the behaviour of the living organisms!

The moral, of course, is that the appendages of the leafhopper male genitalia may add a little extra zest for the female to the mating act. Even i their origin is a rather haphazard heterogonic growth byproduct, this would provide a means for selection of different forms in different species. This concept would need rather skilful experimental design to establish, but would give a more meaningful explanation of the natural selection processes which le to their selection and evolution.

EUSCELIS OHAUSI WGN. 1939 AND EUSCELIS SINGERI WGN. 1951: SEPARATE SPECIES OR NOT?

H.Strübing (Berlin, BRD).

Euscelis ohausi from Hamburg and Sylt described by W.Wagner in 1939, Euscelis singeri from the environment of Marburg, described by W.Wagner in 19[illegible] and Euscelis ohausi from the Pyrenees, described by Ribaut in 1952 as variatic quadrilineata were studied comparatively (size, wing-pattern, morphology of th aedeagus, and male courtship song). Euscelis ohausi lives on Genista anglica, Euscelis singeri on Sarothamnus scoparius, and the variety quadrilineata on an hitherto undetermined gorse plant. Hybridization experiments were made. The results showed that the three forms belong to one species, called Euscelis ohau and that the form singeri is only a geographically and ecologically distinguis subspecies. All three forms differ only in size and in the patterns on their wings. It may be that at some time in the future they will develop to separat species, but today all forms are able to interbreed and to produce fertile offspring.

BIOTAXONOMY OF JAVESELLA SPECIES (DELPHACIDAE): INTRODUCTORY REMARKS.

P.de Vrijer (Wageningen, the Netherlands).

The taxonomy of the species belonging to the genus Javesella (see NAST, 1972) is traditionally based on morphological characters. The most important

diagnostic characters are found in the genital structures of the males.
Recently, HULDÉN (1974) described J.bottnica on the basis of minor morphological differences with J.discolor and J.simillina. However, additional information on biological differentiation is lacking, and therefore the species status of this new form remains questionable.
Another new form was found by REMANE (1975) on the Azores, and described as J.azorica. The male genital morphology of this form is surprisingly similar to J.pellucida, but there are marked differences in other morphological characters. Experimentally, it was demonstrated that this new form could be separated from J.pellucida by ecological, bio-acoustical and genetical differences (STRÜBING & HASSE, 1975), and therefore its species status is a biological reality.
So far, this is the only instance known to us, where reproductive isolation is studied in Javesella species. It is the subject of our studies to analyse in detail the reproductive isolation between the different Javesella species and to learn more about the mechanisms involved.

Several isolating mechanisms can be distinguished (see e.g. DOBZHANSKY, 1970).

A. Premating Isolating Mechanisms

I. Ecological or habitat isolation.

All Javesella species are reported to occur in grassland biotopes, where they are supposed to feed on grasses, Carex sp. and Juncus sp. Information on specific hostplant relations is very poor. In faunistic reports it is frequently stated that two or more species occur in the same habitat. In such cases at least some degree of ecological differentiation can be expected, especially when closely related sibling species are involved. Therefore experimental studies on hostplant relations are undertaken (see abstract of C.Kooyman in this Newsletter), as well as more detailed field observations.

II. Seasonal or temporal isolation.

So far as is known all species have similar phenologies, and there is no evidence that mating times differ. But the information is far from complete and therefore more field data are collected. There are indications now that J.discolor has an aberrant type of diapause, because it does not produce a second generation in Holland. Preliminary breeding experiments showed that larvae produced by adults collected in May have an obligatory diapause in the third instar. Other species (like J.pellucida, J.dubia, J.obscurella) can be bred continuously as long as the photoperiod is above the critical level.

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 (STRÜBING, 19[illegible] It is generally believed that this is a very important factor in reproductive isolation. Through comparative studies of acoustic signals and courtship behavi 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