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Four new species of the grass feeding leafhopper genus *Nicolaus* Lindberg (Hemiptera: Cicadellidae: Deltocephalinae) from the Indian subcontinent

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Abstract

The leafhopper genus *Nicolaus* Lindberg is recorded from India and Pakistan for the first time. Four new species, *N. abuensis* sp. nov., *N. bidentatus* sp. nov., *N. cornutus* sp. nov. and *N. serratus* sp. nov. are described and illustrated. *N. bihamatus* Xing & Li, earlier known from China is recorded from India and Pakistan. A key to the species of *Nicolaus* from the study area is provided.

Key words: Auchenorrhyncha, Paralimnini, India, Pakistan

Introduction

The grass feeding leafhopper genus *Nicolaus* was described by Lindberg (1958) with *Nicolaus xerophilus* Lindberg as the type species, from the Cape Verde Islands. Linnavuori (1962) described the genus *Jubrinia* with *Jubrinia distincta* Linnavuori as the type species from the Mediterranean region. Stiller (1998) revised the genus *Nicolaus* from the African region, synonymised *Jubrinia* with *Nicolaus*, treated 24 species and opined that “Many new species await discovery, especially in West and East Africa”. The first Asian species of *Nicolaus* (*Nicolaus bihamatus* Xing & Li, 2011) was described from China. Here we record the genus from India and Pakistan for the first time and record five species, four described herein as new. Specimens of some of these species were collected on grass or trapped at light.

Nicolaus has very characteristic male genitalia with a membranous aedeagal shaft supported ventrally by a pair of prominent, well sclerotized preatrial processes. The latter’s mistaken identity as paired aedeagal shafts resulted in the previous placement of the genus in Opsiini by Lindberg (1958) and Linnavuori (1962) before Stiller (1998) correctly placed the genus in Paralimnini. Based on its preatrial processes, *Nicolaus* is close to *Hengchunia* Vilbaste but this may be superficial as it has the more usual three forewing subapical cells (Fig. 14) rather than the two found in *Hengchunia*. Some species, e.g., *N. cornutus*, and *N. serratus* spp. nov. and *N. bihamatus* are similar to species of *Psammotettix* Haupt in coloration, depressed vertex and short subgenital plates.

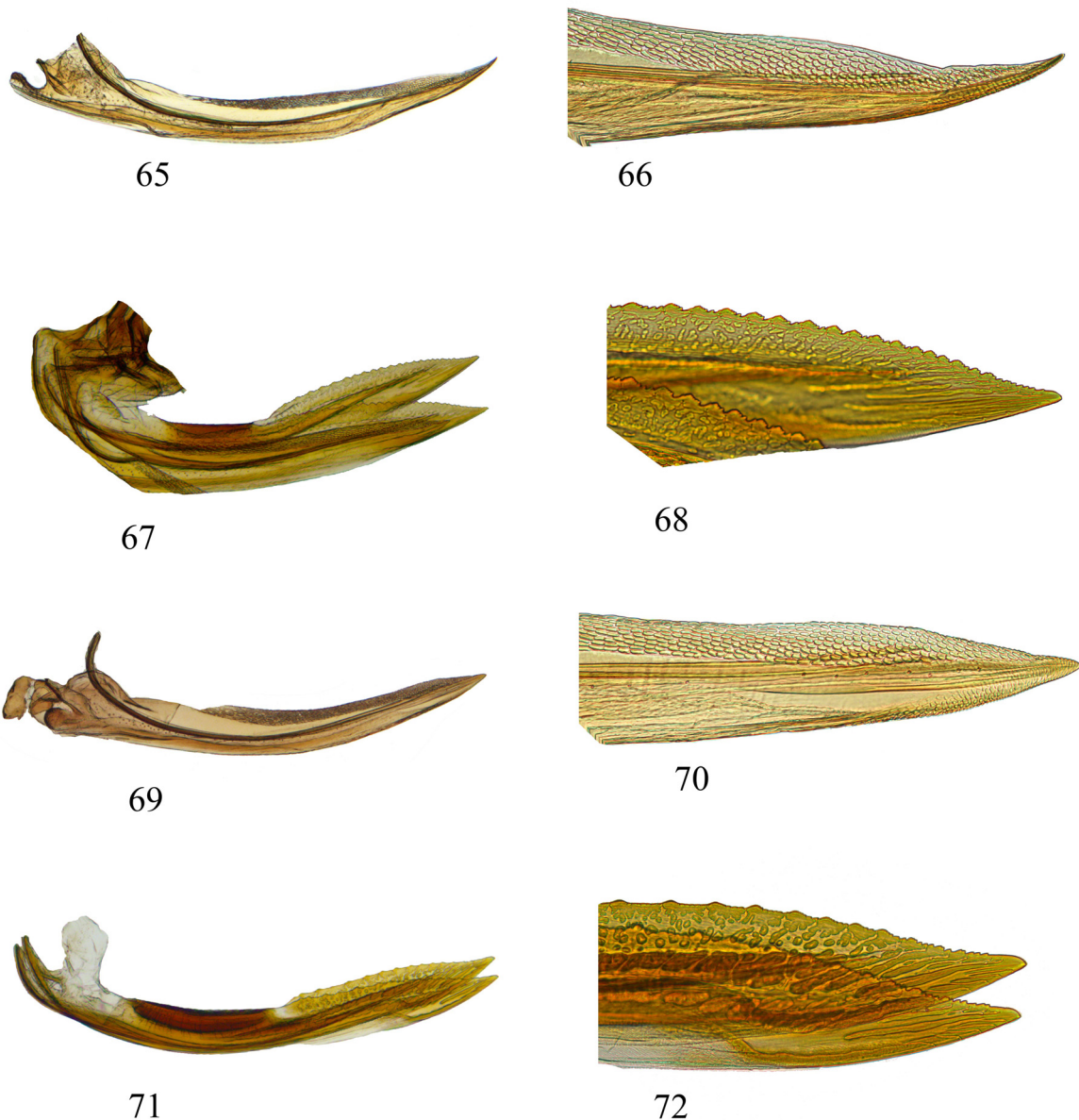
The material used in the study will be deposited in the University of Agricultural Sciences, GKVK, Bangalore (UASB), National Pusa Collection, Indian Agricultural Research Institute, New Delhi (NPC) and The Natural History Museum, London (BMNH).

Nicolaus Lindberg

Nicolaus 1958: 176. Type species: *Nicolaus xerophilus* Lindberg, by original designation.

Jubrinia Linnavuori 1962: 54. Type species: *Jubrinia distincta* Linnavuori, by original designation; synonymy by Stiller 1998:326.

Creamy white to ochraceous with brown markings.



FIGURES 65–72. Female valvulae of *Nicolaus*. 65–68. *Nicolaus bihamatus* Xing & Li.: 65. First pair of valvulae, lateral view; 66. Apex of first pair of valvulae magnified; 67. Second pair of valvulae, lateral view; 68. Apex of second pair of valvulae, magnified. 69–72. *Nicolaus cornutus* **sp. nov.**: 69. First pair of valvulae, lateral view; 70. Apex of first pair of valvulae magnified; 71. Second pair of valvulae, lateral view; 72. Apex of second pair of valvulae, magnified.

References

- Lindberg, H. (1958) Hemiptera insularum Caboverdensium. Systematik, ökologie und verbreitung der Heteropteren und Cicadinen der Kapverdischen Inseln. *Commentationes Biologicae Societas Scientiarum Fennica*, 19, 1–246.
- Linnavuori, R. (1962) Hemiptera of Israel III. *Annale Zoologici societatis zoologicae Botanicae Fennicae 'Vanamo'*, 24, 1–108.
- Rakitov, R.A. (1998) On differentiation of cicadellid leg chaetotaxy (Homoptera, Auchenorrhyncha, Membracoidea). *Russian Entomological Journal*, 6 (3–4), 7–27.
- Stiller, M. (1998) The African leafhopper genus *Nicolaus* Lindberg (Homoptera: Cicadellidae: Paralimnini). *African Entomology*, 6, 325–364.
- Xing, J.-C., Dai, R.-H. & Li, Z.-Z. (2011) Deltoccephalinae from China (Hemiptera: Cicadellidae). Popular Science Press, Beijing, China, 336 pp.