Pakistan J. Sci. Ind. Res., Vol. 13, No. 4, December 1970

ANDRABIA, NEW GENUS AND A. KASHMIRENSIS, NEW SPECIES (TYPHLOCYBINAE: CICADELLIDAE) ON THE PLANT TEMBER (ZANTHOXYLUM ALATUM) IN NORTHERN AREAS OF WEST PAKISTAN

MANZOOR AHMED

Department of Zoology, University of Karachi, Karachi 32

(Received October 16, 1969; revised February 19, 1970)

The genus *Andrabia*, new genus includes a single species. *A. kashmirensis*, new species a pest of wild plant tember, *Zanthoxylum alatum* in northern hilly areas of West Pakistan, particularly in the valleys of Azad Kashmir and Abbotabad. The genus is remotely related to a few erythroneurine genera described by Ghauri[1] and Mahmood[2] from Philippines Islands, but can be easily distinguished on the basis of characters of pygofer and male plate.

During field visits to the northern hilly areas of West Pakistan for the study of leafhopper fauna, extensive stippling type of damage on the upper surface of the leaves of wild plant, tember (*Zanthoxylum alatum*) was noticed. These marks usually indicate the presence of typhlocybine leafhoppers, and are the areas of leaf rendered dead by the feeding punctures of these leafhoppers. The leafhopper responsible for the damage was collected and studied by the present worker. It is presently being described as a new genus and a new species. The method and technique of study was similar to that followed by Ahmed.[3,4]

Andrabia, New Genus

Type of the genus *Andrabia kashmirensis*, new species.—Hindwings with venation typically erythroneurine. Forewings with first, second and third apical cells successively shorter in length; first apical cell with base oblique; second apical cell elongate, narrower than either adjoining apical cell, with sides subparallel; third apical cell broadening towards apex; outer apical cell short, not reaching wing apex, with or without a few adventitious anteapical cells along costal margin; costal plaque present.

Male genitalia with male plate, in lateral view, sinuate in middle, with short macrosetae, a few on lateral margin in basal half, a row in distal half on lateral and mesal margins, continuous at apex; in ventral aspect with four macrosetae arranged obliquely in basal half; pygofer with posterior part of disc narrowed, with a fringe of microsetae on posterior margin, a few macrosetae posterodorsally, processes lacking. Style somewhat similar to that of *Thaia* Ghauri, with cephalic part 2/3 in length of caudal part, with a narrow 'flange' on lateral margin, in middle of caudal part, apex curved dorsad, with a spiny extreme tip. Connective V-shaped, arms stout, wide, with a median cephalic lobe. Aedeagus with preatrial part directed dorsad, shaft bent caudad at 90° to preatrium, with two pairs of preatrial processes, one pair, much slender arising laterodorsally, and the second pair arising laterally, both near base of preatrium.

The genus has been named after Mr. S.D. Andrabi, Director of Agriculture, Azad Kashmir Government.

Discussion

Andrabia, new genus has been included in the tribe Erythroneurini on the basis of fusion of vannal veins in the hindwings. This character according to Young[5] has been observed either in the tribe Erythroneurini or some genera of tribe Dikraneurini in the family Cicadellidae. The absence of submarginal vein at wing apex however clearly differentiates *Andrabia*, new genus from any Dikraneurine genus.

The second important character of the tribe Erythroneurini is the presence of a preapical lobe, and an apical extension on style. *Andrabia*, new genus does not have any of these characters developed typically. The so called 'flange' in this case has neither the shape of a lobe, nor is it preapical in position. It is developed as a narrow lateral projection, somewhere in the middle of the caudal part of style. Moreover the apical extension, is neither truncated at apex, nor forms 'heel' for the development of a second apical extension. It is rather narrowed to a spiny tip.

Mahmood,[2] and Mahmood and Ahmed[6] observed that the oriental Erythroneurini show much more diversification in the characters of style than that reported by Young[5] for American species of the tribe. Mahmood[2] described a number of new genera i.e. *Thilus*, *Hardiana*, and *Makilingana*, and Ghauri[1] described *Thaia*, which all have style shape, appreaching to the style shape of *Andrabia*, new genus to various degrees. All of Mahmood's

genera referred above have well developed pygofer hooks, which is entirely lacking in *Andrabia*, new genus. The genus *Thaia* Ghauri has almost identical style to that of genus *Andrabia*, but the development of a massive process on male plate of *Thaia* Ghauri clearly differentiates the two genera. However the present worker has studied several specimen of *Thaia oryzivora* Ghauri collected from East Pakistan. In my opinion the massive process which he regards as originating from lateral basal angle of male plate, is actually venentral pygofer process. Although I have not seen the specimens of *Hardiana assamensid* Mahmood, but on the basis of his descriptions and illustrations I would be inclined to regard *Hardiana* Mahmood as synonym of *Thaia* Ghauri. The differences are due to the slight varied approaches of the two authors. The male plate, pygofer, aedeagus, wings, anal hooks in the two genera are identical. Mahmood's[2] description of *Hardiana* is too brief, whereas Ghauri[1] appears to be interpretting, ventral processes of pygofer in *Hardiana*, as processes of male plate in *Thaia*. The similarities are so close that the two can be regarded as synonymous.

Andrabia, new genus on the basis of above discussion, can be related to the genera *Hardiana* Mahmood, *Makilingana* Mahmood, *Thailus* Mahmood and to *Thaia* Ghauri in its style development, but is quite distinct in the characters of pygofer and male plate. The only other genera of the tribe erythroneurini, recorded so far from West Pakistan are *Zygina* Fieber, and *Erythroneura* Fitch by Ahmed.[3,4] The following key will help in separating *Andrabia*, new genus from the related genera of Mahmood[2] and Ghauri[1] referred above.

1. Male plate with long macrosetae, arranged all along its length on ventral surface; connective T-shaped *Makilingana* Mahmood.

Male plate with very few macrosetae, sporadically placed; connective not T-shaped 2

2. Pygofer process present 3

Pygofer process absent *Andrabia*, new genus.

3. Dorsal apodeme reduced; male plate without a dorsal anteapical protuberance, with apex broadly pointed *Thailus* Mahmood

Dorsal apodeme well developed; male plate with a dorsal anteapical protuberance, with apex broad, rounded *Thaia* Ghauri.

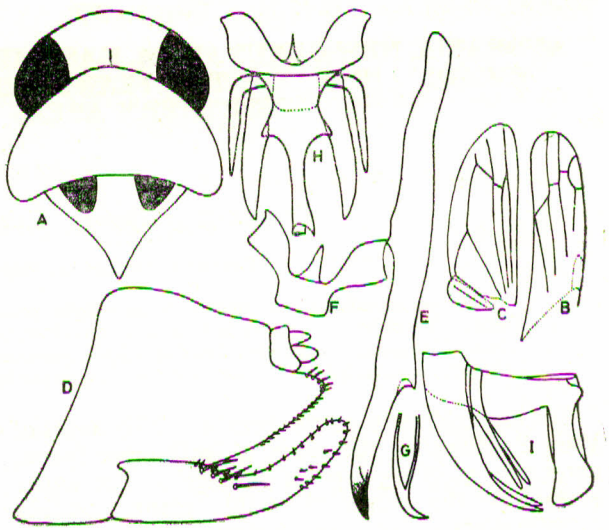

Fig. 1.—*Andrabia kashmirensis*, new species (A) Head, and thorax, dorsal view × 50 (B) Forewing, × 12.5 (C) Hindwing, × 12.5 (D) Pygofer and male plate, × 100 (E) Style, dorsal aspect, × 144 (F) Connective, dorsal aspect, × 144 (G) Style apex, lateral view × 144 (H) Connective and Aedeagal Complex, dorsal view, × 144 (I) Aedeagus, lateral view × 144.

Andrabia kashmirensis, New Species

External Features.—Length of male about 4.3.mm; head convex in front; median length of crown much less than width between eyes; ocelli absent; crown, pronotum and wings waxy white in colour; scutellum with two black spots anterolaterally, abdomen with transverse black bands both dorsally and ventrally.

Host and Food Plants.—The species has been described from tember, *Zanthoxylum alatum* Roxb., Abbotabad, West Pakistan, and has also been collected from Muraffarabad, Azad Kashmir and adjoining areas. It causes extensive stippling on the leaves.

Holotype male, Abbotabad, West Pakistan, 26 VI 64 (M. Ahmed), tember, allotype female, six paratypes, same data, in the Zoological Museum, University of Karachi, Karachi, West Pakistan, and six paratypes, same data, in U.S. National Museum, Washington D.C.

Acknowledgements.—The observations recorded in the present work were partly made when the author was employed in the project, Taxonomic Studies of the oriental leafhoppers, in the Department of Zoology, University of Karachi. The author is grateful to University of Karachi, as well as to U.S. Department of Agriculture who financed the project, under a PL-480 grant. I am grateful to Dr. M.A.H. Qadri, Head Department

of Zoology and Dr. S.H. Mahmood for their help and guidance during the course of this work. I also thank Mr. Sharifuddin Andrabi, Director of Agriculture, Azad Kashmir Governments, for his help during field visits to northern hilly areas.

References

1. M.S.K. Ghauri, Ann. Mag. Nat. Hist. ser., 13, **5**, 253 (1962).
2. S.H. Mahmood, Pac. Ins. Mon. **12**, 1(1967).
3. M. Ahmed, Pakistan J. Zool., **1**(2) (1969a).
4. M. Ahmed, Pakistan J. Zool., **2**(1),29.
5. D.A. Young, Kans. Univ. Sci. Bull., **35**, 217 (1952).
6. S.H. Mahmood, and M. Ahmed, University Studies (Pakistan) **5**, 72(1968).