JOURNAL OF
THE LEPIDOPTERISTS' SOCIETY

Volume 41 1987 Number 4

Journal of the Lepidopterists' Society
41(4), 1987, 173–186

THE BIG SHIFT: *NABOKOVI* FROM *ATALOPEDES* TO *HESPERIA* (HESPERIIDAE)

JOHN M. BURNS
Department of Entomology, NHB 169, National Museum of Natural History,
Smithsonian Institution, Washington, D.C. 20560

ABSTRACT. The orange and brown skipper *Atalopedes nabokovi*, described by Bell and Comstock in 1948 and indigenous to xeric lowland thorn scrub of Hispaniola, is actually a large and stunning species of *Hesperia* with no respect for the classically Holarctic distribution of that genus. Characters of the male and female genitalia are critical both in delimiting the sister genera *Atalopedes* and *Hesperia* and in finding the sister of *nabokovi*. (I compared more than 150 KOH-dissections in these two genera.) Though highly distinct, *Hesperia nabokovi* is genitalically (and ecologically) closest to *H. meskei* of the southeastern United States. Genitalic characters, generally so useful in differentiating species, are also exceptionally valuable at the generic level in skippers. Bell and Comstock, who figured the male genitalia of *H. nabokovi*, must have been misled by the West Indian origin of this skipper and by the large, dark stigma of the male—but even that stigma clearly belongs to *Hesperia*, not *Atalopedes*.

Additional key words: genitalia (male and female), stigma, *Hesperia meskei*, Hispaniola, variation.

Our taxonomy can be wrong where we least expect it. In the course of reviewing the small genus *Atalopedes* before adding a couple of skippers to it (Burns in prep.), I finally obtained specimens of the species endemic to Hispaniola. From the figure of male genitalia in the original description (Bell & Comstock 1948), this species had already struck me as quite the most primitive member of *Atalopedes*—the first to arise after the sister genera *Hesperia* and *Atalopedes* split. Except for the fact that the dorsal edge of the valva was almost uniform in height throughout its length, instead of humped near the middle and lower at either end, the genitalia looked like those of *Hesperia*; but certain critical features of the uncus and the penis did not show in the lateral view provided. And then there was the rest of the animal to wonder about. The moment I saw it, it bothered me: though the facies could fit *Atalopedes* or *Hesperia*, the stigma belonged to *Hesperia*. Still, "the genitalia are the best place to start" (Burns 1985:3). Sure enough, after perusing the first dissection of each sex and the comparative figures in MacNeill (1964), I knew that *nabokovi* is a species of *Hesperia*.

This hurts the common generalization "*Hesperia* is Holarctic" (Klots 1951, Evans 1955, MacNeill 1964, 1975). Now we must say that *Hesperia* is Holarctic and Hispaniolan, which is less tidy but more alliterative—and a healthy reminder that, despite present distributions, *Hesperia* does not have to be northern in ultimate origin. Of course, its tropical occurrence in the heart of the West Indies need not connote some enormous ecologic leap. The southernmost eastern species of *Hesperia* on the continent, *H. meskei* (Edwards), whose range includes not only peninsular Florida but also Florida Keys, inhabits such hot, dry communities as pine woods or barrens and oak scrub or woodland or savanna (McGuire 1982, Burns unpubl.). The *Hesperia* on Hispaniola occupies most of the xeric lowland thorn scrub (A. Schwartz pers. comm.).

***Hesperia nabokovi* (Bell & Comstock), new combination**

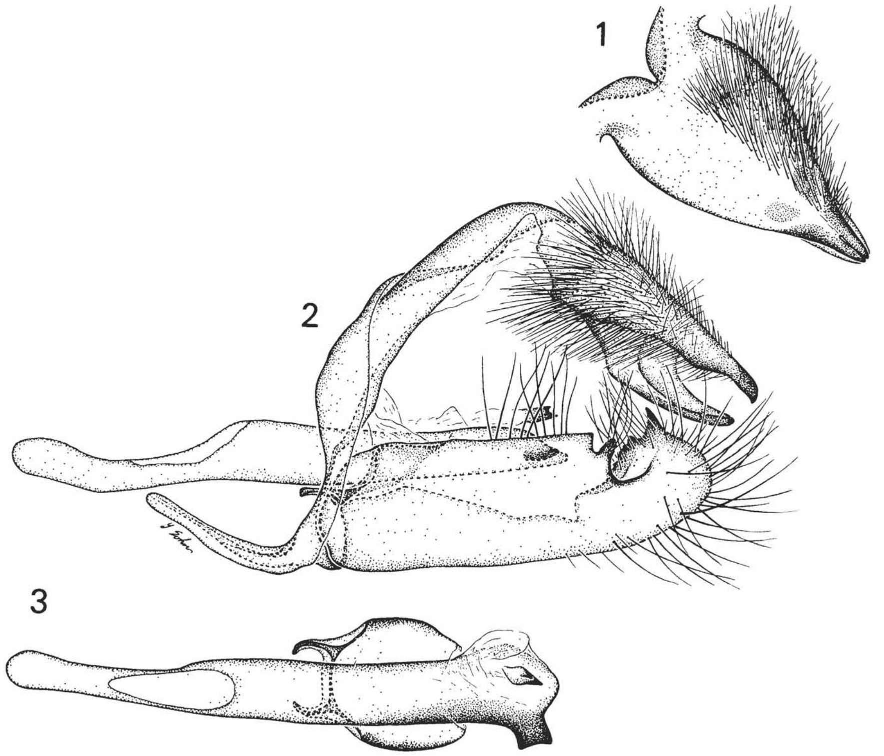
Atalopedes nabokovi Bell & Comstock (1948:19). Evans (1955:339); Riley (1975:186).

The long, verbal original description (of one male and one female from Haiti) dealt with little besides facies and its considerable sexual dimorphism. Description of genitalia was confined to the male and, at that, to a figure (left lateral view), except for a single (under)statement: "The male genitalia show specific differences from those of [*Atalopedes*] *campestris* [(Boisduval)], the unci and the terminations of the claspers being different in the two species." Actually, the genitalia show generic differences—in both sexes—from those of *Atalopedes* and thoroughly fit the *Hesperia* mold.

Rather than conventionally redescribe *H. nabokovi*, I will discuss selected characters in connection with its proper generic placement, its situation within *Hesperia*, its peculiarities, and its variability. Genitalic terminology largely follows MacNeill (1964).

Male Genitalia (Figs. 1–7)

In *H. nabokovi*, as in half the Nearctic species of *Hesperia* (MacNeill 1964), the uncus forms a slender, caudally produced, medial beak—the fine, median dorsoventral cleft at its apex becoming relatively long (Fig. 1). To correspond with the uncus, the paired underlying gnathos lengthens (Figs. 1, 2). As in *Hesperia* generally, the valva ends in two, more or less prominent, pointed dorsal teeth whose bases are connected on the outer surface of the valva by a smooth and conspicuous U-shaped edge (Fig. 2). From the distal tooth, an irregular dentate edge—the



FIGS. 1–3. Male genitalia of *Hesperia nabokovi* from 4 km E El Limón, ca. 185 m (600 ft), Independencia, Dominican Republic, 16 October 1983, A. Schwartz (genitalic dissection no. X-2196). **1,** Tegumen, uncus, and gnathos in dorsal view; **2,** Complete genitalia (minus right valva) in left lateral view; **3,** Penis and juxta in dorsal view. These figures show certain structures in parallel alignment at two different angles, 90° apart, so as to convey form in three dimensions.

"inner serration" of MacNeill—runs ventrad and cephalad, medial to the proximal tooth (Fig. 2). Again in the *Hesperia* pattern, the penis bears a small, bidentate cornutus distally in the dorsal vesica and a larger, bidentate projection left-laterally at its distal end (Figs. 2, 3). This projection MacNeill (1964) called the rostellum; but I prefer the more suggestive loose synonym titillator (Tuxen 1956), especially on account of its striking hypertrophy in *H. nabokovi* (Fig. 3). The penis is no longer than the rest of the intact genitalia from the anterior tip of the saccus to the posterior tips of the uncus and valvae (Fig. 2). As in other *Hesperia* (figures in Skinner & Williams 1924b and Lindsey et al. 1931), paired prongs projecting anteriorly from the anterior end of the juxta are long and delicate (Figs. 2, 3).

In *Atalopedes*, by contrast, the uncus is stubby; the gnathos, moderate to vestigial; and the valva, elongate, with neither the inner serration of all species of *Hesperia* nor the decided dorsal hump of virtually all of them (so that, in lateral view, top and bottom of the valva are about parallel). The penis—which is much longer than the rest of the genitalia—has either two, relatively elaborate, multidentate cornuti or none at all. The paired prongs projecting anteriorly from the anterior end of the juxta are comparatively short and stout (Burns in prep.).

With respect to these many and various characters, *H. nabokovi* resembles *Atalopedes* only in having an elongate valva without a dorsal hump.

Owing to its long, beaked uncus and long gnathos, *H. nabokovi* goes with an array of *Hesperia* species treated by MacNeill (1964) as "the Metea species group," on the one hand, and as "species of uncertain affinities," on the other. The former includes *H. attalus* (Edwards), *H. metea* Scudder, and *H. viridis* (Edwards); the latter, *H. meskei, H. dacotae* (Skinner), *H. lindseyi* (Holland), *H. sassacus* Harris, *H. miriamae* MacNeill, and *H. nevada* (Scudder). These latter species "constitute a very diverse and possibly unnatural assemblage. The morphological divergence apparent between these species is of a magnitude found between species groups elsewhere in the genus" (MacNeill 1964: 157).

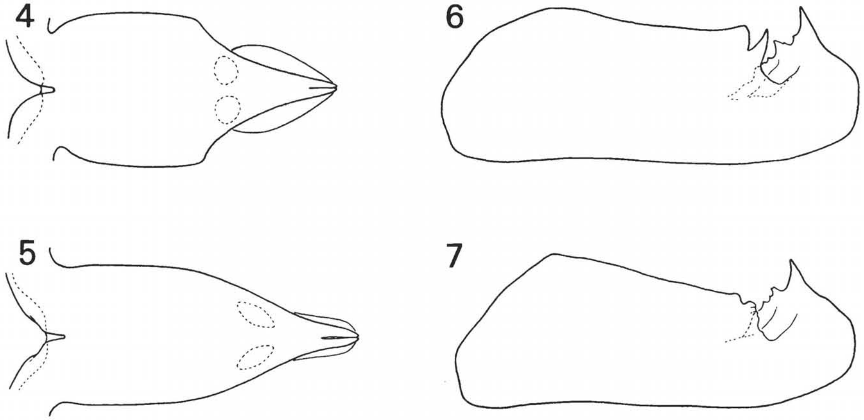
The last three species (*sassacus, miriamae*, and *nevada*)—which are all adapted to cold—differ from *nabokovi* on various genitalic counts. What may be the most critical involves the point where the paired gnathos joins the tegumen—the "gnathos insertion" of MacNeill—which is much farther forward in these than in any other species of *Hesperia*, including *nabokovi*. Moreover, the uncus beak is exceptionally long in both *sassacus* and *nevada*; and the cleft in its apex is lengthened in *sassacus* and eliminated in *nevada* (a state unique in the genus).

The next two species (*dacotae* and *lindseyi*) also differ from *nabokovi* in many respects, not least of which is a tendency of the titillator to enlarge more posteriad than laterad and to develop additional teeth. This is carried to an unparalleled extreme in *dacotae*, whose hypertrophied titillator extends straight back beyond the distal penile opening to yield the longest penis in the genus.

On the basis of shape and length of tegumen and beaked uncus, length of the uncal cleft, and length of gnathos and level of its insertion, *nabokovi* most nearly resembles *meskei* and the species of the Metea group (*attalus, metea*, and *viridis*). These last three species, though grouped, "are not very closely related" to one another (MacNeill 1964: 151); and their nearest (but distant!) ally may be *meskei*: "this species is not placed easily within any of the preceding groups of species, although it perhaps resembles the Metea group more closely than it resembles any of the [other] species [of uncertain affinities]" (MacNeill 1964:157). *Hesperia nabokovi* apparently belongs in a section of the genus comprising scattered remnant species. MacNeill (1964:13, pers. comm.) considers them some of the oldest in *Hesperia*. To generalize from present geographic distributions, these species are especially tolerant of heat.

Having roughly rooted *H. nabokovi*, I must hasten to emphasize that it not only lacks close relatives but flaunts more than its share of genitalic idiosyncrasies. The vinculum is uniquely narrow where it joins the tegumen—a feature best seen in lateral view (Fig. 2). The tegumen is uniquely long in the zone of dense bristles, which extends back to about the uncus and the gnathos insertion (Figs. 1, 2). The valva is elongate, with little or no hump on its dorsal edge (Fig. 2). (The nearest approach in other *Hesperia* to this anomalous humpless condition is in *dacotae*.) In dorsal view, at or a little beyond the level of the distal end of the juxta, the valvae are not characteristically "plump" as they are in other *Hesperia*. The broadly rounded distal end of the valva protrudes appreciably caudad of the distal tooth—more so than in any other *Hesperia* (Fig. 2). Last but not least, the hypertrophied, almost rectangular, heavily sclerotized titillator expands to the left from the distal end of the penis like a small, stiff flag on a stout pole (Fig. 3), the two titillator teeth typical of other *Hesperia* becoming the outer corners of the flag.

In their revisions of *Hesperia*, both Lindsey (1942) and MacNeill (1964) stressed the extraordinarily high levels of individual variation encountered. Naturally enough, such variation can loosen the genitalia as well as the external phenotype. Among just three males of *H. nabokovi* at hand, the overall shape of the tegumen plus uncus varies noticeably. From what seems the most nearly average condition (Fig. 1), one male departs in the direction of a malformed tegumen whose transition to uncus is abruptly concave (Fig. 4); the other, in a svelte direction—decidedly longer and narrower (Fig. 5). (Much of the apparent variation in the gnathos, however, simply stems from the mobility of its two separate arms.) Again, in these three males, the proximal tooth of the valva bends inward as little as 20° to as much as 90°, while the distal tooth stays upright (Figs. 2, 6, 7). Because a much-bent tooth vanishes in lateral view (Fig. 7), a casual observer might fail to see the configuration so characteristic of *Hesperia*. Inbending even involves some of the dorsal edge of the valva anterior to the proximal tooth; and, curiously enough, a slight asymmetry crops up, with the left tooth (and rim) bending more than the right. As usual in *Hesperia*, the inner serration



FIGS. 4–7. Male genitalia of *Hesperia nabokovi* from 11.5 and 12 km ESE Canoa, Barahona, Dominican Republic: 4, 6, 31 July 1982, F. Gali (X-2195); 5, 7, 7 August 1986, A. Schwartz (X-2197). **4, 5,** Tegumen, uncus, and gnathos in dorsal view, with the gnathos insertion indicated; **6, 7,** Left valva in lateral view.

varies in detail (Figs. 2, 6, 7). One male of *nabokovi* starts to express the typical *Hesperia* hump on the dorsal margin of the valva (Fig. 7). The rectangular titillator expands a bit ventrad as well as laterad in two out of three males.

Even though the angle of the proximal tooth varies greatly in *nabokovi*, its orientation relative to the distal tooth (within a single valva) has taxonomic merit. In the nine males of *H. meskei* examined, the proximal tooth bends inward about 15 to 30° while the distal tooth stands erect. Essentially, then, in both *nabokovi* and *meskei* the proximal tooth is medially inclined whereas the distal tooth is about vertical so that, in posterior view, their paths seem to meet or cross. On the contrary, in *H. metea*, *H. viridis*, and *H. attalus* (the Metea group), both the proximal tooth and the distal tooth are medially inclined—and to similar degrees—so that, in posterior view, they look about parallel. Moreover, in lateral view, despite ample variation, the proximal and distal teeth are relatively far apart in *nabokovi* (Figs. 2, 6, 7) and *meskei* but close together in the species of the Metea group (especially *metea* and *attalus*); the proximal tooth is shorter than, or, at most, equal to, the distal tooth in *nabokovi* (Figs. 2, 6, 7) and *meskei* but taller than the distal tooth in the Metea group; and the inner serration, at its proximal end, is not toothed in *nabokovi* (Figs. 2, 6, 7) and modestly toothed in *meskei* but strongly toothed in the Metea group. Again, in lateral view, the U on the outer surface of the valva connecting the bases of the proximal and distal teeth is so deep in *nabokovi* (Figs. 2, 6, 7) and *meskei* that it exposes most of the inner serration but so shallow in the Metea group that it hides it. All things considered, *nabokovi* is closest to *meskei*.

Female Genitalia (Figs. 8, 9)

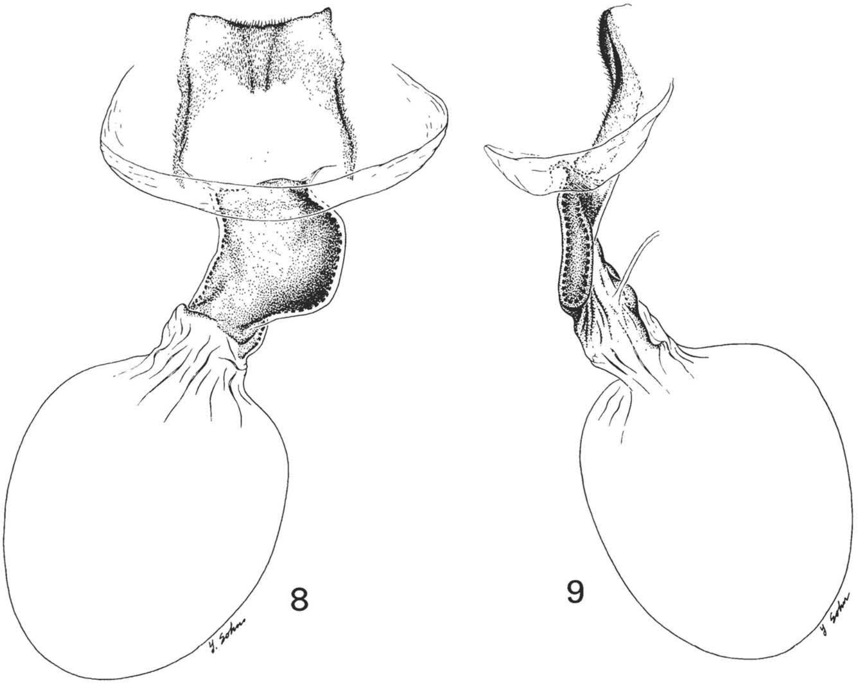
Both *Hesperia* and *Atalopedes* reflect a broader pattern in which the sterigma and the ductus bursae are sclerotized while the corpus bursae is membranous.

In *H. nabokovi*, as in *Hesperia* generally, the outline of the lamella postvaginalis is roughly rectangular in ventral view (Fig. 8), the ductus bursae is angled to the left (Fig. 8), a singular expansion of the ductus bursae—corresponding to the "caudal chamber" of MacNeill (1964)—is asymmetrically developed on the right (Figs. 8, 9), the ductus bursae is still sclerotized not only where the ductus seminalis joins but also well cephalad of that level (Fig. 9), and the corpus bursae is roughly spherical (Figs. 8, 9).

In *Atalopedes* a sclerotized midventral prong (short to long, according to species) projects caudad, or caudad and ventrad, from the posterior part of the lamella postvaginalis. The rest of the lamella postvaginalis comprises (1) midventral sclerotization that carries the dorsal wall of the ductus bursae back to the base of the prong, and (2) a closely flanking pair of large, smooth "plates" (variously ovate to comma- or kidney-shaped) that spread dorsad and laterad. Depending on the species, sclerotization of these plates may be strong throughout or so weak that only their medial margins show. In any case, seen ventrally, the lamella postvaginalis as a whole does not suggest a rectangle. The ductus bursae—which is neither angled nor asymmetrically developed—does not enter the corpus bursae directly but by way of a dorsal jog. The ductus seminalis joins the ductus bursae at this jog, which is membranous (coming right after the sclerotized portion of the ductus bursae). The elongate corpus bursae looks like a sausage (Burns in prep.).

The female genitalia buttress those of the male in suggesting that *H. meskei* is the nearest living relative of *H. nabokovi*. In both species the sterigma is unusually simple and lightly sclerotized while the caudal chamber of the ductus bursae is unusually expanded and heavily sclerotized. More explicitly, the lamella postvaginalis looks squarish and relatively flat—without bold features of relief—in ventral view. Its light sclerotization is mainly peripheral (distal and/or lateral), leaving an un- to barely sclerotized central zone. The lamella antevaginalis is fully membranous (it is partly sclerotized in other species of *Hesperia*—almost always conspicuously and always perceptibly). The caudal chamber is exceptionally large and flat, expanding far laterad (to the right) but not, or not far, ventrad.

Despite some broad similarity of the caudal chamber in *H. nabokovi*



FIGS. 8, 9. Female genitalia of *Hesperia nabokovi* from 1 km SE Monte Cristi, 0 m, Monte Cristi, Dominican Republic, 15 May 1986, F. L. Gonzalez (X-2194). **8,** Sterigma and bursa copulatrix in ventral view; **9,** The same, plus part of the ductus seminalis, in right lateral view.

and *H. meskei*, the ductus bursae as a whole differs a lot. In *nabokovi* it is short; even apart from the caudal chamber, it is wide; and ventrally it is fully sclerotized as far caudad as the start of the lamella postvaginalis. Conversely, in *meskei* it is long; apart from the caudal chamber, it is narrow; and ventrally it is not sclerotized to the level of the lamella postvaginalis. The most striking difference, however, involves such total incorporation of the caudal chamber into the ductus bursae in *nabokovi* that the chamber is no longer the caudalmost element of the ductus (Figs. 8, 9)—a condition unique in the entire genus (compare figures in MacNeill 1964:194, 218–221).

Although the morphologically simpler female genitalia are less glaringly variable than those of the male, they are still highly individual in the three females examined, especially in the outline of the heavily sclerotized caudal chamber, the length and angle of the ductus bursae, and the outline of the lamella postvaginalis. To illustrate, the caudal chamber is somewhat rounded in the female drawn (Fig. 8) but more

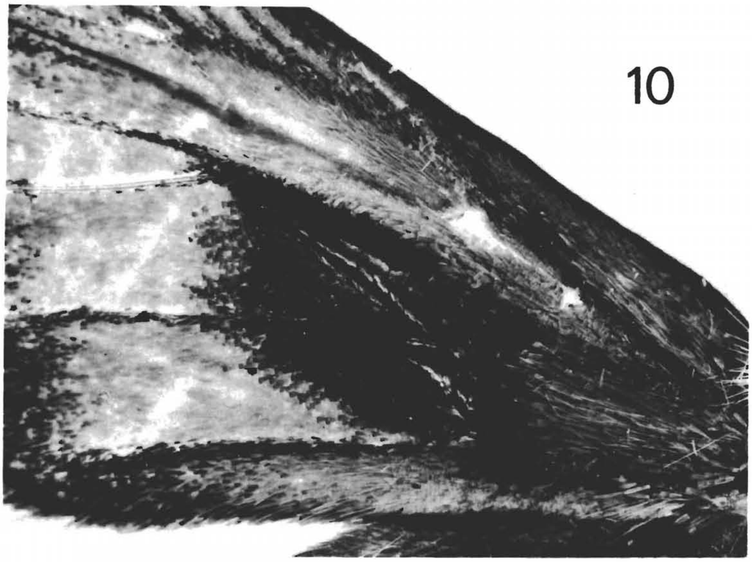


FIG. 10. Stigma on the dorsal left primary of the *Hesperia nabokovi* male whose genitalia appear in Figs. 4 and 6.

rectangular in the other two females, in one of which it is also longer and narrower (as is the entire ductus bursae). Again, in these three females, the midventral third of the posterior margin of the lamella postvaginalis is conspicuously concave, slightly so (Fig. 8), or slightly convex.

Stigma (Fig. 10)

When Bell and Comstock (1948:20) described *nabokovi* in *Atalopedes,* they said "the stigma is relatively very large but of the form characteristic of the species in this genus"; and when Riley (1975:186) treated *nabokovi* in his guide to West Indian butterflies, he said "sex brand as in *A. mesogramma* [(Latreille)]." Not so: the stigma of *nabokovi* carries the *Hesperia* stamp (which has been well characterized by MacNeill 1964:49, 57, 194).

In *H. nabokovi,* the usual parts are present and in place (Fig. 10). Most telling are the two rows of large, wide, silvery-gray scales enclosing the dustlike microandroconial mass to form a conspicuous, gentle arc. Flanking this centerpiece costally and basally are the narrow, dark apical and lower brush patches; and flanking it outwardly is the broad, dark poststigmal patch.

The microandroconial mass is dark gray, as it is in most species of *Hesperia,* not yellow, as it is in the species of the Leonardus group.

Facies (Figs. 11–15)

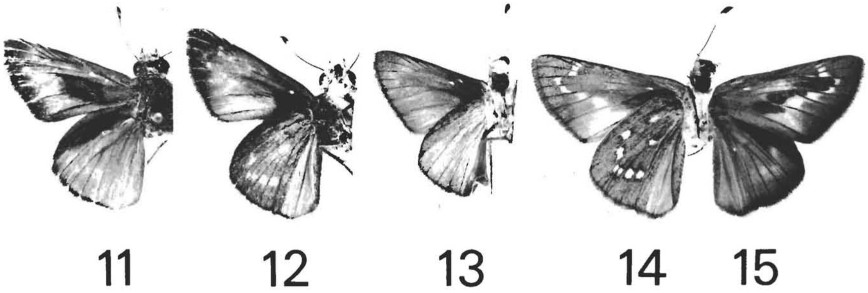
Essentially, these skippers are orange and brown.

Above, males are mostly bright orange, with a dark outer margin on the primary, a narrow (linear) dark outer margin plus a broad dark costal margin on the secondary, and very narrowly darkened veins in both wings (Fig. 11). The large, dark, central stigma dominates the broadly orange primary—and, for that matter, the entire dorsal aspect (Fig. 11). Two small, orange subterminal spots vaguely mark the inner edge of the dark margin in spaces 4 and 5 of the primary. Below, an unworn male looks mostly dull orange, except for the narrowest of linear dark costal and outer margins on both wings and a very dark basal area (easily hidden) on the primary (Fig. 13). Much of the "dullness" stems from a scaling of orange upon brown: loss of overscaling in worn males reveals a brown ground color across the apex of the primary and over all of the secondary except space 1b and an adjacent strip of space 1c (Fig. 12). The orange overscaling largely obscures pale orange subterminal spots in spaces 4 and 5 and apical spots in spaces 6 and 7 (sometimes also 8) of the primary as well as basal spots and spots of the macular band of the secondary (compare worn and unworn undersides in Figs. 12 and 13, respectively). (Spot terminology follows Lindsey 1942 and especially MacNeill 1964:49, 194.)

As in *Hesperia* and related genera generally, brown coloring develops at the expense of orange in females so as to yield darker skippers. Both above and below, females of *H. nabokovi* show more pattern, more spots than do males (Figs. 14, 15). Spots are opaque. Above, they are orange. But below, the apical and subterminal spots of the primary and the spots of the secondary are white. (Secondary spots include basal spots in the cell and space 7 plus the spots of the macular band, which may extend from space 1c to space 7 when maximally expressed.) Moreover, in unworn females, dark scales ring the white spots of the macular band (Fig. 14), while the overscaling (which covers the same brown ground as in males) has a greenish cast—all to stunning effect.

Although *Hesperia* is a notoriously difficult genus, *H. nabokovi* should not be confused with any other species.

The original description (Bell & Comstock 1948) accurately characterized in many words the facies of a single male and female. The only figures of facies to date are black-and-white drawings (Riley 1975: 186) of those very same specimens. When I lent the holotype male from the Museum of Comparative Zoology, Harvard University, to Riley in 1974 for illustration, its true generic identity escaped me; but, for what it's worth, I can honestly say that I have seen and held the holotype of *nabokovi*.



FIGS. 11–15. Facies of *Hesperia nabokovi* (all ×1): 11, 15, dorsal views; 12–14, ventral views. **11, 12,** The worn male whose genitalia appear in Figs. 4 and 6 and stigma, in Fig. 10; **13,** The unworn male whose genitalia appear in Figs. 5 and 7; **14, 15,** An unworn female from 4 km SE Monte Cristi, Monte Cristi, Dominican Republic, 18 October 1983, J. W. Raburn (X-2193).

Antenna

In all three males and two of the three females at hand, the nudum of the antenna is 8/5; that is, there are 8 bare segments on the main mass of the club plus 5 on the apiculus for a total of 13. In the third female the nudum is 9/5.

Evans (1955:300, 301, 317, 338) gave the nudum of *Hesperia* as 8/4 and that of *Atalopedes* as 7/7. This character is more variable and more difficult to score than Evans would have you believe.

Size

The length (mm) of one primary in the males is 17.1, 17.5, and 18.6; in the females, 19.0, 20.0, and 20.1. Bell and Comstock (1948:21) gave a primary length of 20 mm for the holotype male and 18 mm for the allotype female.

This is a large species of *Hesperia*.

Spatial and Temporal Distribution

As noted at the outset, *H. nabokovi* occurs in the xeric lowland thorn scrub on Hispaniola, which is extensive. Exact data on the specimens available to me, which come from the northwestern and southwestern Dominican Republic, appear in figure legends. (The one female not specifically cited, genitalic dissection X-2192, has the same data as the male in Figs. 1–3.) The holotype and allotype are from Thomazeau and Fond Parisien, respectively, both in southeastern Haiti (Bell &

Comstock 1948). Altogether, these eight specimens represent six different months—February, May, July, August, September, October—indicating that *H. nabokovi* is multivoltine.

DISCUSSION

Why did Bell and Comstock (1948) put *nabokovi* in *Atalopedes* and not *Hesperia*, especially with so many relevant genitalic illustrations about. Within the preceding quarter century, Skinner and Williams (1924a, 1924b) had figured the male genitalia of *A. campestris* and the American species of *Hesperia*; Lindsey et al. (1931) had reprinted all those figures; Lindsey (1942) had newly refigured the male genitalia of the entire genus *Hesperia*; and Comstock (1944) had figured the male genitalia of *A. mesogramma*. Clearly, Bell and Comstock gave too little weight to genitalic morphology and far too much to the dark color and large size of the poststigmal patch. And (subconsciously, at least) they must have thought Haiti too tropical, too insular—altogether too outlandish—for a Holarctic genus like *Hesperia*. *Atalopedes*, on the other hand, had long been known from the West Indies and from Central and northern South America in the form of *A. mesogramma* and *A. campestris*, respectively.

There was still a lingering reluctance among American skippermen to give the genitalia their taxonomic due. To appreciate this, one need only study the genitalic figures in Lindsey et al. (1931) for such genera as *Polites* (treated as *Talides*) on pages 97 and 101 or *Atrytone* on pages 112, 115, and 119: the genitalia of *P. verna* (Edwards) are in no way a variation on the repetitious genitalic theme of other species of *Polites* nor are those of *A. arogos* (Boisduval & Le Conte) and *A. logan* (Edwards) variations on the different but equally repetitious genitalic theme of other species of *Atrytone*. Eventually, *verna* was moved to the new genus *Pompeius* and all species of *Atrytone* except *arogos* and *logan*, to *Euphyes* by the Englishman Evans (1955).

Genitalia deserve all the respect and attention they can get, which means, in general, that they should be weighted heavily—and (no mere converse) that they should not be used lightly: nowhere are analysis of variation and interpretation in context more important. Genitalia may be remarkably conservative among species in some genera or complexes (even to the point of yielding no diagnostic characters) and yet wonderfully differentiated among species in others. What may amount to a subtle but real interspecific difference in one instance may be nothing more than individual variation in another. And so forth. Every use of genitalia in systematics calls for thorough background investigation. I have repeatedly answered questions of individual, geographic, and interspecific variation in skipper genitalia by dissecting and comparing large samples (usually both sexes) from many areas, especially in *Erynnis, Celotes, Atrytonopsis, Autochton, Wallengrenia,* and *Pyrgus* (Burns 1964, 1970, 1974, 1983, 1984, 1985, unpubl.).

My small genitalic sample of *H. nabokovi* (three males, three females) looks better in light of the limited and isolated geographic range of this species. And the considerable individual variation evident in this sample looks minor next to the grand and pervasive genitalic divergence that exists between *nabokovi* and all other species of *Hesperia.*

I have stressed from the start that, in both sexes, the genitalia of *nabokovi*—despite their distinctive attributes—are assuredly those of *Hesperia.* In this connection I note that, within the set of diverse species having a long, beaked uncus and so including *nabokovi,* species apparently not closest to it sometimes express character states reminiscent of it. For example, *H. dacotae* tends to approximate the elongate, humpless valva; and *H. nevada,* the hypertrophied titillator, as well as the simple, lightly and peripherally sclerotized lamella postvaginalis coupled with the caudal chamber expanding substantially to the right. Such similar genitalic tendencies will most likely surface independently among species that are still genetically similar.

However that may be, the magical writer and lepidopterist Vladimir Nabokov would doubtless have enjoyed this switch to the type-genus of the family Hesperiidae.

ACKNOWLEDGMENTS

Thanks to J. Y. Miller for steering me to Albert Schwartz in my quest for *H. nabokovi;* to Schwartz for generously lending three pairs of this skipper for genitalic dissection; to B. A. B. Venables for KOH-dissecting these and 102 other specimens of *Hesperia,* as well as 32 specimens of *Atalopedes;* to Young Sohn for elegantly drawing genitalia and mounting photographs; to V. E. Krantz for photographing the half animal and its stigma; and, above all, to C. D. MacNeill for making such sense of the stubborn genus *Hesperia* in the first place.

MacNeill and S. S. Nicolay kindly reviewed the manuscript.

POSTSCRIPT

Thanks to Kurt Johnson and F. H. Rindge, I saw three more females of *Hesperia nabokovi,* and their dissected genitalia, in October 1987: the allotype (from the American Museum of Natural History, New York), which was taken in 1922 at an elevation of about 60 ft (18 m) in Haiti, plus two females taken recently at even lower elevations in the desert around Cabo Rojo, Pedernales, Dominican Republic. Variation in the genitalia is conspicuous, matching what I have already described. With respect to facies, both Cabo Rojo females have "unusually" small spots below; and above, one female is remarkably orange and hence bright, while the other is as dark as the now faded allotype once was. Predictably, the larger sample pushes variation toward the rampant state so common in

Hesperia. Nudum counts are again 8/5 and 9/5; primary lengths, another 20.0 mm and a whopping 21.5 mm.

LITERATURE CITED

BELL, E. L. & W. P. COMSTOCK. 1948. A new genus and some new species and subspecies of American Hesperiidae (Lepidoptera, Rhopalocera). Am. Mus. Novitates No. 1379. 23 pp.

BURNS, J. M. 1964. Evolution in skipper butterflies of the genus *Erynnis*. Univ. Calif. Publ. Entomol. 37:1–217.

——— 1970. Secondary symmetry of asymmetric genitalia in males of *Erynnis funeralis* and *E. propertius* (Lepidoptera: Hesperiidae). Psyche 77:430–435.

——— 1974. The polytypic genus *Celotes* (Lepidoptera: Hesperiidae: Pyrginae) from the southwestern United States and northern Mexico. Psyche 81:51–69.

——— 1983. Superspecies *Atrytonopsis ovinia* (*A. ovinia* plus *A. edwardsi*) and the nonadaptive nature of interspecific genitalic differences (Lepidoptera: Hesperiidae). Proc. Entomol. Soc. Wash. 85:335–358.

——— 1984. Evolutionary differentiation: Differentiating gold-banded skippers—*Autochton cellus* and more (Lepidoptera: Hesperiidae: Pyrginae). Smithsonian Contrib. Zool. No. 405. 38 pp.

——— 1985. *Wallengrenia otho* and *W. egeremet* in eastern North America (Lepidoptera: Hesperiidae: Hesperiinae). Smithsonian Contrib. Zool. No. 423. 39 pp.

COMSTOCK, W. P. 1944. Insects of Porto Rico and the Virgin Islands—Rhopalocera or butterflies. New York Acad. Sci., Scientific Survey of Porto Rico and the Virgin Islands 12:421–622.

EVANS, W. H. 1955. A catalogue of the American Hesperiidae indicating the classification and nomenclature adopted in the British Museum (Natural History). Part IV. Hesperiinae and Megathyminae. British Museum, London. 499 pp., pls. 54–88.

KLOTS, A. B. 1951. A field guide to the butterflies of North America, east of the Great Plains. Houghton Mifflin Co., Boston. 349 pp., 40 pls.

LINDSEY, A. W. 1942. A preliminary revision of *Hesperia*. Denison Univ. Bull., J. Sci. Lab. 37:1–50, pls. 1–6.

LINDSEY, A. W., E. L. BELL & R. C. WILLIAMS JR. 1931. The Hesperioidea of North America. Denison Univ. Bull., J. Sci. Lab. 26:1–142.

MACNEILL, C. D. 1964. The skippers of the genus *Hesperia* in western North America with special reference to California (Lepidoptera: Hesperiidae). Univ. Calif. Publ. Entomol. 35:1–230.

——— 1975. Family Hesperiidae, pp. 423–578. *In* Howe, W. H. (ed.), The butterflies of North America. Doubleday & Co., Inc., Garden City, New York.

MCGUIRE, W. W. 1982. Notes on the genus *Hesperia* in Texas: Temporal and spatial relationships. Bull. Allyn Mus. No. 73. 21 pp.

RILEY, N. D. 1975. A field guide to the butterflies of the West Indies. Collins, London. 224 pp., 24 pls.

SKINNER, H. & R. C. WILLIAMS JR. 1924a. On the male genitalia of the Hesperiidae of North America, Paper V. Trans. Am. Entomol. Soc. 50:141–156.

——— 1924b. On the male genitalia of the Hesperiidae of North America, Paper VI. Trans. Am. Entomol. Soc. 50:177–208.

TUXEN, S. L. (ed.) 1956. Taxonomist's glossary of genitalia in insects. Ejnar Munksgaard, Copenhagen. 284 pp.

Received for publication 27 June 1987; accepted 11 August 1987.