

## THE LYCÆNID ANTENNA

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The studies on which this note is based were made some ten years ago. A recent argument on the position of the genus *Feniseca* suggests that it would be well to put them formally on record. So after recheck and addition of some more genera, here they are.

In the Lycænidae as a whole the club of the antenna has a sensory area (*nudum*) on the under side, without the longitudinal ridges of the Nymphalidae (*s.l.*) or any other special features as a rule. The distinguishing features, as in the skippers, are the extent of this area and, unlike the skippers, its extension basally along the shaft. While there are a few intermediate cases, the *nudum* may be divided into three types. In the first it is limited to the club, often not quite reaching the base of the club, and ends abruptly or with a sharp taper, as in the skippers. The second has a tapering base, extending back along the shaft and gradually narrowing, often continued by a series of patches on each segment anteriorly, exposed by gaps in the scaling, more like some tineoids than other butterflies. Finally the whole anterior-ventral side of the shaft is sensory without interruptions, more than three-quarters the way to the base, and in one or two cases to the very first segment of the shaft (*Megalopalpus*). Somewhat unexpectedly there is a definite tendency to sexual dimorphism, the female having a more extensive sensory area. This is notable in *Deudorix*, where only the female has the series of segmental spots on many segments, and reaches the extreme in *Feniseca* itself, where the male is an average type 2, and the female a fully developed type 3, with only 3 or 4 basal segments fully scaled.

The Erycinidae also deserve a similar study, which will not be done at this time. The most striking feature here is that some genera have thin and some thick antennae, the latter being scattered through the family, but in general present in the forms with the rubbery texture which marks a protected species. I suspect that some rearrangement of the group will be needed; but evidently this feature arose several times in the family. Some also show the type with sensory windows on the shaft as in female *Deudorix* and other lycænids (*Theope*, for instance).

Most of the Lycænidae fall into the three types, with a few transitionals, but *Hypochrysois* has a striking modification. Here there is a transverse bar of raised scales across the outer end of each segment of the shaft and even the basal portion of the club, dividing the whole sensory area except the apical part of the club into segmental blocks. Several species show the character, which appears in no other genus examined. No attempt is made to make this report exhaustive, but in the larger genera several species were examined, with only one case of inconsistency. In *Candalides* the blue species are normal type 2, while the two white New Guinea species examined are perfectly normal type 1. Evidently the genus needs revision, and I rather think the white species may go over to *Philiris*.

As every one knows, the grouping of the lycænid genera is in extreme confusion, so I have used the names of SEITZ' *Macrolepidoptera* in the following list. But even this leaves some possible confusions, for each of the four geographic sections is differently arranged, and there are some shifts of names. Note that *Thecla* is the traditional *Thecla*, broadly defined, not the nomenclatorial *Thecla* (*Zephyrus*). In the case of the Blues and Coppers (*Lycæna* or *Plebeius* and *Chrysophanus* or *Lycæna*) the confusion of both names and groupings — genera or subgenera — is extreme, but need not bother us, for the entire series have similar type 1 antennæ. For type 1 I have listed only representative genera, for types 2 and 3 all the genera examined; genera just on the line between 2 and 3 are assigned somewhat arbitrarily, but roughly a sensory area solid back to the middle of the shaft or interruptedly to the basal quarter is called type 3.

## TYPE 1 (examples)

All Lipteninæ	<i>Pithecops</i>	<i>Rathinda</i>
All "Blues"	<i>Callictita</i>	<i>Zeltus</i>
All "Coppers"	<i>Una</i>	<i>Thaumaina</i>
<i>Thecla</i> (normal types)	<i>Lampides</i>	<i>Oxylides</i>
<i>Theclopsis</i>	<i>Talicada</i>	<i>Hemiolaus</i>
<i>Itylos</i>	<i>Lycæna</i> , including <i>L. arion</i>	<i>Spindasis</i>
<i>Pseudonotis</i> (slightly run down)	<i>Lucia</i>	<i>Axiocerses</i>
<i>Epimastidia</i> (very short)	<i>Ilerda</i>	<i>Leptomyrina</i>
<i>Candalides meeki</i> , etc.	<i>Sithon</i> (slightly run down)	<i>Hypomyrina</i>
<i>Philiris</i>	<i>Chliaria</i>	<i>Hypocopelatus</i>
<i>Megisba</i>	<i>Hypolycæna</i>	

## TYPE 2 (varying degrees)

<i>Thecla</i> (many blue types, including <i>halesus</i> , <i>martialis</i> , etc.)		
<i>Eumæus</i>	<i>Læosopsis</i>	<i>Poritia</i>
<i>Hypaurotis</i>	<i>Chatoprocta</i> (slight)	<i>Deudorix</i> (♀ has spots)
<i>Habrodais</i>	<i>Euaspe</i>	<i>Stugeta</i>
<i>Satyrium</i>	<i>Decalana</i>	<i>Dapidodigma</i>
<i>Feniseca</i> (male)	<i>Camena</i>	<i>Iolaus</i>
<i>Hypochrysois</i> (aberrant)	<i>Tajuria</i>	<i>Aphæus</i>
<i>Amblypodia</i> ( <i>Arhopala</i> )	<i>Horaga</i>	<i>Capys</i>
<i>Niphanda</i> (female)	<i>Catapæcilma</i>	<i>Phasis</i>
<i>Zephyrus</i>	<i>Marmessus</i>	<i>Crudaria</i>

## TYPE 3

<i>Feniseca</i> (female)	<i>Curetis</i>	<i>Ticherra</i> (almost)
<i>Liphya</i>	<i>Ogyris</i>	<i>Yasoda</i>
<i>Allotinus</i> (female thicker)	<i>Suasa</i>	<i>Loxura</i>
<i>Gerydus</i>	<i>Drina</i>	<i>Megalopalpus</i> (extreme)
<i>Paragerydus</i>	<i>Biduanda</i>	<i>Lachnocnema</i>
<i>Taraka</i>	<i>Fooxylides</i>	<i>Myrina</i>
<i>Spalgis</i>	<i>Cheritra</i> (almost)	<i>Arrugia</i>