

III. Sexual or ethological isolation.

In Auchenorrhyncha, acoustic communication is well developed. Both males and females of Javesella produce acoustic signals which serve for mutual orientation and attraction, and which play an important role during courtship (STRUBING, 1964). It is generally believed that this is a very important factor in reproductive isolation. Through comparative studies of acoustic signals and courtship behavior we hope to learn more about the importance of this isolating mechanism.

IV. Mechanical isolation.

There has been quite a deal of speculation on the role of morphological differences in genital structures in preventing interspecific mating, but there is very little known about actual mechanical barriers. Recently, interspecific matings have been observed under laboratory conditions between J.dubia (female) and J.obscurella (male), and also between J.pellucida (female) and J.obscurella (male); hybrids developed normally but proved to be sterile. This means that both ethological and mechanical isolation are not absolute.

B. Postmating Isolating Mechanisms.

When premating isolating mechanisms are not strong enough to prevent the formation of hybrid zygotes, postmating isolating mechanisms can act by reducing viability or fertility of the hybrids.

A sound and solid taxonomy depends on a good understanding of species differentiation and interspecific relationships.

EXPERIMENTAL STUDIES ON HOSTPLANT-RELATIONS OF JAVESELLA (DELPHACIDAE).

Chr. Kooyman (Wageningen, The Netherlands).

Experiments were done on the host plant preference of Javesella pellucida, J.dubia and J.obscurella. The larval development was investigated on eleven grass species. A.geniculatus appeared to be the most suitable species in this respect for all three Javesella species. A.satica, L.perenne and Ph.pratense were also relatively suitable, but A.stolonifera only for J.dubia. The least suitable grass species were F.rubra and P.pratensis.

The host plant preference with regard to the oviposition was examined on

A.geniculatus, L.perenne, Ph.pratense and A.stolonifera. J.pellucida and J.obscurella both favoured A.geniculatus. J.pellucida also laid relatively many eggs on the other grass species. J.dubia laid as many eggs on A.geniculatus as on A.stolonifera.

Experiments in which females of each Javesella species were offered a choice between two grass species, show that J.pellucida and J.obscurella prefer A.geniculatus to both L.perenne and A.stolonifera. J.dubia chooses A.stolonifera as often as A.geniculatus.

PROBLEMS IN THE IDENTIFICATION OF ZYGINA (FLAMMIGEROIDIA) PRUNI EDWARDS 1924 (CICADELLIDAE).

H.Günthart (Dielsdorf, Switzerland).

On June 15th 1978, a new breeding of F.flammigera (Fourcroy 1785) was started with a hibernated open-air ♀ from a cherry tree in northern Switzerland, in a climatized cabinet using a daily 17 hour light period. From the direct offspring of this female, colouring, apophyses and hind-tarsi were investigated at various stages.

On one-day old F.flammigera, the zig-zag line on the basal part of the cubitus of the elytras appears to be a straight yellow line, which develops during the following 2 days into pale orange. The hind tarsi of the 1-3 days old F.flammigera are still light, but develop successively from greyish to brownish and turn only later from dark brown to blackish. The vertex and pronotum of first to third day old insects have no markings.

If we consider all the characteristics mentioned by Edwards and Ribaut for F.pruni, such as the small pale orange zig-zag on the elytras, the unmarked vertex and pronotum, the pale or slightly grey hind tarsi and additionally the very short apophyses - a young 1-3 day old F.flammigera is identical with F.pruni. Even the total length of the animal and the length of the fore-wings are identical.

Based on all these comparisons I am convinced that F.pruni Edwards 1924 is identical to young F.flammigera Fourcroy 1785.