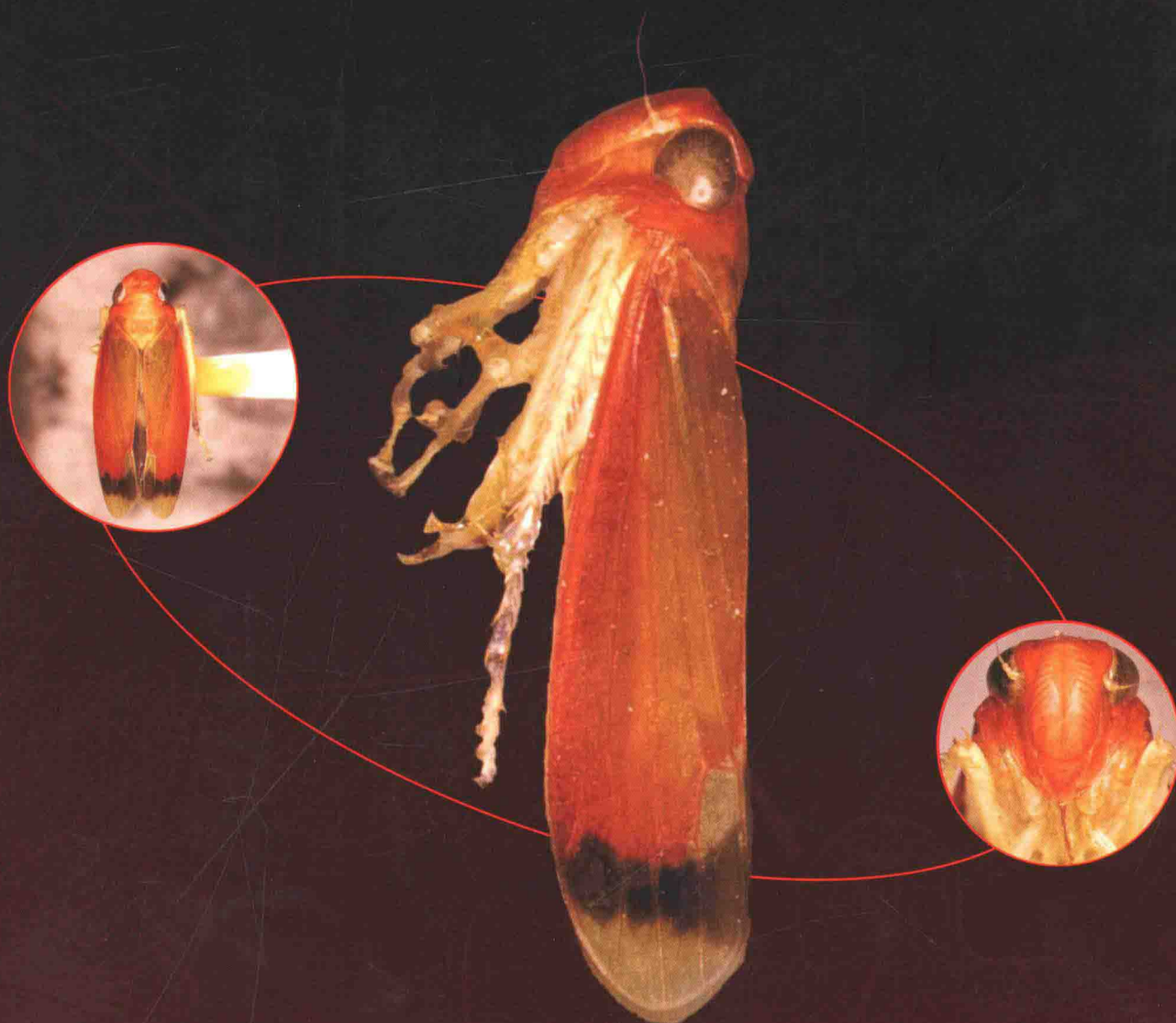




PICTORIAL OF INSECT TYPE SPECIMENS DEPOSITED IN GUIZHOU UNIVERSITY

Edited by Li Zi-Zhong Li Hu Xing Ji-Chun



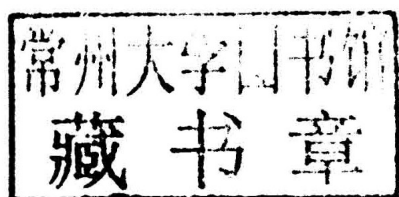
Academy Press

**PICTORIAL OF INSECT TYPE SPECIMENS
DEPOSITED IN GUIZHOU UNIVERSITY**

贵州大学馆藏昆虫模式标本图志

Edited by Li Zi-Zhong Li Hu Xing Ji-Chun

李子忠 李 虎 邢济春 主编



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Summary

The present work deals with type specimens of 734 insect species in Mantodea (Thespidae), Phasmatodea (Phasmatidae), Homoptera (Cicadellidae, Delphacidae, Ricaniidae, Cixiidae, Dictyopharidae, Achilidae, Tropiduchidae, Issidae, Caliscelidae and Lophopidae) and Diptera (Stratiomyidae), which were established by the entomologists in Institute of Entomology, Guizhou University, from 1983 to August, 2014. The type of each species is illustrated by a set of photographs including body habitus (dorsal and lateral views), face and holotype labels and provided a brief information about type locality and original publication. Appendices, reflecting achievements in insect systematics at the institute, including lists of 20 monographs, 535 articles, and 49 graduated postgraduates, of whom 36 earned their master's degrees and 13 doctor degrees. This work made an effective way to reveal the real status of the type specimens preserved permanently, in order to provide convenience for checking and identifying species. It is very valuable for scientific and technical workers to study on taxonomy, ecology and biogeography of insects, as well as on biological diversity. It has a strong academic significance and highly practical value.

Preface

Type specimen, as an objective entity of a species name or a real evidence for a species, is an original specimen used by a taxonomist for the first time to describe a new species. It is unique and distinguishes itself from other interspecific individuals. “International Code of Zoological Nomenclature” has made a clear regulation that a taxonomist must designate a type specimen with type locality and collecting data and it clearly indicate its depositary when describing and publishing a new species; and also has another rule of verifying the type specimens as much as possible when other people plan to name a new species, and this is responsible of depositary to provide such convenience if available.

There are some problems, such as lossing and damaging, in type specimens nowadays at some depositaries around the world. Some type specimens might be mildewed, damaged by worms because of poor management, for instance, some houses have no equipment to control temperature and humidity in the depositary, so that their due value would be greatly reduced. To build normalized preservation for the animal type specimens, the Guizhou University was designated as one of Chinese depositaries of animal type specimen by Editorial Committee of Fauna Sinica, Chinese Academy of Sciences.

It has more than 40 years history of studying on insect systematics at Institute of Entomology, Guizhou University. In the early 1970s, the Editorial Committee of “Fauna Guizhou” was accordingly founded under the support of Science and Technology Commission of Guizhou Province. A project of investigation on agriculture and forestry insect fauna in Guizhou province was managed and a monograph of “Agriculture and Forestry Insect Fauna of Guizhou” was published by professor Guo Zhen-Zhong, Guizhou University (then Guizhou Agricultural College); from the 90s of the last century to the beginning of this century, professor Li Zi-Zhong and his colleagues at Guizhou University, and many experts invited by him had made significant contribution to systematical investigation on the insect resources at seven national natural reserves in Guizhou province, and published a series of monographs homologically titled with identical words ‘landscape insects’. They had greatly enhanced the research of insect fauna in Guizhou and trained a number of excellent professionals in systematics and related disciplines, some of whom have been leading academic figures in this area in China.

With the unremitting efforts of several generations, insect herbarium at Institute of Entomology of Guizhou University gradually grew up, and now there are a large collections of more than 150 thousands insect specimens collected from 28 provinces (regions) in China and presented by many colleagues both from domestic and abroad. To avoid some unexpected

damage and loss of type specimens due to accidental natural and man-made factors, and concurrently to strengthen the standardization management of type specimens, we do this work "Pictorial of Insect Type Specimens Deposited in Guizhou University", which might be an auxiliary and virtual way to make the type specimens examinable forever.

The present work includes type specimens of 734 species in Mantodea (Thespidae), Phasmatodea (Phasmatidae), Homoptera (Cicadellidae, Delphacidae, Ricaniidae, Cixiidae, Dictyopharidae, Achilidae, Tropiduchidae, Issidae, Caliscelidae and Lophopidae), and Diptera (Stratiomyidae), and the taxa were erected during 1983 to August, 2014. Every species type is demonstrated with a set of photographs, body views in dorsal and lateral, face holotype labels and preservation status (Figure captions: A. Dorsal habitus; B. Lateral habitus; C. Face ; D. Type labels scanned; E. Preserved status of types), and provided with information about its type locality and original description paper. Three appendices reflect main achievements in insect systematics at the Institute of Entomology, Guizhou University, are respectively given as lists of 20 monographs, 535 articles, 49 postgraduates (of them 36 got master degrees and 13 won doctor degrees) graduated from the institute. We remain confident that this work will provide a reliable and practical tool to verify the type specimens. We regard publishing the work as an international obligation that the institute should take.

We will keep it in mind that the successful publishment of this work is owing to the encouragement of leaders at all levels of Guizhou University, and the great support of colleagues and postgraduates in the Institute of Entomology, Guizhou university. Some types illustrated are contributed, through either presenting or exchanging and other ways, respectively by profs. Yang Ji-Kun, Li Fa-Sheng, Ge Zhong-Lin, Zhang Ya-Lin, Ren Guo-Dong, Shi Fu-Ming, Lin Nai-Quan, Lin Yu-Jian, Tian Ming-Yi, Zhou Shan-Yi, Wang Wen-Kai, Huang Kun-Wei, Cao Wei, Wang Bao-Hai etc.; Drs. Vojtec Novotny, Michale D. Webb etc., who have been acknowledged in the original papers. On the occasion of the publishment of this work, we would like to show our sincere thanks to them once again, and specially express our appreciation to Professor Jin Dao-Chao (Vice-chancellor of Guizhou University) for his constructive suggestions and great support to our work. There may be some inevitable oversight and mistakes due to our limited time and proficiency, so we heartily welcome comments and suggestions from the colleagues at home and abroad for further modification.

Li Zi-Zhong
Institute of Entomology of Guizhou University
Huaxi, Guiyang, China
August 2014

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1 Mantodea

Medium to large sizes, body form usually cylindrical. Head triangular or similarly quinquangular, moved freely; mouthparts masticated; eyes well developed and spherically prominent; ocelli three, formed as shape of triangle; antenna variously shaped. Pronotum extremely elongated, neck shaped; forewings flatted in repose; with grasping legs.

At present 112 species of 47 genera were recorded around the world.

The work includes the type specimen of 1 species in 1 genus of 1 family.

1.1 Thespidae

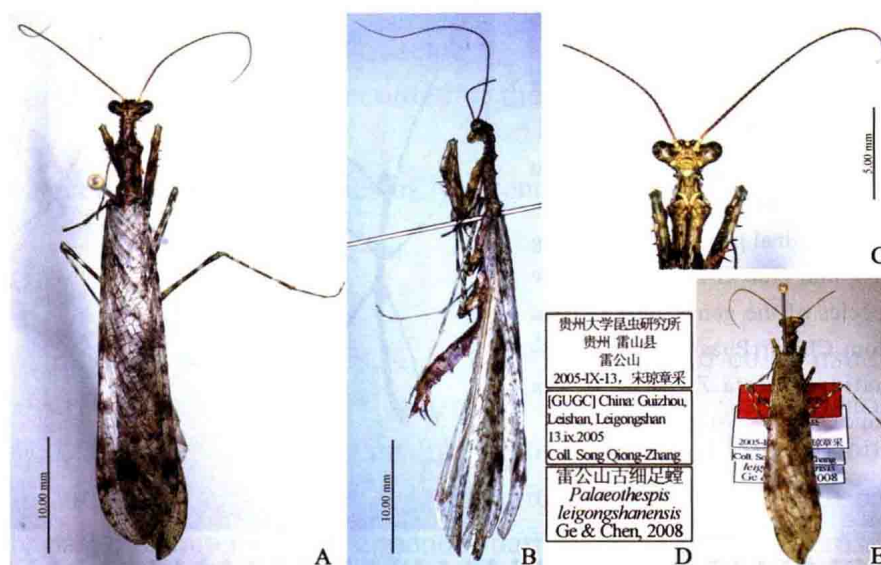
Small to large sizes. Antenna filamentous. Pronotum slender, slightly expanded bilaterally; male with wings but female without wings or less developed; front coxa subapex with clearly lobate prominence, front femur with 4 lateral spines and 2-4 medial spines.

The present work includes the type specimen of 1 species in 1 genus.

(1) *Palaeothespis leigongshanensis* Ge & Chen

Type locality: CHINA Guizhou (Leigongshan).

Original paper: Ge D-Y and Chen X-S. 2008. Review of the genus *Palaeothespis* Tinkham (Mantodea: Thespidae), with description of one new species. *Zootaxa*, 1716: 55.



2 Phasmida

Medium to large sizes, winged or wingless, body form slender and cylindrical, occasionally depressed dorsoventrally. Mouthparts masticated; antenna filamentous. Pronotum short; mesonotum and metastethidium long. Abdominal first segment fused to metastethidium; three paired legs similar to each other, tarsus with five segments.

The present work records the type specimen of 1 species in 1 genus of 1 family.

2.1 Phasmatidae

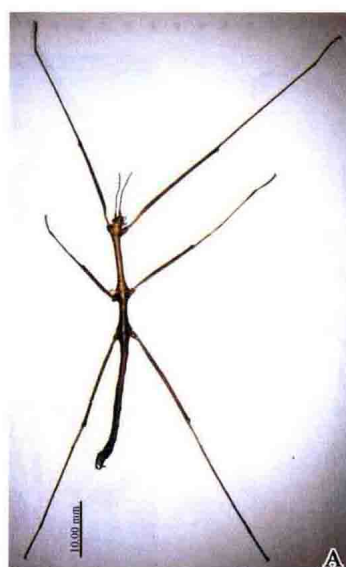
Antenna clearly segmented, usually shorter than fore femur; middle and hind tibia without triangular concave ventrally; female femur dorsal base serrated, somewhat longer than male femur, but shorter than body length, middle femur with evenly serrated ventral carina.

This work includes the type specimen of 1 species in 1 genus.

(2) *Interphasma leigongshanense* Xu, Yang & Guo

Type locality: CHINA Guizhou (Leigongshan).

Original paper: Xu F-L, Yang M-F and Guo G-H. 2010. A new species of the genus *Interphasma* from China (Phasmatodea, Phasmatidae). *Acta Zootaxonomica Sinica*, 35(2): 396.



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Coll. Xu Fang-Ling
雷公山介橐
Interphasma
leigongshanense Xu,
Yang & Guo, 2010

3 Homoptera

The order contains various species with various body appearances, small to large sized, some of them with wax glands. Well developed eyes, with 1-3 ocelli if present, piercing-sucking mouthparts, and setaceous, coniform or threadiness antenna. Pronotum usually small, sometimes elongate or angled anteriorly, mesoscutellum currently visible; forewings uniform texture, leather or membranous, veins clear or vestigial, hindwings veins membranous. Abdomen clearly segmented, usually with 11 segments. With common phenomenon of sexual dimorphism and polymorphism relatively.

The present work records the type specimens of 715 species in 10 families.

3.1 Cicadellidae

Body appearance cylindrical or dorsoventrally flattened, of different body sizes, 3-15 mm. Background color brown, orange, yellow, red, white, etc. usually with single color on a specimen or with color maculae and stripes. Head broad, eyes well-developed, with 2 ocelli if present; antenna setaceous. Hind coxa transversely broad and extending to lateral margin of abdominal sternite; hind tibia ridged and with 3-4 rows of setae.

More than 22 300 species of 2 340 genera were recorded in the world currently, including 1 400 species in China.

The work includes the type specimens of 638 species in 169 genera of 19 subfamilies.

3.1.1 Cicadellinae

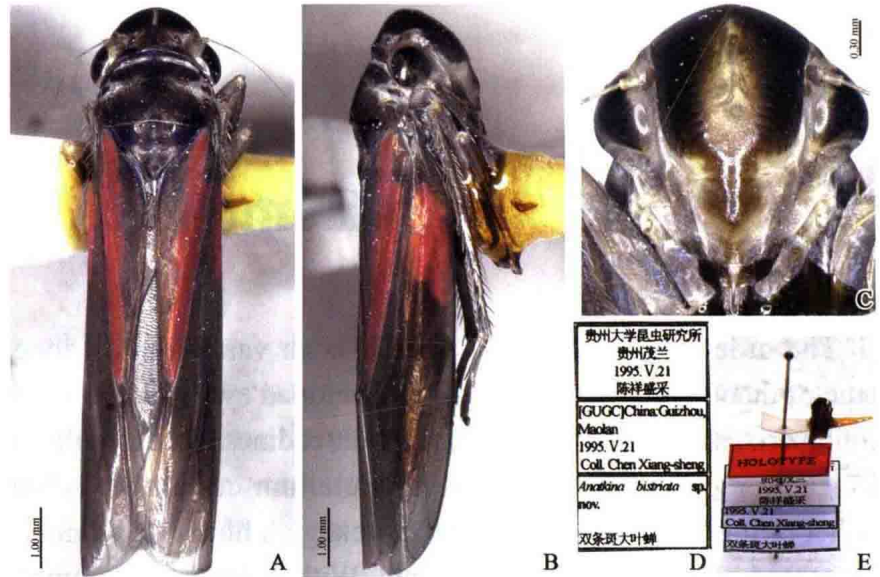
Cylindrical leafhoppers, of medium to large sizes, 4-15 mm. Background color usually green or brown with yellow, red stripes or maculae etc. Head smoothly produced, without carina or concave; face strongly inflated, ocelli on crown distant from anterior margin, lateral frontal sutures extended to ocelli. Forewing venation complete, inner apical cell elongate with base narrow and inner corner usually basad of outer corner; appendix narrow; hind femur macrosetal formula usually 2+1 or 2+1+1.

This work includes the type specimens of 88 species in 13 genera.

(3) *Anatkina bistriata***Yang & Li**

Type locality: CHINA Guizhou (Maolan).

Original paper: Yang M-F and Li Z-Z. 2001. Three new species of the genus *Anatkina* from Guizhou Province, China (Homoptera: Cicadellidae). Acta Zootaxonomica Sinica, 26(1): 48.

**(4) *Anatkina harpaga*****Yang & Li**

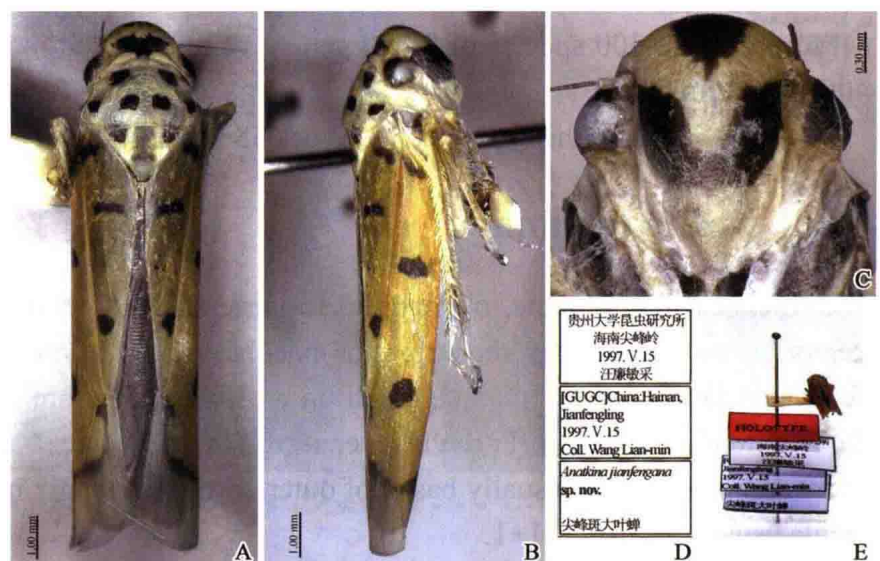
Type locality: CHINA Yunnan (Lincang).

Original paper: Yang M-F and Li Z-Z. 1999. A new species of *Anatkina* from Yunnan Province, China (Homoptera: Cicadellidae). Journal of Mountain Agriculture and Biology, 18(1): 15.

**(5) *Anatkina jianfengana*****Yang & Li**

Type locality: CHINA Hainan (Jianfengling).

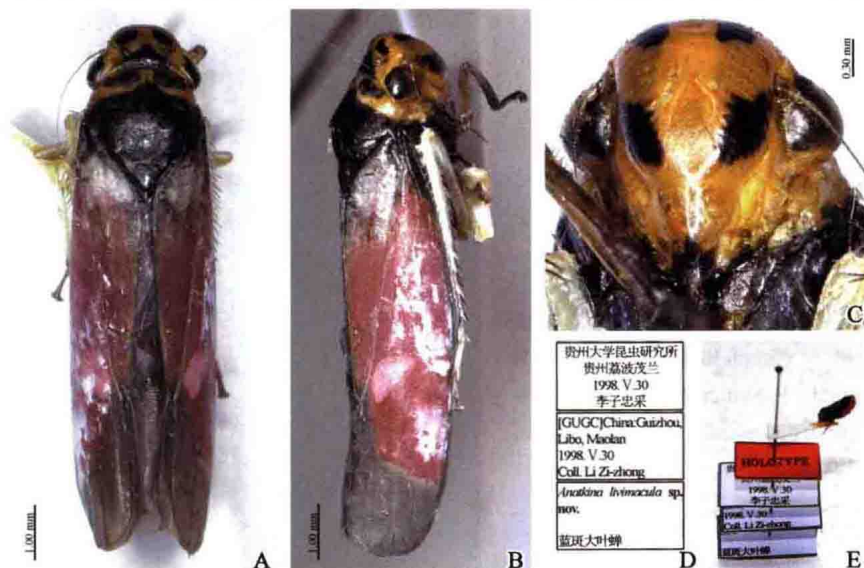
Original paper: Yang M-F, Du Y-L and Li Z-Z. 2001. Three new species and a new record of the genus *Anatkina* from China (Homoptera: Cicadellidae: Cicadellinae). Zoological Research, 22(2): 143.



(6) *Anatkina livimacula***Yang & Li**

Type locality: CHINA Guizhou (Libo, Ziyun).

Original paper: Yang M-F and Li Z-Z. 2001. Three new species of the genus *Anatkina* from Guizhou Province, China (Homoptera: Cicadellidae). *Acta Zootaxonomica Sinica*, 26(1): 46.

**(7) *Anatkina nigriventris*****Li**

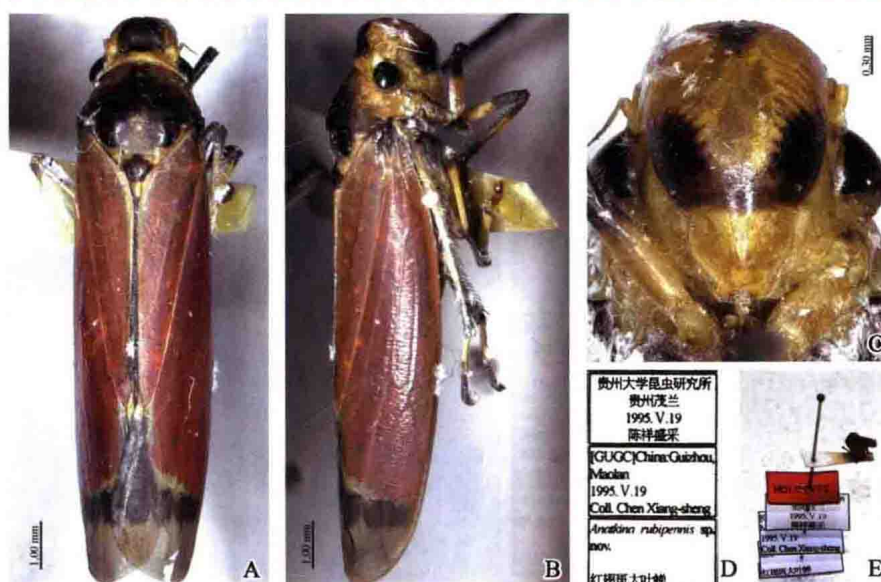
Type locality: CHINA Guizhou (Rongjiang).

Original paper: Li Z-Z. 1992. A new species of *Anatkina* from Guizhou Province, China (Homoptera: Tettigellidae). *Acta Entomologica Sinica*, 35(2): 215.

**(8) *Anatkina rubipennis*****Yang & Li**

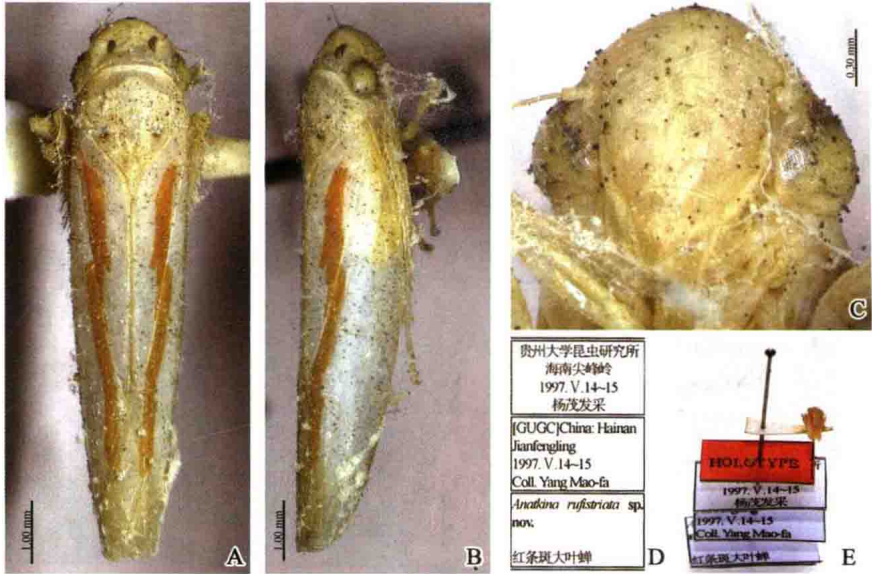
Type locality: CHINA Guizhou (Maolan).

Original paper: Yang M-F and Li Z-Z. 2001. Three new species of the genus *Anatkina* from Guizhou Province, China (Homoptera: Cicadellidae). *Acta Zootaxonomica Sinica*, 26(1): 47.



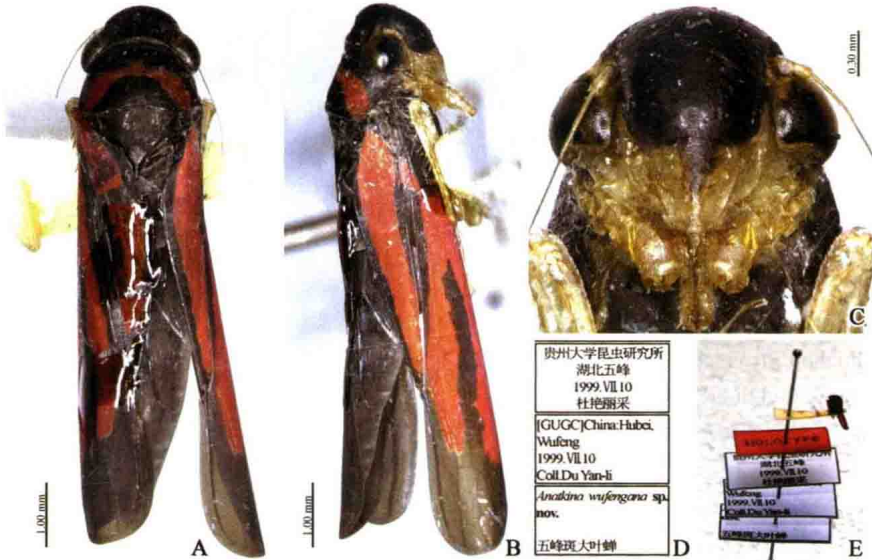
(9) *Anatkina rufistriata*
Yang & Li

Type locality: CHINA Hainan (Jianfengling, Limushan).
Original paper: Yang M-F and Li Z-Z. 1998. Three new species of Cicadellidae from China's Hainan Province (Homoptera: Cicadellidae). Zoological Research, 19(4): 320.



(10) *Anatkina wufengana*
Yang & Du

Type locality: CHINA Hubei (Wufeng).
Original paper: Yang M-F, Du Y-L and Li Z-Z. 2001. Three new species and a new record of the genus *Anatkina* from China (Homoptera: Cicadellidae: Cicadellinae). Zoological Research, 22(2): 142.



(11) *Anatkina yingjiangana*
Yang & Li

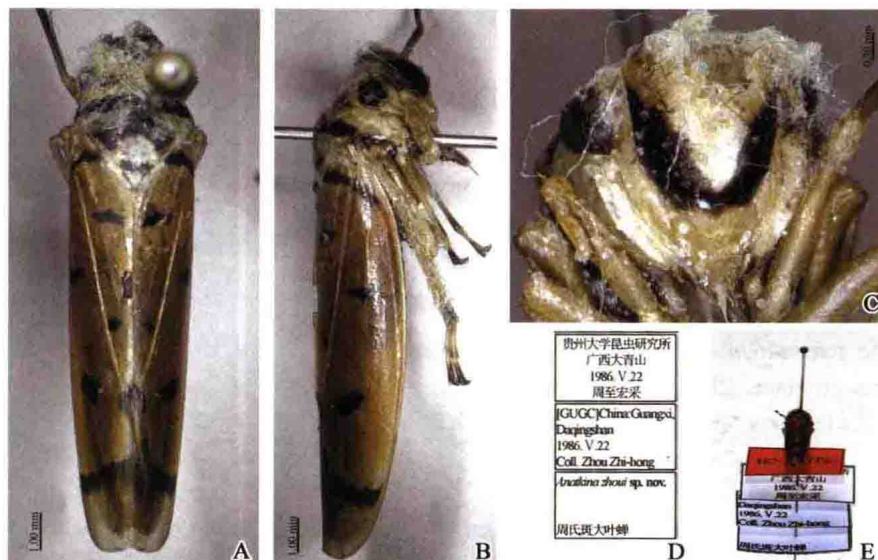
Type locality: CHINA Yunnan (Yingjiang).
Original paper: Yang M-F and Li Z-Z. 2005. A new species of *Anatkina* (Hemiptera: Cicadellidae: Cicadellinae) from China. Entomotaxonomia, 27(1): 14.



(12) *Anatkina zhoui* Yang & Li

Type locality: CHINA Guangxi (Daqingshan).

Original paper: Yang M-F, Du Y-L and Li Z-Z. 2001. Three new species and a new record of the genus *Anatkina* from China (Homoptera: Cicadellidae: Cicadellinae). Zoological Research, 22(2): 142.



(13) *Atkinsoniella albimacula* Yang & Li

Type locality: CHINA Yunnan (Pianma).

Original paper: Yang M-F and Li Z-Z. 2002. Three new species of the genus *Atkinsoniella* from Yunnan province, China (Homoptera: Cicadellidae: Cicadellinae). Acta Zootaxonomica Sinica, 27(3): 556.



(14) *Atkinsoniella biundulata* Meng, Yang & Ni

Type locality: CHINA Yunnan (Gongshan, Tengchong).

Original paper: Meng Z-H, Yang M-F and Ni J-Q. 2010. Three new species of *Atkinsoniella* from China (Homoptera: Cicadellidae: Cicadellini). Zootaxa, 2654: 42.



(15) *Atkinsoniella chlorिता*
Yang & Li

Type locality: CHINA Yunnan (Lijiang).

Original paper: Yang M-F and Li Z-Z. 2002. Three new species of the genus *Atkinsoniella* from Yunnan province, China (Homoptera: Cicadellidae: Cicadellinae). Acta Zootaxonomica Sinica, 27(3): 558.



(16) *Atkinsoniella cuspidata*
Meng, Yang & Ni

Type locality: CHINA Yunnan (Gaoligongshan).

Original paper: Meng Z-H, Yang M-F and Ni J-Q. 2010. Three new species of *Atkinsoniella* from China (Hemiptera: Cicadellidae: Cicadellini). Zootaxa, 2654: 45.



(17) *Atkinsoniella dactylia*
Yang & Li

Type locality: CHINA Fujian (Wuyishan).

Original paper: Yang M-F and Li Z-Z. 2000. Description of a new species of the genus *Atkinsoniella* from Wuyi mountain, Fujian (Homoptera: Cicadellidae). Acta Zootaxonomica Sinica, 25(4): 410.

