

中国蠹斯的分类研究 I. 中国蛭蠹族十新种 (直翅目: 蠹斯总科: 蛭蠹科)

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摘要: 蛭蠹族 Meconematini 隶属于蛭蠹科 Meconematidae, 是一类体形较小而纤弱, 但活动非常敏捷的蠹斯。我国记载约 10 属 72 种。俄罗斯直翅目分类学家 Gorochov (1993, 1998) 对这一类群的分类系统进行了调整, 根据雄性生殖器的构造, 建立了不少新属及新亚属, 并发表了相当多的新种。在 Gorochov 确定的属及亚属特征中偏重了雄性的形态特征, 对雌性和两性共有的一些特征却没有给予归纳, 至使一部分仅知雌性的种类无法被正确归属。我们将根据现已掌握的材料, 对一些属和亚属的地位重新进行划分, 确立 1 个较合理的, 能客观反映其间亲缘关系及演化规律的分类系统。本文根据中国蛭蠹族的材料, 描述 10 新种, 分别隶属于优剑蠹属 *Euxiphidiopsis*, 东栖蠹属 *Eoxizicus* 和新栖蠹属 *Neoxizicus*, 其中的优剑蠹属 *Euxiphidiopsis* 和东栖蠹属 *Eoxizicus* 是由亚属提升为属的地位, 和新的同物异名(东栖蠹属 *Eoxizicus* Gorochov, 1993 = 亚栖蠹属 *Axizicus* Gorochov, 1998)。原先的副剑蠹亚属 *Paraxiphidiopsis* Gorochov, 1993 看作是优剑蠹属 *Euxiphidiopsis* 的 1 个亚属。所有模式标本分别保存在中国科学院上海昆虫研究所, 北京中科院动物研究所, 天津自然博物馆和广州中山大学昆虫学研究所。

关键词: 直翅目 蛭蠹科 蛭蠹族 优剑蠹属 东栖蠹属 新栖蠹属 新种 中国
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优剑蠹属 *Euxiphidiopsis* Gorochov, 1993

Xiphidiopsis Bey-Bienko, 1971, *Ent. Obozr.*, 50:845 (*X. capricercus*-group)

Xiphidiopsis (*Euxiphidiopsis*) Gorochov, 1993, *Zoosyst. Rossica*, 2(1):66

Xiphidiopsis (*Paraxiphidiopsis*) Gorochov, 1993, *Zoosyst. Rossica*, 2(1):68. syn. n.

模式种: *Xiphidiopsis* (*Euxiphidiopsis*) *motshulskyi* Gorochov, 1993.

这个属由原先的亚属(Gorochov, 1993)提升到属的地位, 这个属与其他属的主要区别在于部复眼之后各具 1 条明显的暗色纵条纹。原先的副剑蠹亚属 *Paraxiphidiopsis* Gorochov, 1993 看作是优剑蠹属 *Euxiphidiopsis* 的 1 个亚属。该属已知 9 种: *Euxiphidiopsis* (*s. str.*) *capricerca* (Tinkham, 1943); *Euxiphidiopsis* (*s. str.*) *gurneyi* (Tinkham, 1944); *Euxiphidiopsis* (*s. str.*) *sinensis* (Tinkham, 1843) (= *Xiphidiopsis sulcata* Xia et

Liu, 1988 syn. n.); *Euxiphidiopsis* (s. str.) *nigrovittata* (Bey-Bienko, 1962); *Euxiphidiopsis* (s. str.) *platycerca* (Bey-Bienko, 1962); *Euxiphidiopsis* (s. str.) *motshulskyi* Gorochov, 1993; *Euxiphidiopsis* (s. str.) *eversmanni* Gorochov, 1993; *Euxiphidiopsis* (s. str.) *quadridentata* sp. n.; *Euxiphidiopsis* (*Paraxiphidiopsis*) *zubovski* Gorochov, 1993.

1. 四齿优剑螽 *Euxiphidiopsis* (s. str.) *quadridentata* Liu et Zhang, 新种 (图 1~3)

雄性: 体较小。头顶钝圆锥形, 背面具沟; 下颚须端节约等长于亚端节。前胸背板后缘狭圆, 侧片后缘具弱的肩凹。各足股节缺刺; 前足胫节内、外刺排列为 4, 5(1, 1)型, 听器开放型; 后足胫节背面内缘和外缘各具 25~27 个刺和 3 对端距。前翅超过后足股节端部, 后翅长于前翅 1 mm。第 10 腹节背板后缘中央具 1 对逐渐岔开的突起(图 1); 尾须较简单, 稍内弯; 下生殖板狭长, 近端部具 4 个齿, 缺腹突。

淡黄色(活时或许为淡绿色)。头部复眼之后各具 1 条暗褐色的短条纹, 前胸背板具暗褐色侧条纹, 后足股节膝叶端部具明显的暗点。

雌性未知。

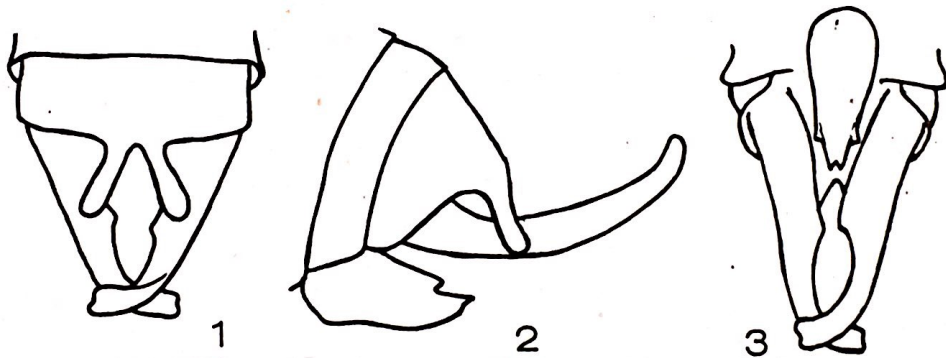


图 1~3 四齿优剑螽 *Euxiphidiopsis* (s. str.) *quadridentata* Liu et Zhang, sp. n.

1. 雄性腹端背面观 (male abdominal end, dorsal view); 2. 雄性腹端侧面观 (male abdominal end, lateral view); 3. 雄性腹端腹面观 (male abdominal end, ventral view)

体长 ♂ 9.0 mm, 前胸背板 ♂ 3.5 mm, 前翅 ♂ 15.0 mm, 后足股节 ♂ 8.5 mm。

正模 ♂, 海南(琼中), 1959-III-2, (金根桃采)(模式标本保存在上海昆虫研究所)。

本新种与该属已知种的区别在于雄性第 10 腹节背板后缘具 1 对逐渐岔开的突起, 下生殖板缺腹突, 近端部具 4 个齿。

东栖螽属 *Eoxizicus* Gorochov, 1993

Xiphidiopsis Bey-Bienko, 1971, *Ent. Obozr.*, 50:844 (*X. kulingensis*-group)

Xizicus (*Eoxizicus*) Gorochov, 1993, *Zoosyst. Rossica*, 2(1):76

Axizicus Gorochov, 1998, *Zoosyst. Rossica*, 7(1):113. Syn. n.

模式种: *Xiphidiopsis kulingensis* Tinkham, 1934.

这个属由原先的亚属(Gorochov, 1993)提升为属的地位, 和新的同物异名(东栖螽属 *Eoxizicus* Gorochov, 1993 = 亚栖螽属 *Axizicus* Gorochov, 1998)。这个属与栖螽属 *Xizicus* Gorochov, 1993 的区别在于前胸背板背面通常具暗色侧条纹; 雄性第 10 腹节背板具 1 对

分开的突起或缺如;雌性下生殖板具微内凹或平截的后缘。该属已知约 27 种: *Eoxizicus kulingensis* (Tinkham, 1943); *Eoxizicus kweichowensis* (Tinkham, 1944); *Eoxizicus appendiculatus* (Tinkham, 1944); *Eoxizicus transversus* (Tinkham, 1944); *Eoxizicus cheni* (Bey-Bienko, 1955); *Eoxizicus rehni* (Tinkham, 1956); *Eoxizicus howardi* (Tink., 1956); *Eoxizicus tinkhami* (Bey-Bienko, 1962); *Eoxizicus coreanus* (Bey-Bienko, 1971); *Eoxizicus megalobatus* (Xia et Liu, 1988); *Eoxizicus meridianus* (Xia et Liu, 1988); *Eoxizicus magnus* (Hsia et Liu, 1992); *Eoxizicus dividus* (Shi et Zheng, 1995); *Eoxizicus dao* Gorochov, 1998; *Eoxizicus duplus* Gorochov, 1998; *Eoxizicus danangi* Gorochov, 1998; *Eoxizicus sergeji* (Gorochov, 1998); *Eoxizicus concavilaminus* (Jin); *Eoxizicus arctalaminus* (Jin); *Eoxizicus xiai* sp. n.; *Eoxizicus zhoui* sp. n.; *Eoxizicus dubius* sp. n.; *Eoxizicus divergens* sp. n.; *Eoxizicus parallelus* sp. n.; *Eoxizicus tuberculatus* sp. n.; *Eoxizicus sinuatus* sp. n.; *Eoxizicus wuzhishanensis* sp. n.

2. 夏氏东栖螽 *Eoxizicus xiai* Liu et Zhang, 新种 (图 4~6)

雄性: 体中等。头顶钝圆锥形,背面具沟;下颚须端节长于亚端节。前胸背板后缘狭圆,侧片后缘具弱的肩凹。各足股节缺刺;前足胫节内、外刺排列为 4,5(1,1)型,听器开放型;后足胫节背面内缘和外缘各具 24~27 个刺和 3 对端距。前翅超过后足股节端部,后翅长于前翅 1 mm。第 10 腹节背板后缘缺突起(图 4);尾须简单,较直,腹面具纵沟;下生殖板后缘微凹,具 1 对较短的腹突。

淡绿色。前胸背板具暗褐色侧条纹,后足股节膝叶端部缺暗点。

雌性未知。

体长 ♂ 11.0 mm~12.0 mm;前胸背板 ♂ 3.8 mm;前翅 ♂ 17.0 mm;后足股节 ♂ 9.0 mm。

正模 ♂,副模 1 ♂,湖南桑植天平山,1640 m,1998-VIII-15(杨星科采)(模式标本保存在北京动物研究所)。

本新种近似越南的瑟氏东栖螽 *E. sergeji* (Gorochov, 1998)。区别在于体形较小和雄性尾须腹面具沟。

本种学名以中国直翅目分类学家夏凯龄教授的姓氏命名。

3. 周氏东栖螽 *Eoxizicus choui* Liu et Zhang, 新种 (图 7~10)

雄性: 体中等。头顶钝圆锥形,背面具沟;下颚须端节稍微长于亚端节。前胸背板后缘狭圆,侧片后缘具弱的肩凹。各足股节缺刺;前足胫节内、外刺排列为 4,5(1,1)型,听器开放型;后足胫节背面内缘和外缘各具 23~25 个刺和 3 对端距。前翅超过后足股节端部,后翅长于前翅 2 mm。第 10 腹节背板后缘具 1 对较远离的突起(图 7);尾须较直,基部具 1 个稍突出的背叶,叶部具 1 个齿状的内腹叶;下生殖板狭长,后缘平直,具 1 对较短的腹突。

雌性: 第 7 腹板后缘具 1 对三角形的突起;尾须圆锥形;下生殖板横宽,基部两侧具明显的凹窝,后缘微内凹;产卵瓣较长,腹瓣具端钩。

淡绿色。前胸背板近后缘具短的暗褐色侧条纹。

体长♂12.0mm, ♀14.0mm; 前胸背板♂4.2mm, ♀4.7mm; 前翅♂19.0mm~20.0mm, ♀22.0mm; 后足股节♂10.0mm, ♀?, 产卵瓣♀12.0mm。

正模♂, 配模♀, 海南尖峰岭, 1980-IV-10(陈林祥采); 副模2♂♂, 海南尖峰岭, 1983-V-27~VI-2(顾茂彬采)(模式标本保存在北京动物研究所)。

本新种近似横板东栖蠹 *E. transversus* (Tinkham, 1944)。区别在于雌性第7腹板和下生殖板的形状。

本种学名以中国昆虫学家周尧教授的姓氏命名。

4. 疑东栖蠹 *Eoxizicus bubius* Liu et Zhang, 新种 (图11~13)



图4~13: 4~6 夏氏东栖蠹 *Eoxizicus xiai* Liu et Zhang, sp. n.; 7~10 周氏东栖蠹 *Eoxizicus choui* Liu et Zhang, sp. n.; 11~13 疑东栖蠹 *Eoxizicus bubius* Liu et Zhang, sp. n. 4, 7, 11. 雄性腹端背面观(male abdominal end, dorsal view); 5, 8, 12. 雄性腹端侧面观(male abdominal end, lateral view); 6, 9, 13. 雄性腹端腹面观(male abdominal end, ventral view); 10. 雌性下生殖板腹面观(female subgenital plate, ventral view)

雄性: 体中等。头顶钝圆锥形, 背面具沟; 下颚须端节稍微长于亚端节。前胸背板后缘

狭圆，侧片后缘具弱的肩凹。各足股节缺刺；前足胫节内、外刺排列为4,5(1,1)型，听器开放型。前翅超过后足股节端部，后翅长于前翅2 mm。第10腹节背板后缘具1对远离的突起(图11)；尾须较直，端部扁平，内腹侧近端部具1个小叶；下生殖板狭长，后缘平直，具1对较短的腹突。

淡绿色。前胸背板具暗褐色侧条纹。

雌性未知。

体长♂11.0 mm；前胸背板♂3.8 mm；前翅♂19.0 mm；后足股节♂? mm。

正模♂，海南尖峰岭天池，1983—Ⅶ—28(龙建国采)(模式标本保存在广州中山大学昆虫学研究所)。

本新种非常近似周氏东栖螽 *E. choui*，区别在于前胸背板具暗褐色侧条纹全长明显和雄性尾须的形状不同。

5. 岔突东栖螽 *Eoxizicus divergentis* Liu et Zhang, 新种(图14~17)

雄性：体中等。头顶钝圆锥形，背面具沟；下颚须端节约等长于亚端节。前胸背板后缘狭圆，侧片后缘具弱的肩凹。各足股节缺刺；前足胫节内、外刺排列为4,5(1,1)型，听器开放型；后足胫节背面内缘和外缘各具26~30个刺和3对端距。前翅超过后足股节端部，后翅长于前翅1 mm。第10腹节背板后缘中央具1对突起，其长度明显大于其间距，端部向外弯(图14)；尾须较简单，稍内弯，中部具内叶，其基角具1对重叠的齿；下生殖板狭长，后缘平直，具1对较短的腹突。

雌性：尾须圆锥形；下生殖板横宽，后缘近乎平截，后侧角圆形，具明显的侧隆线；产卵瓣约等长于后足股节，腹瓣具端钩。

淡绿色。前胸背板具暗褐色侧条纹，后足股节膝叶端部具暗点。

体长♂12.0 mm~12.5 mm，♀13.5 mm；前胸背板♂3.5 mm，♀3.5 mm；前翅♂16.0 mm，♀20.0 mm；后足股节♂9.5 mm~9.8 mm，♀10.5 mm；产卵瓣♀11.0 mm。

正模♂，配模♀，副模1♂，广西兴安猫儿山，900 m~1500 m，1992—Ⅶ—22~23(刘宪伟，殷海生采)；2♂♂，广西元宝山，1992—Ⅸ—23(陆温采)(模式标本保存在上海昆虫研究所)。

本新种较近似越南的岛东栖螽 *E. dao* Gorochov, 1998和双东栖螽 *E. duplus* Gorochov, 1998。区别在于体明显较小，雄性第10腹节背板后缘成对突起的长度明显大于其间距，端部外弯；尾须内叶位于近中部，其基角具1对重叠的齿；雌性产卵瓣稍短。

6. 平突东栖螽 *Eoxizicus parallelus* Liu et Zhang, 新种(图18~21)

雄性：体中等。头顶钝圆锥形，背面具沟；下颚须端节稍微长于亚端节。前胸背板后缘狭圆，侧片后缘具弱的肩凹。各足股节缺刺；前足胫节内、外刺排列为4,5(1,1)型，听器开放型；后足胫节背面内缘和外缘各具27~30个刺和3对端距。前翅超过后足股节端部，后翅长于前翅1 mm。第10腹节背板后缘中央具1对平行突起(图18)；尾须较简单，内弯，中部具矩形的内叶；下生殖板狭长，后缘平直，具1对较短的腹突。

雌性：尾须圆锥形；下生殖板近梯形，缺侧隆线，后缘平截(图21)；产卵瓣约等长于后足股节，腹瓣具端钩。

淡绿色。前胸背板具暗褐色侧条纹,后足股节膝叶端部具暗点。

体长♂11.5mm,♀9.5mm;前胸背板♂3.2mm,♀3.2mm;前翅♂14.5mm,♀17.0mm;后足股节♂9.0mm,♀9.0mm;产卵瓣♀9.0mm。

正模♂,配模♀,广东封开黑石顶,1986-VI-5~VII-6(胡栾传,陆勇军采)(模式标本保存在广州中山大学昆虫学研究所)。

本新种非常近似 *E. divergentis*, 区别在于雄性第10腹节背板后缘具1对平行的突起; 雄性尾须内叶明显突出; 雌下生殖板缺侧隆线。

7. 瘤东栖蚤 *Eoxizicus tuberculatus* Liu et Zhang, 新种 (图22~24)

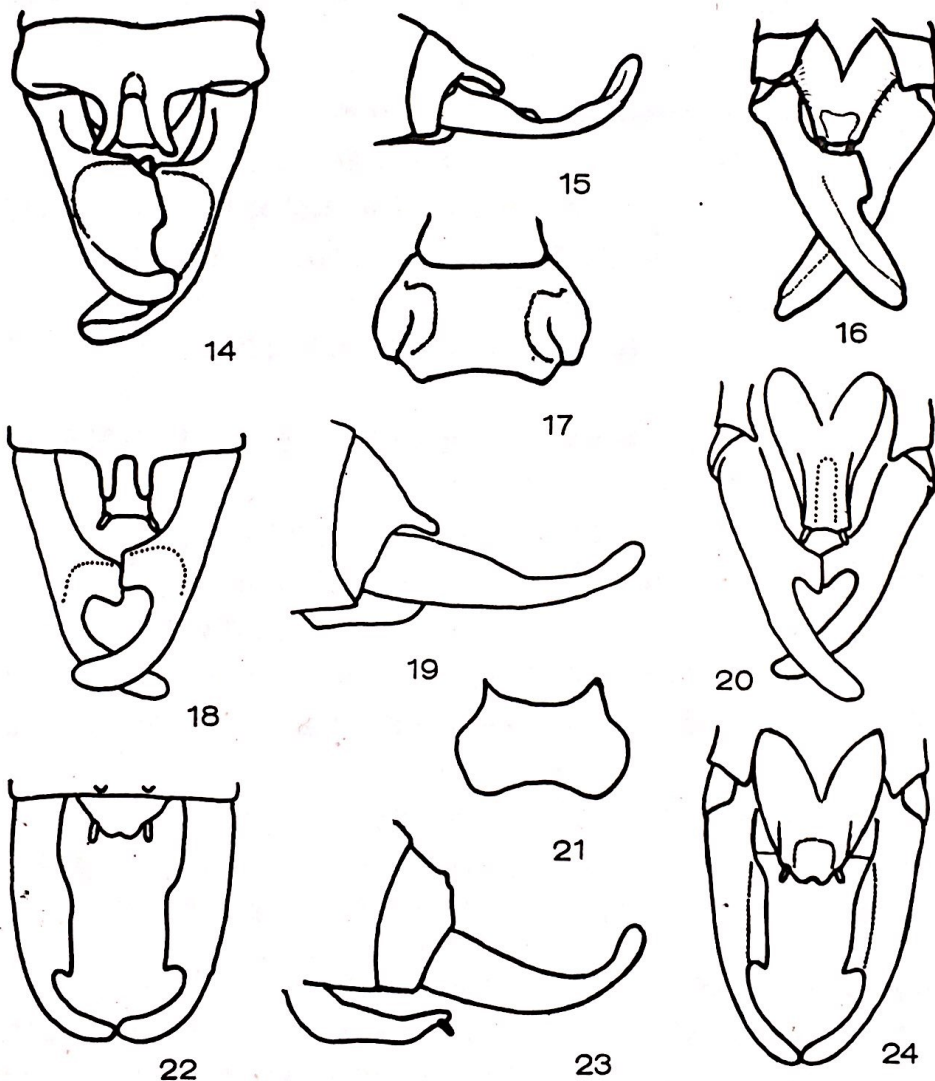


图14~24: 14~17 岔突东栖蚤 *Eoxizicus divergentis* Liu et Zhang, sp. n.; 18~21 平突东栖蚤 *Eoxizicus parallelus* Liu et Zhang, sp. n.; 22~24 瘤东栖蚤 *Eoxizicus tuberculatus* Liu et Zhang, sp. n. 14, 18, 22. 雄性腹端背面观 (male abdominal end, dorsal view); 15, 19, 23. 雄性腹端侧面观 (male abdominal end, lateral view); 16, 20, 24. 雄性腹端腹面观 (male abdominal end, ventral view); 17, 21. 雌性下生殖板腹面观 (female subgenital plate, ventral view)

雄性：体中等。头顶钝圆锥形，背面具沟；下颚须端节稍微长于亚端节。前胸背板后缘狭圆，侧片后缘具弱的肩凹。各足股节缺刺；前足股节内、外刺排列为4,5(1,1)型，听器开放型；后足胫节背面内缘和外缘各具27~30个背刺和3对端距。前翅超过后足股节端部，后翅长于前翅2 mm。第10腹节背板近后缘中央具1对极小的瘤状突起(图22)；尾须较简单，内弯，内叶端角尖锐；下生殖板长大于宽，后缘中央微凹，具1对较短的腹突。

淡绿色。前胸背板具暗褐色侧条纹，后足股节膝叶端部具暗点。

雌性未知。

体长♂11.0 mm，前胸背板♂3.8 mm，前翅♂17.0 mm，后足股节♂9.3 mm。

正模♂，福建江挡，1979—Ⅹ—29(余春仁采)(模式标本保存在北京动物研究所)。

本新种非常近似越南的 *E. meridianus* (Xia et Liu, 1988)，区别在于雄性第10腹节背板近后缘具1对瘤状的突起；雄性尾须内叶端角尖锐。

8. 波缘东栖螽 *Eoxizicus sinuatus* Liu et Zhang, 新种 (图25~28)

雄性：体中等。头顶钝圆锥形，背面具沟；下颚须端节稍微长于亚端节。前胸背板后缘狭圆，侧片后缘具弱的肩凹。各足股节缺刺；前足胫节内、外刺排列为4,5(1,1)型，听器开放型；后足胫节背面内缘和外缘各具29~31个刺和3对端距。前翅超过后足股节端部，后翅长于前翅1.5 mm~2 mm。第10腹节背板后缘具1对平行的突起(图25)；尾须较直，背腹向扩宽，内侧强凹陷，背缘波曲形，腹缘基部向上弯曲，端部具1个小尖突(图27)；下生殖板较短，后缘中央微凹，具1对较短的腹突。

雌性：尾须圆锥形；下生殖板后缘中央微内凹，具中隆线(图28)；产卵瓣较长，腹瓣具端钩。

淡绿色，单色。

体长♂11.5 mm~13.0 mm，♀12.0 mm，前胸背板♂4.0 mm~4.2 mm，♀4.0 mm；前翅♂18.0 mm~20.0 mm，♀20.5 mm~22.0 mm；后足股节♂10.0 mm，♀11.0 mm~11.5 mm，产卵瓣♀11.0 mm。

正模♂，配模♀，海南尖峰岭，1982—Ⅲ—25(陈芝卿采)；副模1♂，海南尖峰岭，1984—Ⅳ—2(陈芝卿采)，1♂，海南尖峰岭，1982—XII—7(顾茂彬采)，1♂，海南尖峰岭天池，1983—Ⅺ—11(黄汾河采)；1♀，海南尖峰岭，1982—Ⅳ—18(陈芝卿采)；1♂，海南吊罗山，1964—Ⅲ—27(刘胜利采)(模式标本分别保存在北京动物所和天津自然博物馆)。

本新种非常近似福建的凹板东栖螽 *E. concavilaminus* (Jin)，区别在于雄性尾须的形状不同，尾须背缘波曲形，腹缘基部向上弯曲，端部具1个小尖突；雌性下生殖板的形状非常像 *E. meridianus* (Xia et Liu, 1988)。

9. 五指山东栖螽 *Eoxizicus wuzhishanensis* Liu et Zhang, 新种 (图29~32)

雄性：体中等。头顶钝圆锥形，背面具沟；下颚须端节稍微长于亚端节。前胸背板后缘狭圆，侧片后缘具弱的肩凹。各足股节缺刺；前足胫节内、外刺排列为4,5(1,1)型，听器开放型；后足胫节背面内缘和外缘各具18~20个刺和3对端距。前翅超过后足股节端部，后翅长于前翅2 mm。第10腹节背板后缘缺明显的突起(图29)；尾须较直，内腹侧近中部具1个齿状叶；下生殖板狭长，后缘平直，具1对较短的腹突。

雌性：第7腹板正常；尾须圆锥形；下生殖板横宽，后缘微内凹(图32)；产卵瓣较长，腹瓣具端钩。

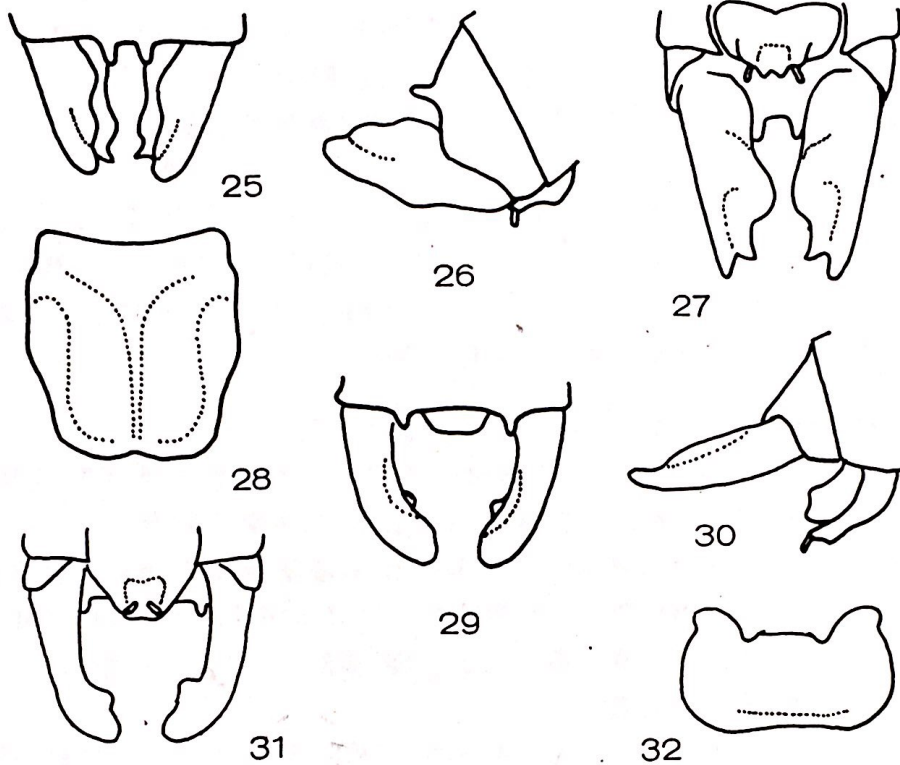


图25~32：25~28 波缘东栖蠹 *Eoxizicus sinuatus* Liu et Zhang, sp. n.；29~32 五指山东栖蠹 *Eoxizicus wuzhishanensis* Liu et Zhang, sp. n. 25,29. 雄性腹端背面观(male abdominal end, dorsal view)；26,30. 雄性腹端侧面观(male abdominal end, lateral view)；27,31. 雄性腹端面观(male abdominal end, ventral view)；28,32. 雌性下生殖板腹面观(female subgenital plate, ventral view)

淡绿色，单色。

体长♂11.0mm~12.0mm，♀12.5mm；前胸背板♂3.8mm，♀3.7mm；前翅♂14.0mm~15.0mm，♀15.0mm；后足股节♂7.5mm~8.0mm，♀8.0mm，产卵瓣♀9.0mm。

正模♂，配模♀，海南五指山，1964-IV-22(刘胜利采)；副模1♂，海南五指山，1984-IV-26(林允洞采)(模式标本保存在天津自然博物馆)。

本新种非常近似 *Eoxizicus appendiculatus* (Tinkham, 1944)；区别在雄性尾须中部具1个小的内腹叶和雌性下生殖板横宽。

新栖蠹属 *Neoxizicus* Gorochov, 1998

Neoxizicus Gorochov, 1998, *Zoosyst. Rossica*, 7(1):121

模式种：*Neoxizicus crassus* Gorochov, 1998.

这个属的主要特征为体型明显较大(体长16mm以上)，后足胫节内和外刺较少(通常少于15个)。这个属已知2种：*Neoxizicus crassus* Gorochov, 1998；*Neoxizicus longipennis* sp. n.

10. 长翅新栖螽 *Neoxizicus longipennis* Liu et Zhang, 新种 (图33~34)

雌性: 体较大。头顶钝圆锥形, 背面具沟; 下颚须端节稍微长于亚端节。前胸背板后缘狭圆, 侧片后缘具弱的肩凹。各足股节缺刺; 前足胫节内、外刺排列为4, 5 (1, 1)型, 听器开放型; 后足胫节背面内缘和外缘各具14~15个刺和3对端距。前翅超过后足股节端部, 后翅长于前翅1.5 mm。下生殖板具狭圆的端部; 产卵瓣明显短于后足股节, 腹瓣具端钩。

淡褐黄色(活时或许为绿色)。头部具暗色中线, 前胸背板中央具淡红色的纵条纹, 后缘黑褐色, 前翅横脉稍带淡黄色。

雄性未知。

体长♀ 19.0 mm; 前胸背板♀ 5.0 mm; 前翅♀ 24.0 mm; 后足股节♀ 14.0 mm, 产卵瓣♀ 9.0 mm。

正模♀, 云南勐龙勐宋, 1600 m, 1958—IV—26(程汉华采)(模式标本保存在北京动物研究所)。

本新种非常近似越南的壮新栖螽 *N. crassus* Gorochoy, 1998, 区别在于前翅较长, 雌性下生殖板端部缺凹口, 产卵瓣稍短。

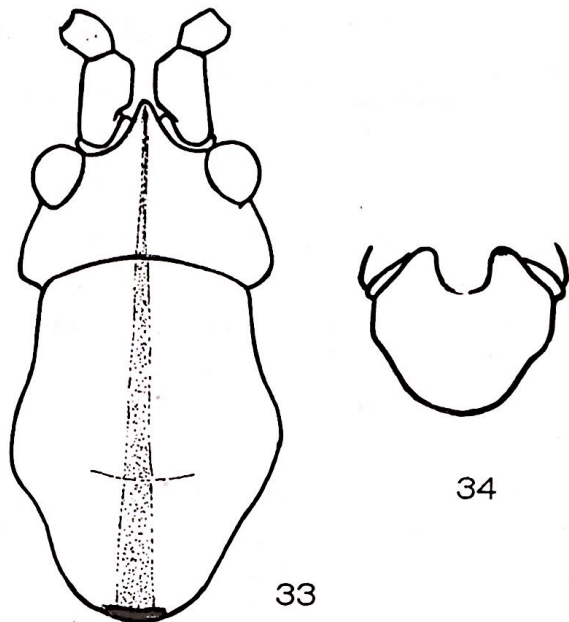


图33~34: 长翅新栖螽 *Neoxizicus longipennis* Liu et Zhang, sp. n. 33. 雌性头部和前胸背板背面观(female head and pronotum, dorsal view); 34. 雌性下生殖板腹面观(female subgenital plate, ventral view)

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Studies on Chinese Katydid, I Ten New Species of the Tribe Meconematini (Orthoptera: Tettigoniodea: Meconematidae) from China

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This paper is based on material of the tribe Meconematini from China, ten new species are described, belonging to genera *Euxiphidiopsis*, *Eoxizicus* and *Neoxizicus* respectively. The genera *Euxiphidiopsis* and *Eoxizicus* is now raised from subgenera to generic status, and new synonymy (*Eoxizicus* Gorochov, 1993 = *Axizicus* Gorochov, 1998 syn. n.). And the former subgenus *Paraxiphidiopsis* Gorochov, 1993 considered as a subgenus of the genus *Euxiphidiopsis*. Descriptions of the called taxa are given. The type specimens are deposited in the Shanghai Institute of Entomology, Academia Sinica (IEAS); the Institute of Zoology, Academia Sinica, Beijing (IZAS); the Tianjin Natural History Museum (TNHM); and the Research Institute of Entomology, Zhongshan University, Guangzhou (IEZU).

Euxiphidiopsis Gorochov, 1993, stat. n.

Xiphidiopsis Bey-Bienko, 1971, *Ent. Obozr.*, 50:845 (*X. capricercus*-group)

Xiphidiopsis (*Euxiphidiopsis*) Gorochov, 1993, *Zoosyst. Rossica*, 2(1):66

Xiphidiopsis (*Paraxiphidiopsis*) Gorochov, 1993, *Zoosyst. Rossica*, 2(1):67 syn. n.

Type-species: *Xiphidiopsis* (*Euxiphidiopsis*) *motshulskyi* Gorochov, 1993.

The genus *Euxiphidiopsis* is raised from subgenus to generic status, original description see Gorochov, 1993. This genus is characterized by the head with a dark brown stripe behind each eye. The former subgenus *Paraxiphidiopsis* Gorochov, 1993 considered as a subgenus of the genus *Euxiphidiopsis*. 9 species of this genus are known.

1. *Euxiphidiopsis* (s. str) *quadridentata* Liu et Zhang, sp. n. (Figs. 1~3)

Male. Small-sized. Coloration yellowish (living specimens possibly greenish). Head with a dark brown stripe behind each eye, pronotum with a dark brown stripe along each side of disc, genicular lobe of hind femora with a blackish spot at apex. Tegmina and wings fully developed. 10th abdominal tergite with a pair long, divergent processes at the hind margin; cerci simplex, slightly incurved and flattened; subgenital plate with four tooth near apex.

Female unknown.

Length. Body ♂ 9.0 mm; pronotum ♂ 3.5 mm; tegmina ♂ 15.0 mm; hind femora ♂ 8.5 mm.

Holotype ♂, Hainan (Qiongzong), 2-III-1959 (Jin Gentao) (IEAS).

This new species differs from all other species of the genus in the shape of male 10th abdominal tergite and subgenital plate.

Eoxizicus Goročov, 1993, stat. n.

Xiphidiopsis Bey-Bienko, 1971, *Ent. Obozr.*, 50:844 (*X. kulingensis*-group)

Xizicus (*Eoxizicus*) Goročov, 1993, *Zoosyst. Rossica*, 2(1):76

Axizicus Goročov, 1998, *Zoosyst. Rossica*, 7(1):113. Syn. n.

Type-species: *Xiphidiopsis kulingensis* Tinkham, 1943.

The genus *Eoxizicus* is raised from subgenus to generic status, and new synonymy (*Eoxizicus* Goročov, 1993 = *Axizicus* Goročov, 1998 syn. n.). Differs from the genus *Xizicus* by the disc of pronotum usually with a dark brown lateral stripe; 10th abdominal tergite of male with a pair discrete processes, or absent; subgenital plate of female with slightly concave or truncated hind margin. 27 species of this genus are known.

2. *Eoxizicus xiai* Liu et Zhang, sp. n. (Figs. 4~6)

Male. Medium-sized. Coloration yellowish green, pronotum with a dark brown stripe along each side of disc only. Tegmina and wings fully developed. 10th abdominal tergite without processes; cerci simplex, straight, without any teeth or lobe, but sulcated ventrally. Female unknown.

Length. Body ♂ 11.0 mm~12.0 mm; pronotum ♂ 3.8 mm; tegmina ♂ 17.0 mm; hind femora ♂ 9.0 mm.

Holotype ♂, Paratype 1 ♂, **Hunan** (Sangzhi Tianpingshan), 1640 m, 15-VIII-1988 (Yang Xingke) (IZAS).

This new species very similar to *E. sergeji* (Goročov, 1998). But distinguished by the smaller sized and male cerci sulcated ventrally.

3. *Eoxizicus choui* Liu et Zhang, sp. n. (Figs. 7~10)

Male. and Female. Medium-sized. Coloration yellowish green, pronotum with a dark brown lateral stripe on metazona. Tegmina and wings fully developed. 10th abdominal tergite of male with a pair far discrete processes at the hind margin; cerci of male straight, with a dorsal lobe at base, and with a intero-ventral lobe on the middle. Seventh sternite with a pair sub-lateral, conical tubercles near hind margin. Subgenital plate of female transverse, with slightly concave hind margin, and with a impression on either side of base. Ovipositor slightly longer than the hind femora.

Length. Body ♂ 12.0 mm, ♀ 14.0 mm; pronotum ♂ 4.2 mm, ♀ 4.7 mm; tegmina ♂ 19.0 mm~20.0 mm, ♀ 22.0 mm; hind femora ♂ 10.0 mm, ♀ ?; ovipositor ♀ 12.0 mm.

Holotype ♂, Allotype ♀, Paratypes 2 ♂ ♂, **Hainan** (Jianfengling), 27-V~2-VI-1983 (Gu Maobing) (IZAS).

This new species very similar to *E. transversus* (Tinkham, 1944). But distinguished by the shape of female seventh sternite and subgenital plate.

4. *Eoxizicus dubius* Liu et Zhang, sp. n. (Figs. 11~13)

Male. Medium-sized. Coloration greenish, pronotum with a dark brown lateral stripe distinctly throughout the whole length. Tegmina and wings fully developed. 10th abdominal tergite of male with a pair far discrete processes at the hind margin; cerci of male straight, with flattened apex, and with a small intero-ventral lobe near apex; subgenital plate with truncated hind margin and with a pair short styli.

Female unknown.

Length. Body ♂ 11.0 mm; pronotum ♂ 3.8 mm; tegmina ♂ 19.0 mm; hind femora ♂ ? mm.

Holotype ♂, **Hainan** (Jianfengling), 27-V ~ 2-VI-1983 (Gu Maobing) (IZAS).

This new species very similar to *E. choui*, but distinguished by the lateral stripe of pronotum distinctly throughout the whole length and shape of male cerci.

5. *Eoxizicus divergentis* Liu et Zhang, sp. n. (Figs. 14~17)

Male and female. Medium-sized. Coloration yellowish green, pronotum with a dark brown stripe along each side of disc, genuicular lobe of hind femora with a blackish spot at apex. Tegmina and wings fully developed. 10th abdominal tergite of male with a pair long, divergent processes at the hind margin; male cerci incurved, with a internal lobe at middle, its basal corner duplicato-dentated. Subgenital plate of female transverse, with truncated hind margin, and with lateral keels. Ovipositor as long as the hind femora.

Length. Body ♂ 12.0 mm~12.5 mm, ♀ 13.5 mm; pronotum ♂ 3.5 mm, ♀ 3.5 mm; tegmina ♂ 16.0 mm, ♀ 20.0 mm; hind femora ♂ 9.5 mm~9.8 mm, ♀ 10.5 mm; ovipositor ♀ 11.0 mm.

Holotype ♂, Allotype ♀, Paratype 1 ♂, **Guangxi** (Xinan Maoershan), 900 m~1500 m, 22~23-VII-1992 (Liu Xianwei and Yin Haisheng); 2 ♂♂, **Guangxi** (Yuanbaoshan), 23-IX-1992 (IEAS).

This new species very similar to *E. dao* (Gorochov, 1998) and *E. duplus* (Gorochov, 1998). But distinguished by the smaller sized and processes of 10th abdominal tergite of male longer, its length greater than the distance between them; cerci of male with a internal lobe at middle, its basal corner duplicato-dentated. Female ovipositor shorter.

6. *Eoxizicus parallelus* Liu et Zhang, sp. n. (Figs. 18~21)

Male and Female. Medium-sized. Coloration yellowish green, pronotum with a dark brown stripe along each side of disc, genuicular lobe of hind femora with a blackish spot at apex. Tegmina and wings fully developed. 10th abdominal tergite of male with a pair parallel processes at the hind margin; internal lobe of cerci of male strongly projecting, quadrate. Subgenital plate of female transverse, with truncated hind margin, but without lateral kells. Ovipositor as long as the hind femora.

Length. Body ♂ 11.5 mm, ♀ 9.5 mm; pronotum ♂ 3.2 mm, ♀ 3.2 mm; tegmina ♂ 14.5 mm, ♀ 17.0 mm; hind femora ♂ 9.0 mm, ♀ 9.0 mm; ovipositor ♂ 9.0 mm.

Holotype ♂, Allotype ♀, **Guangdong** (Fengkai Heishiding), 5-VI~6-VI-1986 (Hu Luanchuan and Lu YongJun) (ZSUM).

This new species very similar to *E. divergentis*. But distinguished by the smaller sized

and 10th abdominal tergite of male with parallel processes; internal lobe of male cerci strongly projecting, quadrate; subgenital plate of female without lateral keels.

7. *Eoxizicus tuberculatus* Liu et Zhang, sp. n. (Figs. 12~24)

Male. Medium-sized. Coloration yellowish green, pronotum with a dark brown stripe along each side of disc, genicular lobe of hind femora with a blackish spot at apex. Tegmina and wings fully developed. 10th abdominal tergite of male with a pair small tubercles at the hind margin; cerci of male with a feeble lobe on the middle, its apex pointed; subgenital plate with a pair small styli.

Female unknown.

Length. Body ♂ 11.0 mm; pronotum ♂ 3.8 mm; tegmina ♂ 17.0 mm; hind femora ♂ 9.3 mm.

Holotype ♂, Fujian (Jiangtang), 29-IX-1979 (Yu Chunren) (IZAS).

This new species very similar to *E. meridianus* (Xia et Liu, 1988). But distinguished by the 10th abdominal tergite of male with a pair small tubercles; internal lobe of male cerci with sharp distal corner.

8. *Eoxizicus sinuatus* Liu et Zhang, sp. n. (Figs. 25~28)

Male and female. Medium-sized. Coloration yellowish (living specimens possibly greenish), unicolorous. Tegmina and wings fully developed. 10th abdominal tergite of male with paired processes at the hind margin; cerci of male dorso-ventral widened, straightly excavated inside, with sinuous dorsal margin, ventral margin with a upturned lobe at base and small acute process near apex. Subgenital plate of female as *E. meridianus* (Xia et Liu, 1988), with three longitudinal keels. Ovipositor as long as the hind femora.

Length. Body ♂ 11.5 mm~13.0 mm, ♀ 12.0 mm; pronotum ♂ 4.0 mm~4.2 mm, ♀ 4.0 mm; tegmina ♂ 18.0 mm~20.0 mm, ♀ 20.5 mm~22.0 mm; hind femora ♂ 10.0 mm, ♀ 11.0 mm~11.5 mm; ovipositor ♀ 11.0 mm.

Holotype ♂, Allotype ♀, Hainan (Jianfengling), 25-III-1982 (Chen Zhiqing), Paratype 1 ♂, Hainan (Jianfengling), 2-IV-1984 (Chen Zhiqing); 1 ♂, Hainan (Jianfengling), 11-XI-1983 (Huang Fenhe), 1 ♂, Hainan (Jianfengling), 7-XII-1982 (Gu Maobin); 1 ♀, Hainan (Jianfengling), 18-IV-1982 (Chen Zhiqing) (IZAS); 1 ♂, Hainan (Luodiaoshan), 27-III-1964 (Liu Shengli) (MNTJ).

This new species very similar to *E. concavilaminus* (Jin). But distinguished by the male cerci with sinuous dorsal margin, ventral margin with a upfolded lobe at base and small acute process near apex; Subgenital plate of female as *E. meridianus* (Xia et Liu, 1988), with three longitudinal keels.

9. *Eoxizicus wuzhishanensis* Liu et Zhang, sp. n. (Figs. 29~32)

Male and female. Medium-sized. Coloration yellowish (living specimens possibly greenish), unicolorous. Tegmina and wings fully developed. 10th abdominal tergite of male without paired processes at the hind margin; cerci of male straight, only with a intero-ventral lobe on the middle. Female seventh sternite normal; subgenital plate transverse, with slightly concave hind margin, Ovipositor slightly longer than the hind femora.

Length. Body ♂ 11.0 mm~12.0 mm, ♀ 12.5 mm; pronotum ♂ 3.8 mm, ♀ 3.7 mm; tegmina ♂ 14.0 mm~15.0 mm; ♀ 15.0 mm; hind femora ♂ 7.5 mm~8.0 mm, ♀ 8.0 mm; ovipositor ♀ 9.0 mm.

Holotype ♂, Allotype ♀, **Hainan** (Wuzhishan), 22—IV—1964 (Liu Shengli); Paratype 1 ♂, **Hainan** (Wuzhishan), 26—IV—1984 (Lin Youdong) (MNTJ).

This new species very similar to *E. appendiculatus* (Tinkham, 1944), but distinguished by the shape of male cerci and female subgenital plate.

Neoxizicus Gorochov, 1998

Neoxizicus Gorochov, 1988, *Zoolyst. Rossica*, 7(1):121

Type-species: *Neoxizicus crassus* Gorochov, 1998.

The genus differs from other genera in the large sized (body length over 16 mm) and hind tibiae with less than 15 internal and external dorsal spines. Included species: *Neoxizicus crassus* Gorochov, 1998; *Neoxizicus longipennis* sp. n.

10. *Neoxizicus longipennis* Liu et Zhang, sp. n. (Figs. 33~34)

Female. Coloration yellowish brown (living specimens possibly greenish), head with a dark medial line, pronotum with a narrow reddish longitudinal medial stripe on disc, tegmina with yellowish transverse veins. Large-sized. Tegmina and wings fully developed. Tegmina reaching far beyond the hind knees, wings slightly longer than tegmina. Subgenital plate with the hind margin rounded convex. Ovipositor distinctly shorter than the hind femora.

Male unknown.

Length. Body ♀ 19.0 mm; pronotum ♀ 5.0 mm; tegmina ♀ 24.0 mm; hind femora ♀ 14.0 mm; ovipositor ♀ 8.0 mm.

Holotype ♀, **Yunnan** (Menglong Mengsong), 1600 m, 26—IV—1958 (Cheng Han-hua) (IZAS).

This new species very similar to *N. crassus* Gorochov, 1998. But differs in the longer tegmina and female subgenital plate without apical notch, and shorter ovipositor.

Key words: Orthoptera, Meconematidae, Meconematini, *Euxiphidiopsis*, *Eoxizicus*, *Neoxizicus*, new species, China