

A SIMPLE METHOD FOR PREPARING MALE HESPERIID GENITALIA
FOR EXAMINATION WITHOUT DISSECTION

Examination of the genitalia of Lepidoptera usually involves dissection, a rather unesthetic treatment for a mounted specimen. Evans, in preparing his catalogues of the Hesperidae, frequently used a dry dissection method, but this is not always totally satisfactory. For the past year I have been extruding the male genital armature while specimens are still fresh by gently pulling on the clasps until the entire armature "pops out." This has not always proved satisfactory because as the specimen dries, the genitalia frequently retract slowly, and in any event, the clasps remain at least partially closed necessitating some tissue rupture to open them for examination of the inner faces and the penis, uncus and gnathos.

Further experimentation has indicated that the clasps can be held in a wide open position during drying by applying a bit of Duco or similar cement, which can be removed later. The technique is as follows:

Holding the fresh insect by the thorax with forceps in normal pinching position, the genital armature can be extruded by gently pulling out the clasps with fine forceps. Sometimes the uncus will be bent down covering and distorting the gnathos; this usually can be teased into a normal position with a dissecting needle. Once the genitalia are fully exposed, grasp the abdomen with fine curved forceps immediately forward of the vinculum which further spreads the clasps. A small quantity of cement is then smeared over the area of the junction of the clasps which are held spread wide with a second pair of fine forceps until the cement dries, 5 minutes or less. I prefer to spread the clasps to a position normal to the abdomen as it simplifies photography. When the specimen is thoroughly dried, either spread or in papers, the cement is easily removed; usually it can simply be peeled away. However, if stuck too firmly, it can be dissolved away by washing in acetone, leaving the genitalia well exposed for study.

The same process also can be applied to relaxed specimens provided the genitalia have been previously extruded, but is not as successful as with fresh specimens. Because of the general structure of the male genitalia of the Hesperidae, the method is especially applicable to this family though of limited use in others, where for example, details of the anterior portions of the tegumen, the base of the penis or the structure of the saccus are important features. In addition, in several families of butterflies, the genitalia are either too lightly sclerotized or too difficult to extrude to lend themselves to this process.

I sincerely hope that others may find this method as useful as it has been to me.

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CAPTURES OF *ERORA LAETA* IN NORTH CAROLINA (LYCAENIDAE)

Roever (1962, *J. Lepid. Soc.* 16: 1-4) described several records for *Erora laeta* (Edwards) from the southern states. These included a single capture in Tennessee (April 15) and a single capture in North Carolina (July 17). Clark and Clark (1951, *Butterflies of Virginia*) list a single capture in Virginia (June 23) and since that publication at least two additional spring specimens have been taken. There are no recorded specimens from Georgia or northeastern Alabama. All *Erora laeta* taken in the southern states were found in the mountain regions.

On July 1, 1970, I drove from Durham, North Carolina, to Alleghany County in the northwestern corner of the state. I had been in the area a week earlier but rain had cut short my collecting. At that time the *Speyeria* were in good flight and I had made the trip in hopes of getting a nice series of *cybele*, *aphrodite* and especially *idalia*. I

arrived at my favorite collecting spot (elevation 2700 feet, County Road 1345) about noon but soon discovered that the clover field which had been alive with *Speyeria* the previous week was now very dead. So, I continued down the road in order to check several other spots that had been productive in the past. One such place was a small patch of *Ceanothus americanus* bordering the road. This time I decided to follow the *Ceanothus* over a barbed wire fence and up a steep slope. A few specimens of *Strymon falacer* and *S. titus mopsus* were taken and *Speyeria* females were scattered through the area. Much to my surprise the *Ceanothus* actually covered an acre or more but only a small patch was visible from the road. I worked my way up and down the slope adding a few *Strymon* and *Speyeria* each trip. In addition, two *Strymon liparops* were taken. On one of these trips my vision happened to fall right on an *Erora laeta* sipping nectar in the middle of a large patch of *Ceanothus*! The slope had scattered trees and shrubs on it, but this was the most open part. After staring in disbelief for several seconds (knowing of course that it would disappear forever), I came to my senses and netted the specimen. It was a fresh female! I searched the area thoroughly for the next hour but found no additional specimens. Beech, the supposed foodplant (but why?), was not located near the *Ceanothus* nor in the immediate area. I decided to drive to a location in Ashe County where *S. idalia* was often common. This location (on U. S. 221 near the junction with County Road 1570) is also on a hillside at 2700 feet elevation, but *Ceanothus* is scarce. Instead there is a good colony of *Asclepias tuberosa* and the *Speyeria* were busily flying from one plant to the next. I joined the merriment taking *idalia* and a number of somewhat worn *aphrodite* and *cybele*. Actually *S. aphrodite* was the most common fritillary and a half dozen could be taken off a single flowerhead. At one such clump of orange milkweed I patiently waited for a number of *aphrodite* to settle so that I could maximize my effort. Just when 5 or 6 would settle down, an *idalia* would charge the group and mayhem would result. Finally, in frustration I swung just as an *idalia* was approaching. I quietly cursed at seeing only three *aphrodite* in the net. But, unbelievably there was an *Erora laeta* in with them! Apparently it had been nestled among the *aphrodite* on the flowerhead, and I had taken it unknowingly! This one was a fresh male. Additional searching of the area produced no additional *Erora* nor were beech trees located. Both specimens had been taken on flowers in open areas with scattered trees and shrubs, but in full sunlight. The species is reported to be a denizen of beech forests.

These captures, some 13 air miles apart, may only reflect an extraordinary amount of luck. Smith (1960, *J. Lepid. Soc.* 14: 239-240) took 7 *laeta* in New Hampshire in an area where they had not been found previously. Perhaps both encounters represent local population "pops" (with *laeta* you can't call it an explosion!). Clark and Clark (1951) suggested there might be three broods in Virginia. This seems like a good possibility, but I do not know of any August or September records. Until we know more about the life-history and habits of *Erora laeta*, it will remain a rare species. However, it must be sufficiently common to maintain a breeding population, and I suspect that finding it is only a matter of knowing where to look. Of course having captured two in one day, 13 miles apart, and one by accident, I have given up hope of ever finding another!

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