecies of *E. bimacula*, "pending examination of the type." Subsequent authors (e.g. Ferris 1989; Miller 1992; Orwig 1992; Scott 1992) followed this treatment. Citing Stanford (1981), Gatrell (1999) also accepted *illinois* as a subspecies of *E. bimacula* that occurs from Illinois westward. Evidently in response to Stanford's (1981) call for an examination of type material, Gatrell conducted a casual search for syntypes of *H. illinois*. "The best lead I had was that some of these specimens may have been deposited in the Field Museum in Chicago and from there to the Allyn Museum," he explained, adding, "I received no reply from my inquiry to the Allyn Museum about the possibility of any of Dodge's specimens being there" (Gatrell 1999).

Gatrell's inquiry to the former Allyn Museum of Entomology (Sarasota, Florida) was based on a hunch that G. M. Dodge had sent specimens of *illinois* to the lepidopterist F. H. Herman Strecker, whose collection was acquired by FMNH in 1908 (Gerhard 1909; González et al. 2010). In 1976, the Allyn Museum received on semi-permanent loan all of Strecker's butterflies and sphingid moths. In his letter to the Allyn Museum, dated 22 October 1999, Gatrell asked Curator Lee D. Miller if he could borrow any of Dodge's specimens of *E. b. illinois* "in the Field

Museum's holdings" (archives, MGCL). Six years earlier, however, Miller had informed Gatrell that the Strecker material was returned to FMNH in 1987. More important, Gatrell overlooked a reference by Brown (1974) to a "paratype" of *H. illinois* at ANSP. Obviously in response to the failure of Miller and Brown (1981) to mention this "paratype," Bridges (1984, 1994) emphatically cited type material at "ANSP!"

**Neotype.** Instead of searching elsewhere for syntypes, Gatrell (1999) designated a neotype of *H. illinois* using a male specimen of *E. bimacula* from "Denine Crossing," Grundy County, Illinois (Gatrell 1999) (Figs. 2–4). He included the caveat, "If any syntypes are found, I withdraw this specimen as neotype only on condition that such syntype is designated as lectotype." Despite this proviso, Gatrell had no control over the fate of the neotype in the event that any other name-bearing types were found. According to the third edition of the Code then in force, only the International Commission on Zoological Nomenclature could rule whether the neotype would be retained (ITZN 1985, Art. 75(h)). The current edition of the Code, which took effect one week after Gatrell (1999) was published, stipulates that unless the Commission rules to retain the neotype following an application, the neotype is automatically set aside upon the publication of the discovery of any other name-bearing types (ICZN 1999, Art. 75.8). Accordingly, Pelham (2008) asserted that the neotype would be considered invalid if the specimen reported by Brown (1974) in ANSP is confirmed to be a syntype.

The neotype of *H. illinois* (Figs. 2–4) was collected on 22 June 1968 by the late Norman G. Seaborg (1935–2010) of Lockport, Illinois. Gatrell (1999) interpreted Seaborg's handwritten label to read "Denine Crossing," but I was unable to find any town or other feature in Illinois by this name. Although the first word of the locality is somewhat illegible, I could not accept Gatrell's interpretation based on Seaborg's writing style. A clue to unraveling this mystery was found in Heitzman (1969), who reported that *E. bimacula* was collected on 23 June 1968 at Goose Lake Prairie in Grundy County, Illinois. Just north of this prairie, where Collins Road intersects a railway line, was the former community of Divine, also known as Devine. Moreover, there are two specimens of *E. bimacula* in the collection of INHS that are labeled "Divine, Goose Lake Twp. Grundy Co. Ill." These specimens were collected on the same day as the neotype by the Illinois lepidopterist Roderick R. Irwin. Based on this evidence, Seaborg's label undoubtedly reads "Devine Crossing," in reference to the settlement found closest to the collection site. Seaborg and Irwin presumably visited

the locality together. The neotype, currently deposited at MGCL, was captured about 102 km (63.4 mi) southeast of the Dodge's home in Bureau County, and 76 km (47.3 mi) southwest of present-day downtown Chicago.

From a technical standpoint, there are fundamental problems with the neotype designation for *H. illinois*. There existed no exceptional need for this action in the interest of nomenclatural stability or to resolve a complex zoological problem. The identity of *illinois* has not been questioned since Dodge (1873), thus the designation was unnecessary (ITZN 1985, Art. 75(c); ICZN 1999, Art. 75.2). In addition, Gatrell did not conduct a reasonable search for existing syntypes or indicate why he believed them to be lost or destroyed, thereby failing to satisfy one of the qualifying conditions of such a designation (ITZN 1985, Art. 75(d)(3); ICZN 1999, Art. 75.3.4). Not only was the designation nomenclaturally invalid for these reasons, any argument to the contrary is now rendered moot by the rediscovery of three syntypes of *H. illinois*.

**Syntypes.** Two obvious syntypes of *H. illinois* were located during my research on the entomological contributions of the Dodge brothers (Calhoun 2013). A male (Figs. 5–7) and a female (Figs. 8–10) are deposited at PMNH and ANSP, respectively. A second male (Figs. 11–13), at AMNH, is provisionally recognized as a syntype. Additional museum collections (AMNH, BMNH, CMNH, FMNH, MGCL, and USNM) were searched for potential syntypes, but none were found. The remainder of the Dodge brothers' insect collection was deposited in CAS after the death of Edgar in 1933 (Calhoun 2013). Although CAS possesses four *E. bimacula* from Bureau County, Illinois, all are topotypes that were collected after *H. illinois* was described. Because *H. illinois* was described from a large type series (over 40 specimens), it seems likely that additional syntypes exist.

The male syntype of *H. illinois* in PMNH (YPM ENT 746877) (Figs. 5–7) was collected by G. M. Dodge in Illinois on 22 June 1872, just two days after his brother first found the species in that area. The specimen is from the collection of Charles P. Whitney (1838–1928), a druggist and naturalist from New Hampshire who was a correspondent of the Dodge brothers (Calhoun 2013). Details about the provenance of this specimen were found in unpublished documents at PMNH, including Furth (1987). After his death, a portion of Whitney's insect collection was evidently acquired by his long-time friend, Herbert S. Hutchinson (1849–1942), a physician who had a general interest in natural history and sometimes collected butterflies with Whitney (Whitney 1874; Rotch 1906). In 1939, Hutchinson donated

Whitney's specimens to Dartmouth College (Hanover, New Hampshire), whose natural history museum closed during the mid-1970s (Baas 1985). Dartmouth's insects were conveyed in 1976 to the newly founded Montshire Museum of Science (Norwich, Vermont), where they remained until 1987 when they were transferred to PMNH. Whitney's collection of horseflies (his primary interest) was donated to BSNH by his housekeeper in 1932 (some of the types were later transferred to MCZ) (Bequaert 1933).

Affixed to the male syntype at PMNH is a small rectangular label, written in Whitney's hand (Fig. 7). Data on the label were undoubtedly transcribed from Dodge's original label. A large typescript unit tray label indicates that Richard E. Gray, former Associate Curator of Biology at the Dartmouth College Museum, identified this specimen in 1973 as a "paratype" of *H. illinois*. Other labels denote the specimen's prior ownership by Dartmouth College and the Montshire Museum. An entry in a ledger from the Dartmouth College Museum (at PMNH) corresponds to a label on the syntype, identifying it as specimen no. 31209 from the Whitney collection.

The female syntype (Figs. 8–10) was collected by the Dodes in the vicinity of Ohio, Illinois, on 23 June 1872, one day after the male syntype at PMNH was captured. Handwriting and label comparisons reveal that the pentagonal label affixed to this specimen (Fig. 10) was created by the entomologist Herbert K. Morrison, who exchanged and sold insects for many years. This label is consistent with those that Morrison affixed to type specimens in his collection (see Wilterding 1997, fig. 4). Morrison corresponded with G. M. Dodge as early as 1873 (letter to T. L. Mead, 26.xii.1873, RC) and he described several species of moths based on Dodge's specimens, including *Mamestra dodgei* (= *Lacinipolia lorea* (Guenée, 1852)). Although they exchanged numerous specimens, these transactions usually benefited Morrison. Regarding his dealings with Morrison, Dodge wrote, "So far as my experience goes I have never been able to send him anything that he didn't 'growl' about" (letter to T. L. Mead, 19.iv.1874, RC). Morrison likely received the female syntype of *H. illinois* directly from Dodge and copied the collection data from the original label. The abbreviated genus, "*P.*" on Morrison's label refers to *Pamphila* [Fabricius], a once commonly-used junior objective synonym of the genus *Hesperia* Fabricius as employed by Dodge (1872). Other Morrison specimens are deposited in ANSP, some of which came to the museum in 1908 with the collection of the lepidopterist Henry Skinner, a former curator of ANSP. However, the female syntype of *H. illinois* was not listed by Skinner and Williams

(1924) as among the specimens of *E. bimacula* at ANSP. It possibly was overlooked or was acquired sometime after early 1924. The blue "paratype" label probably was prepared by Roswell C. Williams, Jr., an electrical engineer and lepidopterist who was active at ANSP for many years prior to his death in 1946 (Bell 1946). Williams collaborated on the study of Hesperidae with several other entomologists, including Skinner. Similar labels, apparently written by Williams in the same upper case block letters, are affixed to other name-bearing types at ANSP, as well as some specimens at CMNH that were transferred from ANSP in 1963.

Although Brown (1974) indicated that the "paratype" in ANSP is a male, no male syntype was found in that collection. The female bears a "paratype" label, thus Brown (1974) possibly erred in reference to the gender of the specimen. In addition, there is no type numbered "1872" as identified by Brown (1974), nor are there any Lepidoptera type labels at ANSP that use such a numerical format. Brown likely derived this number from the collection date as given on the specimen's label. Many of the manuscripts of F. Martin Brown are preserved at MGCL, but this collection does not include his notes for Brown (1974). It is possible that Brown's more extensive (but largely unprocessed) archives at AMNH offer an explanation.

The female syntype bears very small postmedian forewing spots, which are consistent with Dodge's (1872) description of *H. illinois*. Concerning these spots, Dodge noted that the one closer to the apex is "so small as to be indistinct," while the other is "a little larger." They are entirely wanting in some specimens of *E. b. illinois*, a phenotype described by Leussler (1933) as aberration '*contradicta*.' Dodge (1872) also described a secondary form of female *H. illinois*, "Variety A," in which "the two spots in the centre of the primaries are much larger." Based on my examination of over 100 females of *E. b. bimacula* and *E. b. illinois* in MGCL, the reduced-spot form is somewhat more prevalent in the latter subspecies. Gatrell (1999) also mentioned this difference in his diagnosis of *illinois*. This tendency explains Dodge's (1873) observation that the majority of his females of *illinois* differed from the description of *acanoetus* (= *E. b. bimacula*) "in the spots on the primaries." When comparing females of *illinois* and *bimacula*, T. L. Mead did not initially make the connection between these taxa, as the holotype of *bimacula* "at first sight seemed something quite distinct" from female specimens of *illinois*, "in which the yellow spots are very faint" (copy letter, 29.xii.1872, RC). Mead ultimately suggested that the name *illinois* could be used to denote the reduced-spot form of *bimacula* (copy letter, 23.iii.1873, RC).



The second male syntype of *H. illinois* (AMNH; Figs. 11–13) bears a white rectangular label denoting that it is from the collection of the 19th century lepidopterist Henry Edwards (HE), whose 60,000 Lepidoptera specimens were acquired by AMNH in 1892 (Osborn 1911). This label was likely placed by William Beutenmüller, who served as Curator of Entomology at AMNH when the HE collection was accessioned. This specimen is identified as “*acanootus* / ♂ Ills. [Illinois]” in the distinctive hand of the lepidopterist William H. Edwards (WHE) (Fig. 13). A small circular label, reading “7063” in HE’s hand, corresponds to an entry in his collection catalog (at AMNH) which identifies the specimen as “*bimacula*” from Illinois, received from W. H. Edwards.

For many years HE and WHE exchanged Lepidoptera, including Hesperidae, but I found no specific references to this male specimen within HE’s correspondence at AMNH (copies in MGCL archives). WHE also corresponded directly with the Dodge brothers (Calhoun 2013), who are the only known early source of this species from Illinois. The personal journals of WHE (WVSA; copies at MGCL) reveal that he first recorded the address of George Dodge in 1872; the same year in which Dodge described *H. illinois*. In the hesperiid section of his *Synopsis of North American Butterflies*, issued in September of 1872, WHE gave only “New England” as the range of *bimacula* (Edwards [1872]). Dodge’s description of *illinois*, in which he offered syntypes for exchange, was published two months later. William H. Edwards’ use of the name *acanootus* for the male specimen at AMNH implies that he was reconsidering the nomenclature of the species following Dodge (1873), which was published three months before adults of this skipper would emerge in Illinois in 1873. Edwards was good friends with T. L. Mead, who confirmed in early 1873 that *bimacula*, *acanootus*, and *illinois* were synonymous. It seems likely that Mead would have shared this conclusion with Edwards. This evidence suggests that this specimen was collected by the Dodges in 1872 and sent to WHE no later than early 1873. I therefore provisionally recognize it as a syntype of *H. illinois*.

#### DISCUSSION

I designate the male syntype at PMNH as the **lectotype** of *Hesperia illinois* Dodge, 1872 in accordance with ICZN (1999) Art. 74.7, thereby fixing the status of this specimen as the sole name-bearing type of this nominal taxon. Although headless and lacking most of its legs, the specimen (Figs. 5, 6) otherwise is in good condition and readily identifiable. It represents the primary gender of the original

description and was previously recognized as a name-bearing type when it was deposited at Dartmouth College. In addition, it includes full collection data and ostensibly passed directly from Dodge to Whitney. The lectotype bears 1) a rectangular label in the hand of C. P. Whitney [*Hesperia* / *illinois*. / Dodge / ♂ 62272 / G. M. Dodge. Ill.], 2) a blue printed rectangular label [WHITNEY / COLL.], 3) a small printed rectangular label [DARTMOUTH COLLEGE COLLECTION / via Montshire Museum, 1987 / Ledger in P. M. Ent. Archives], and 4) a printed and handwritten label [Dartmouth / Coll. Mus. / 39-2 / 31209]. Also associated with the specimen is a large typescript unit tray label [PARATYPE: MALE / *Hesperia illinois* Dodge, / 1872, Can. Ent., vol. 4, / pp. 217–218. Designated / by R.E.Gray, 3-V-1973] (Fig. 7). A red printed lectotype label [LECTOTYPE / *Hesperia illinois* / Dodge 1872 / Designated by / John V. Calhoun] has been affixed to the specimen. Through this action the type locality is returned to Bureau County, Illinois.

The female specimen at ANSP (Figs. 8, 9) is considered to be paralectotype and labeled accordingly. It bears 1) a pentagonal label in H. K. Morrison’s hand [P. *illinois*. Dodge / Type / Ohio.Ill. 6.23.72 / 269] and 2) a blue handwritten and stamped label, possibly in the hand of R. C. Williams [PAMPHILA / ILLINOIS / DODGE / PARATYPE] (Fig. 10).

The male specimen at AMNH (Figs. 11–13) is likewise recognized as a paralectotype and labeled as such. Although this specimen is in better condition than the male at PMNH, its lack of complete data precludes it as the most appropriate choice as the lectotype of *H. illinois* (ICZN 1999, Recommendation 74E). It bears 1) a rectangular label in the hand of W. H. Edwards [*acanootus* / ♂ Ills.], 2) a small circular label in the hand of H. Edwards [7063] and 3) a rectangular printed and handwritten label [No. 6836 / Collection / Hy. Edwards] (Fig. 13).

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