

The genus *Qinlingacris* (Orthoptera: Catantopidae) in China

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Abstract: One new species in the genus *Qinlingacris* from Henan Province is described, i. e. *Q. microfurcula* sp. nov. This new species differs from other species in the genus *Qinlingacris* in: 1) apex of subgenital plate in male wide rounded or depressed; and 2) apex of subgenital plate in female sharply protruded, lateral margins with irregular obtuse promontories. A key and distribution of species in the genus *Qinlingacris* is given.

Key words: Acridoidea; grasshoppers; taxonomy; key

中国秦岭蝗属的研究（直翅目：斑腿蝗科）

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摘要: 记述采自河南省的秦岭蝗属 *Qinlingacris* 1 新种, 即小尾片秦岭蝗 *Q. microfurcula* sp. nov.。该新种区别于秦岭蝗属其他种的特征为: 1) 雄性下生殖板末端宽圆或凹陷; 2) 雌性下生殖板后缘尖锐突出, 两侧边具不规则钝隆起; 文中还附有秦岭蝗属已知种分布及分种检索表。

关键词: 蝗总科; 蝗虫; 分类; 检索表

Introduction

The genus *Qinlingacris* was erected by Yin and Chou in 1979 with *Q. taibaiensis* Yin & Chou, 1979 as the type species. They also described another new species, *Q. elaeodes* Yin & Chou. Li *et al.* (1991) reported *Q. choui* Li, Feng & Wu, 1991. All three species are distributed in the Qinling region of Shaanxi Province.

While identifying specimens in the genus *Qinlingacris* collected from Xiaoshan region (Shanxian and Lingbao) and Funiushan region (Laojunshan) of Henan Province, one new species was found and is described below. Type specimens are deposited in the Institute of Zoology, Shaanxi Normal University and the College of Life Sciences, Henan Normal University.

Taxonomy

Qinlingacris Yin & Chou, 1979

Qinlingacris Yin & Chou, 1979, *Entomotaxonomia*, 1(2): 125; Yin, 1984, *Acta Biological Plateau Sinica*,

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2: 62; Zheng, 1985, Acridoidea from YGSSN regions: 182; Zheng, 1993, *Acritaxonomy*: 145; Yin, Shi and Yin, 1996, *A synonymic catalogue of grasshoppers and their allies of the world (Orthoptera; Caelifera)*: 606; Li *et al.*, 2006, *Fauna Sinica, Insecta*, 43: 420.

Type species: *Qinlingacris taibaiensis* Yin & Chou, 1979.

Generic diagnosis. Body median size. Head short, much shorter than pronotum. Frons oblique to backward in lateral view; frontal ridge conspicuous, with longitudinal groove in the middle. Antennae filiform, slender. Foveola absent. Eyes almost rounded, longitudinal diameter slightly longer than length of subocular furrow. Prozona of pronotum obviously narrowed, median carina extremely thin, lateral carinae inconspicuous and incomplete; posterior sulcus located after the middle, length of prozona 1.25 times that of metazona, posterior margin circular arc, with conspicuous groove in the middle. Prosternal spine conical, apex slight obtuse. Mesosternal lobes separated from each other; interspace of mesosternal lobes trapezoidal, with width greater than length. Tegmina and wings absent, sometimes with very small tegmina. Median carina of upper side of hind femur smooth, without fine serration. Apex of hind tibia without outer apical spine. Tympanal organ on the 1st abdominal segment developed. Tergum of last abdominal segment in male with furcula. Subgenital plate short conical. Upper side of dorsal valves in female with small teeth.

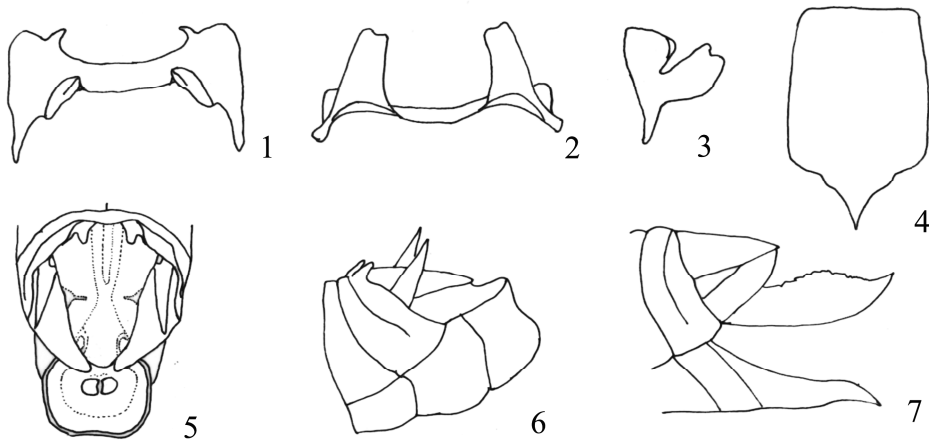
Key to known species of the genus *Qinlingacris*

1. Subgenital plate in male short and obtuse, apex wide rounded or depressed *Q. microfurcula* **sp. nov.**
- Subgenital plate in male short conical, apex acute 2
2. Completely wingless; body brown, both sides of pronotum with wide black longitudinal stripe; hind femur and hind tibia yellowish brown *Q. taibaiensis* Yin & Chou
- Tegmina small or extremely degenerated, only slightly visible at posterior margin of pronotum 3
3. Tegmina extremely degenerated, only slightly visible at posterior margin of pronotum; hind tibia deep olive colour *Q. elaeodes* Yin & Chou
- Tegmina small, but visible at posterior margin of pronotum; basal part of hind tibia brown, yellowish brown in the middle, and reddish green in the end *Q. choui* Li *et al.*

1. *Qinlingacris microfurcula* **sp. nov.** (Figs. 1–7)

Male. Body small. Frons slightly oblique to backward in lateral view; lateral carinae of vertex conspicuous in the front, depressed in the middle, with length greater than its width. Frontal ridge extremely conspicuous, lateral margins almost parallel, disappearing near clypeus. Antennae filiform, surpassing posterior margin of pronotum. Eyes oval, longitudinal diameter of eyes 1.4 times its horizontal diameter, and 1.5 times length of subocular furrow. Pronotum cylindrical, slightly extended at the back-end, anterior margin straight, posterior margin depressed in the middle. All three sulci conspicuous, length of prozona 1.3 times that of metazona; median carina conspicuous but indistinct between anterior and posterior sulci; lateral carinae inconspicuous, slightly visible at metazona; prozona flat, metazona densely covered with large punctations. Prosternal spine conical, apex acute. Tegmina small, shrinking, slightly visible or invisible at posterior margin of pronotum, wings only with traces. Hind femur stubby, with length 4.3 times its width, inner side of hind tibia with 9–11 spines, outer side with 7–8 spines, outer apical spine absent. Arolium between claws of tarsus large, wide rounded, surpassing half length of claw. Interspace of mesosternal lobes broad, with width greater than its length. Tergum of last abdominal segment with papillary furcula in the

posterior margin. Anal plate almost triangular, longitudinal groove in the middle obviously extended near the end. Cerci short, conical, not surpassing apex of anal plate, apex acute. Subgenital plate conical, apex widely rounded or slightly depressed in the middle.



Figures 1–7. *Qinlingacris microfurcula* sp. nov. 1. Epiphallus, dorsal view; 2. Epiphallus, posterior view; 3. Epiphallus, lateral view; 4. Subgenital plate, ♀; 5. Terminalia, dorsal view, ♂; 6. Terminalia, lateral view, ♂; 7. Terminalia, lateral view, ♀.

Body olive-green, back of eyes and both sides of pronotum with wide black longitudinal stripes, both sides of abdomen also with black longitudinal stripes. Inner side of hind femur yellowish brown, knee black; basal part of hind tibia black, with light colour rings near the base, dark blue in the middle, but colour slightly lighter at the end.

Female. Body larger and stubbier than male. Eyes oval, longitudinal diameter of eyes less than length of subocular furrow. Width of interspace of mesosternal lobes 2.5 times its length. Posterior margin of subgenital plate triangular, protruded in the middle, lateral margins with irregular obtuse promontories. Outer margin of valvula with obtuse serrations. Other characters and colours same as male.

Measurements. Length of body: ♂ 14.0–19.0 mm, ♀ 22.0–28.9 mm; length of pronotum: ♂ 3.5–4.2 mm, ♀ 4.6–5.8 mm; length of tegmina: ♂ 0–0.2 mm, ♀ 0–0.9 mm; length of hind femur: ♂ 9.5–11.0 mm, ♀ 11.6–13.9 mm.

Holotype. ♂, **China**, Henan, Shanxian (Ganshan), 06-VIII-1998, 1800 m, collected by Yao NIU. **Paratypes.** 3♂3♀, same data as holotype; 50♂25♀, Henan: Lingbao (Laoyachanao), 10-VII-1987, 1400–1700 m, collected by Xiujiang ZHANG and Jianguang XIAO; 4♂3♀, Henan: Lingbao (Laoyachanao), 11-IX-1985, collected by Xiujiang ZHANG & Hongjun SUN; 4♂1♀, Henan: Luanchuan (Laojunshan), 10-VIII-1986, 2100 m, collected by Xiujiang ZHANG and Hongjun SUN.

Remarks. This new species differs from other species in the genus *Qinlingacris* in: 1) apex of subgenital plate in male wide rounded or depressed; and 2) apex of subgenital plate in female sharply protruded, lateral margins with irregular obtuse promontories.

Etymology. The specific epithet refers to the small furcula.

2. *Qinlingacris choui* Li, Fen & Wu, 1991 (Figs. 8, 11, 14, 17, 19, 22)

Qinlingacris choui Li, Fen & Wu, 1991, *Journal of Northwest Forestry College* 6(1): 55; Zheng 1993, *Acritaxonomy*, 146; Li *et al.*, 2006, *Fauna Sinica, Insecta*, 43: 423.

Specimens examined. 1♂1♀, Shaanxi: Chang'an (Guangtoushan), 21-IX-2003.

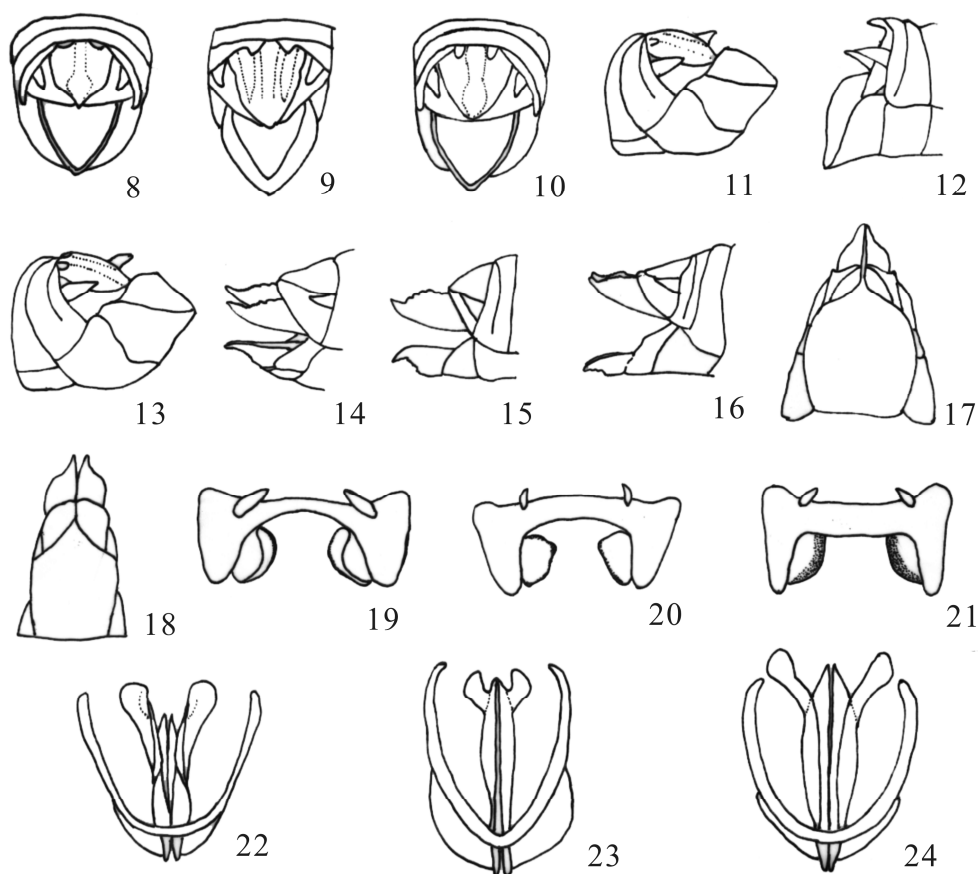
Distribution. China (Shaanxi).

3. *Qinlingacris elaeodes* Yin & Chou, 1979 (Figs. 9, 12, 15, 18, 20, 23)

Qinlingacris elaeodes Yin & Chou, 1979, *Entomotaxonomia*, 1(2): 126; Zheng, 1993, *Acritaxonomy*, 145; Li *et al.*, 2006, *Fauna Sinica, Insecta*, 43: 422

Specimens examined. 1♂1♀, Shaanxi: Meixian (Taibaishan), 25-VII-1995; 10♂10♀, Shaanxi: Meixian (Taibaishan), 12-VIII-2008.

Distribution. China (Shaanxi).



Figures 8–24. 8, 11, 14, 17, 19, 22. *Q. choui* Li, Fen & Wu, 1991; 9, 12, 15, 18, 20, 23. *Q. elaeodes* Yin & Chou, 1979; 10, 13, 16, 21, 24. *Q. taibaiensis* Yin & Chou, 1979. 8–10. Terminalia, dorsal view, ♂; 11–13. Terminalia, lateral view, ♂; 14–16. Terminalia, lateral view, ♀; 17, 18. Terminalia, ventral views, ♀; 19–21. Epiphallus; 22–24. Phallic complex.

4. *Qinlingacris taibaiensis* Yin & Chou, 1979 (Figs. 10, 13, 16, 21, 24)

Qinlingacris taibaiensis Yin & Chou, 1979, *Entomotaxonomia*, 1(2): 125; Zheng, 1993, *Acritaxonomy*,

145; Li *et al.*, 2006, *Fauna Sinica, Insecta*, 43: 421.

Specimens examined. 20♂21♀, Shaanxi: Meixian (Taibaishan), 25-VII-1995.

Distribution. China (Shaanxi).

References

- Li HC, Xia KL, Bi DY, Jin XB, Huan CM, Yin XC, Zheng ZM, Lian ZM, You QJ, Zhang FL & Li TS. 2006. *Fauna Sinica, Insecta Vol. 43, Orthoptera, Acridoides, Catantopidae*. Science Press, Beijing, 736 pp.
- Li ML, Feng JN & Wu DK. 1991. A new species of *Qinlingacris* in Shaanxi (Orthoptera: Catantopidae). *Journal of Northwest College Forestry*, 6(1): 55–57.
- Yin XC. 1984. The origin of wingless locust on the Qinghai-Tibet Plateau. *Acta Biological Plateau Sinica*, 2: 57–65.
- Yin XC & Chou I. 1979. Two new genera and three new species of Acrididae from Shaanxi Province. *Entomotaxonomia*, 1(2): 125–130.
- Yin XC, Shi JP & Yin Z. 1996. *A Synonymic Catalogue of Grasshoppers and Their Allies of the World (Orthoptera; Caelifera)*. China Forestry Publishing House, Beijing, 1266 pp.
- Zheng ZM. 1985. *Acridoidea from YGSSN Regions*. Science Press, Beijing, 406 pp.
- Zheng ZM. 1993. *Acritaxonomy*. Shaanxi Normal University Press, Xi'an, 442 pp.