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浙江九龙山长翅目 2 新种

(长翅目: 蝎蛉科)

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摘要: 记述了浙江省遂昌县九龙山自然保护区的长翅目 2 新种: 圆突新蝎蛉 *Neopanorpa circularis* sp. nov., 弯杆蝎蛉 *Panorpa anfracta* sp. nov.。模式标本保存于浙江自然博物馆昆虫标本室。图 2 参 4

关键词: 蝎蛉科; 蝎蛉属; 新蝎蛉属; 新种; 九龙山自然保护区; 中国

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1 圆突新蝎蛉 *Neopanorpa circularis* Ju et Zhou, sp. nov. (图 1)

雄性 头部: 头的背面黑色, 有光泽; 触角窝和喙黄褐色, 触角柄节和梗节褐色, 鞭节褐黑色。**胸部:** 前胸背板黑色, 中胸和后胸背板褐黑色, 胸部侧面污黄色。足黄褐色。翅淡灰色, 具烟褐色斑纹, 端带完整; 痣带完整, 下方分叉, 沿着前缘脉与端带相连接; 缘斑分离呈 2 个斑点; 基带仅存下方一段。**腹部:** 第 2~5 节背板黑色, 腹板黄褐色, 第 6 节黑色, 第 7~9 节黄褐色, 第 3 节背板后缘中央突起, 突起后缘圆形。体长约 13 mm, 前翅长 13 mm。

雄性生殖器: 下瓣宽, 端部狭, 伸达抱器端节基部, 抱器端节的基齿朝向腹方, 颇扁平, 并长有长毛。阳茎厚, 端部稍分开, 侧突短。

雌性 未知。

研究标本: 正模 ♂, 副模 1 ♂, 1998-07-28, 浙江遂昌九龙山自然保护区。模式标本保存于浙江自然博物馆昆虫标本室。

本种的翅斑纹与 *Neopanorpa ovata* Cheng 相似^[1], 但下瓣和抱器端节的形状不同, 可予区别^[2]。

本种以 *circularis*, 用第 3 腹节背板中央的突起圆形的特征命名。

Neopanorpa circularis Ju et Zhou, sp. nov. Figure 1.

Description based on 2 ♂, pinned.

Male-head: dorsum of head is shining black, antennal sockets, rostrum clear yellowish brown, antennal scape and pedicel brownish, flagellu brownish black. Thorax: pronotum is black, mesonotum and metanotum brownish black. Pleural areas are sordid yellowish brown. Legs are yellowish brown. Wings are very faintly tinged with grey, markings smoky brown. Apical band is complete, pterostigmal band entire, forked posteriorly, connected to apical band along costal margin, the additional band between the apical band and the pterostigmal

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band. Marginal spot is represented by two spots, and basal band is represented only by a single spot. Abdomen: terga 2~5 are black, sterna yellowish brown, median process of the third abdominal tergite prominent with rounded posterior margin.

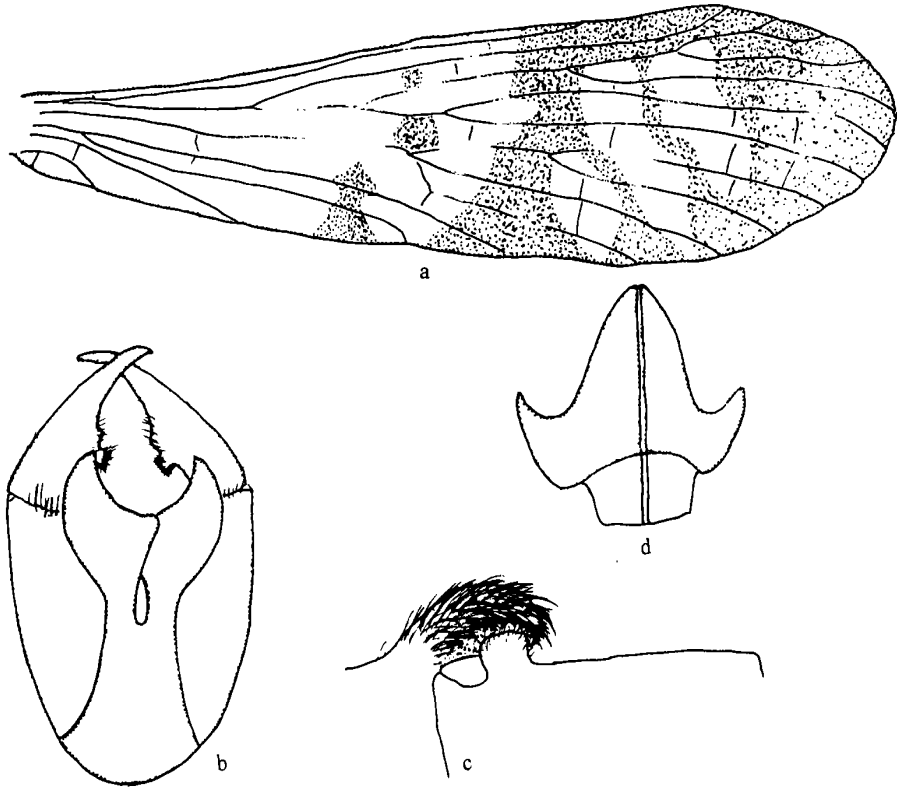


图1 圆突新蝎蛉

a. 雄性前翅; b. 雄性生殖器; c. 雄性第6腹节, 背面观; d. 阳茎

Figure 1 *Neopanorpa circularis* Ju et Zhou, sp. nov

a. forewing b. male genitalis; c. abdominal segments, dorsal view; d. aedeagus

Male genitalia: hypovalvae is broad, with a narrow apex, extending beyond the base of the dististyles. Basal lobe of each dististyle is prolonged ventrad, somewhat flattened, bearing long hairs. Ventral valves of aedeagus are thickened, slightly divergent at apex, lateral processes short.

Body length ♂ is about 13 mm, forewing 13 mm.

Female: unknown.

Holotype 1 ♂, paratype 1 ♂, 1998-07-28, Zhejiang, Suichang, Jiulongshan, in collection of Zhejiang Museum of Natural History.

This species resembles *Neopanorpa ovata* Cheng in wing markings, but differs in the shape of the hypovalvae and dististyles.

2 弯杆蝎蛉 *Panorpa anfracta* Ju et Zhou, sp. nov. (图2)

雄性 头部黑色。喙中央黑色, 两侧缘黄褐色。触角柄节和梗节黑色, 鞭节黄褐色。胸部背板黑色, 前胸背板前缘两侧各具2枚黑色刚毛, 侧板和腹板黄褐色。足黄褐色。翅膜微透明, 翅痣长, 深褐色。第2~6腹节深黑色, 第7~8节黄褐色, 第6节背板后缘具单一臀角, 褐色, 斜向上方。体长约17 mm, 前翅长15 mm。

雄性生殖器: 卵圆形。抱器端节稍长于抱器基节一半长, 端部向内方稍弯曲。中部宽大, 内缘具一明显的圆形凹穴; 下瓣颇长, U形, 伸达抱器端节基部, 中央凹陷深, 内缘中部具一齿突。阳茎具

圆锥形凸起和侧突, 阳茎副片较细长, U 形弯曲, 近端部具细毛。前肛上板较细, 末端 U 形凸陷。

雌性 色彩与雄性相似。体长约 11 mm, 前翅长 16 mm。

雌性生殖器: 下生殖板宽卵圆形。生殖板颇长, 后臂发达, 长, 末端圆, 向内方稍弯曲; 轴短, 在生殖板内。

研究标本正模 ♂, 配模 ♂, 副模 7 ♂ 7 ♀, 1998-07-26, 浙江遂昌九龙山自然保护区。标本保存于浙江自然博物馆昆虫标本室。

本种具单一臀角, 属于 *centralis* 群^[3], 相似于 *Panorpa centralis* Tjeder, 但下瓣内缘中部具一齿突, 阳茎副片 U 形弯曲和雌性生殖板的形状等不同, 容易区别^[2,4]。

本种以 *anfracta*, 用阳茎副片的形状特征而命名。

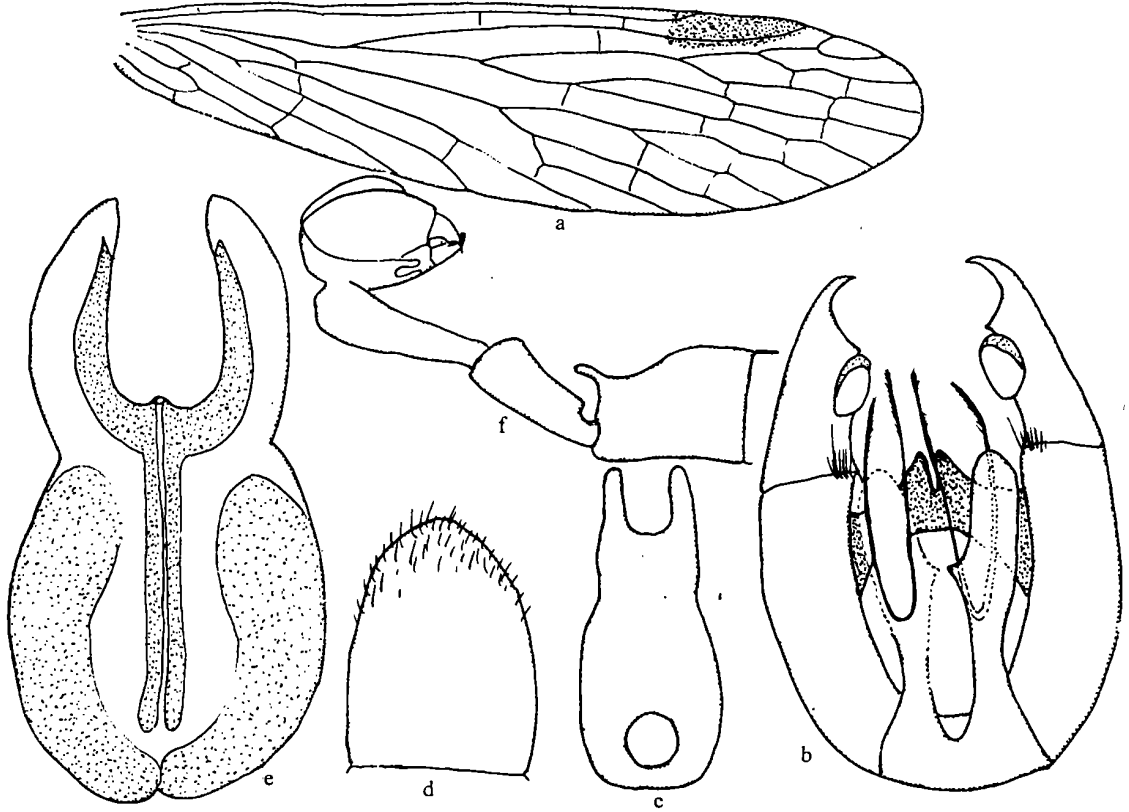


图 2 弯杆蝇蛉

a. 雄性前翅; b. 雄性生殖器; c. 雄性前肛上板; d. 雌性下生殖板; e. 雌性生殖板; f. 雄性第 6~9 腹带, 侧面观

Figure 2 *Panorpa anfracta* sp. nov

a. male forewing; b. male genitalis; c. male preepiproct; d. subgenital plate; e. genital plate; f. 6~9 abdominal segments, lateral view

Panorpa anfracta Ju et Zhou, sp. nov. Figure 2.

Description based on 8 ♂ and 8 ♀, pinned.

Male-head is black, rostrum black, with yellowish brown lateral margins. Antennal scape and pedicel are black, flagellum yellowish brown. Thorax: dorsum of thorax is black, pronotum with 2 black bristles on each side on anterior margin. Pleural and ventral surfaces are yellowish brown. Legs are yellowish brown. Wings: membrane is dusky hyaline, with smoky yellowish brown throughout, stigma long, dark brown. 2~6 abdominal segments are deep black. There is an anal horn on 6 abdominal segment, brownish, directed obliquely upwards. 7~8 segments are yellowish brown.

Male genitalia: genital bulb is oval. Dististyles are slightly more than half length of basistyles, ending in an acute apex, bent slightly inwards, the inner margin having a dilatation midway between base and apex. The under

surface shows a distinctly rounded excavation. Hypovalvae are rather long, U-shaped, reaching to the base of the dististyles with medially toothed ventromesal margins, concave mesally. Ventral valves of aedeagus appear in rounded apical processes and lateral processes. Ventral parameres are slender, U-shaped, with minute hairs near apices. Preepiproct is slender, a deep U-shaped distal incision.

Female genitalia: subgenital plate appears broadly oval. Genital plate is rather large, and posterior arms well developed, long, rounded and somewhat converging. The axes are short and situated wholly within the plate.

Body length ♂ is about 17 mm, ♀ about 11 mm. Length of forewing ♂ is 15 mm, ♀ 16 mm.

Holotype ♂, allotype ♀, paratype 7 ♂, 7 ♀, 1998-07-26, Zhejiang, Suichang, Jiulongshan, in collection of Zhejiang Museum of Natural History.

This species has a single anal horn in the male, and belongs to the *centralis* group. It resembles *Panorpa centralis* Tjeder, but differs in the shape, of the hypovalvae, parameres U-shaped and the shape of the female genitalia.

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Two new species of Mecoptera from Jiulongshan, China

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Abstract: The present paper deals with two new species of Mecoptera collected from Natural Reserve of Jiulongshan, Zhejiang, China. They are *Neopanorpa circularis* sp. nov. and *Panorpa anfracta* sp. nov. All the type specimens are kept in the Zhejiang Museum of Natural History.

Key words: Mecoptera; *Panorpa*; *Neopanorpa*; new species; Nature Reserve of Jiulongshan; China