

铁杉上的瓢虫种类研究(鞘翅目:瓢虫科)

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摘 要 记述了采自云南、四川铁杉上的瓢虫科昆虫,共 8 种,其中 5 种是新种:蛇形小毛瓢虫 *Scymnus (Scymnus) najiformis* Yu, 云杉坪小瓢虫 *S. (Pullus) yunshanpingensis* Yu, 波结毛瓢虫 *S. (Neopullus) sinuanodulus* Yu et Yao, 弧结毛瓢虫 *S. (N.) camptodromus* Yu et Liu, 截端方瓢虫 *Pseudoscymnus truncatulus* Yu, 2 种由于单一雌性仅鉴定到属。经实验室饲养,发现波结毛瓢虫和弧结毛瓢虫捕食铁杉球蚜。

关键词 瓢虫科, 新种, 铁杉球蚜, 捕食

杉球蚜 *Adelges tsugae* 是重要的森林害虫,在北美主要危害加拿大铁杉 *Tsuga canadensis* 的韧皮部,使树叶失色,树枝枯萎,严重时可使铁杉整株死亡^[1,2]。我国对此虫的分布、危害情况所知甚少,现仅知在四川西部及云南西北部海拔 2 500—3 000m 的中山地带有其发生。我们开展铁杉球蚜的天敌种类调查研究,以期找到对该虫有明显抑制作用的天敌昆虫。本文记述的是采自铁杉上的瓢虫科昆虫(第一部分),发现其中有些瓢虫捕食铁杉球蚜。新种模式标本分存作者单位(文内表明)。

1 材料

本研究所用瓢虫标本共 45 头,是由本文后二位作者于 1995 年 5 月在四川宝兴(海拔 2 500—2 600m)和 1995 年 10 月间在云南宁蒗狗砧洞、丽江云杉坪和河源(海拔 2 700—3 000m)的铁杉上采得,两地铁杉上均有铁杉球蚜寄生。

2 种类记述

2.1 蛇形小毛瓢虫 *Scymnus (Scymnus) najiformis* Yu 新种(图 1)

体长 2.19—2.50mm,宽 1.35—1.76mm。体卵形,背面中度拱起,披黄白色毛,鞘翅上的毛呈 S 形排列。头棕色,眼稍暗;前胸背板棕色,具基斑,近卵形或六角形,伸达前胸背板长度的 2/3—3/4。小盾片黑色;鞘翅黑色,翅基 1/3 处具 3 对棕色的斑点,内 2 对常相连,外斑有时消失,或 3 斑均不见;翅尖 1/3 棕色,鞘缝处的黑斑向后延伸,仅剩端部 1/10 的鞘缝棕色。腹面黑色,两端棕色,或全部黑色;足棕色,或腿、胫节黑色。前胸腹板两纵隆线中度分开,稍向前收,内有十余个粗大刻点。鞘翅上的刻点明显比前胸上的大,近鞘缝处无粗大刻点列。第六腹板后缘雄性平截,近两侧毛长,雌性圆突,中央毛长。后基

线如图 1-H。雄性弯管囊内突长,外突短而不明显;弯管端 1/3 处稍膨大,端部线状,无明显附属物;中叶腹面观宽大,最宽处在近中部,中叶长度与侧叶相似;雌性受精囊 C 字形,前角细长;漏斗体特殊,眼镜蛇形。

正模:♂(植环所), 1995-X-26, 丽江云杉坪;配模:♀(植环所);副模:1♂2♀(森保所), 同正模。

本新种与产于古北区的 *S. (S.) interruptus* (Goeze) 有些近似,后者体色多样^[3],但阳基中叶较窄,后基线伸达第一复板后缘而区分。

2.2 云杉坪小瓢虫 *Scymnus (Pullus) yunshanpingensis* Yu 新种(图 2)

体长 2.23-2.40mm, 宽 1.49-1.63mm。体长卵形,背面中度拱起,披淡黄白色毛,鞘翅披毛呈 S 形排列。头棕色,眼稍暗;前胸背板棕色;小盾片黑色;鞘翅黑色,在基部 2/5 处具一对红棕色斜斑,长卵形,此斑与翅端 1/3 的红棕色区域相连,但黑色的鞘缝延伸至鞘翅长的 5/6;如斜斑较小,可与红棕色的翅端分开;斜斑大,黑色的鞘缝从基部的 1/3 到端部的 1/3 很窄。腹面黑色,两端及足棕色。前胸腹板两纵隆线相距较窄,伸达前缘,基 1/3 中度收缩,前 2/3 稍收缩。后基线完整,伸达第一腹板的 3/4,后基线内刻点密,后部稍粗。第六腹板后缘雄性中央稍突,雌性圆突。雄性弯管囊内突长,外突短,弯管端 1/3 处明显膨大,端部钩状;中叶腹面观短宽,基部收缩明显,近中部最宽,中叶长度与侧叶相似;雌性生殖器如(图 2-H-J)。

正模:♂(植环所), 1995-X-26, 丽江云杉坪;配模:♀(植环所);副模:1♂1♀(森保所), 同正模。

本种鞘翅上的斑纹很特殊,可与其他种区分,如鞘翅上的斑纹消失,在外形上与产于福建的叶突小瓢虫 *S. (P.) dichorionicus* Pang et Huang^[4] 相似,但后者在弯管端部的 1/3 处无膨胀部分,阳基中叶腹面观呈长卵形,后基线内刻点细,后部具一明显的无刻点区域。

2.3 *Scymnus (Pullus) sp.*

经检标本 1♀, 1995-XII-1, 丽江云杉坪。本种与产于福建的叶突小瓢虫 *S. (P.)*

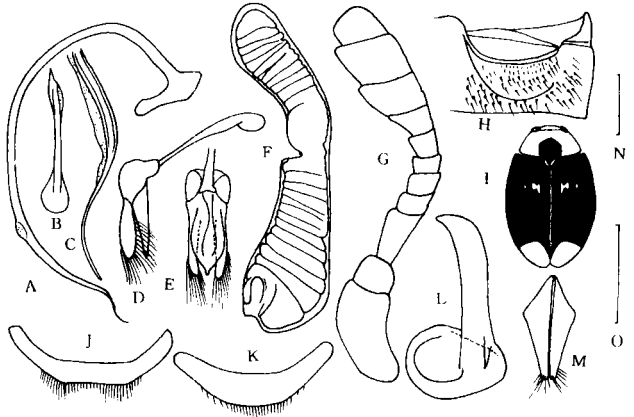


图 1 蛇形小毛瓢虫 *Scymnus (Scymnus) najaformis* Yu, sp. nov.

Fig. 1 *Scymnus (Scymnus) najaformis* Yu, sp. nov

A. 弯管(siphon); B. 第九腹内突(ninth sternite of ♂); C. 弯管端(apex of siphon); D. 阳基, 侧面观(tegmen, lateral aspect); E. 阳基, 腹面观(tegmen, ventral aspect); F. 受精囊(receptaculum seminis); G. 触角(antenna); H. 第一腹板(first abdominal segment); I. 虫体, 背面观(outline of the body); J. 雄性第六腹板(sixth abdominal sternite of ♂); K. 雌性第六腹板(sixth abdominal sternite of ♀); L. 漏斗体(infundibulum); M. 生殖板(hemisternite); N. A, B, D, E, H, J, K, M 的标尺(=0.25mm); O. C, F, G, L 的标尺(=0.1mm)

dichorionicus Pang et Huang^[4]在色斑上有些相似,但本种前胸背板上的三角形黑色基斑甚小,不及前胸背板的1/2,后基线内刻点较粗大。

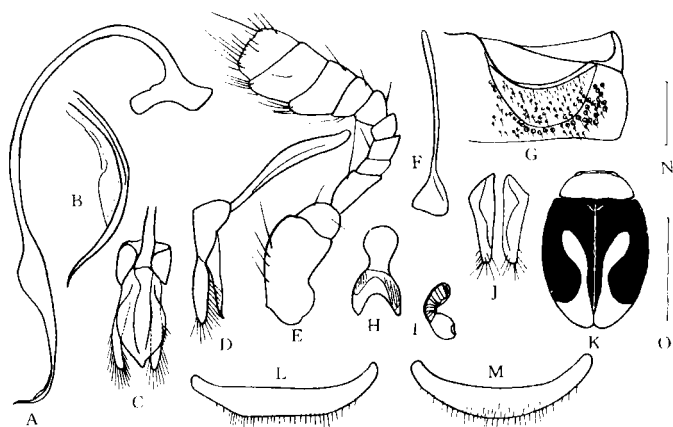


图2 云杉坪小瓢虫 *Scymnus (Pullus) yunshanpingensis* Yu, sp. nov

Fig. 2 *Scymnus (Pullus) yunshanpingensis* Yu, sp. nov.

A. 弯管 (siphon); B. 弯管端 (apex of siphon); C. 阳基, 腹面观 (tegmen, ventral aspect); D. 阳基, 侧面观 (tegmen, lateral aspect); E. 触角 (antenna); F. 第九腹内突 (ninth sternite of ♂); G. 第一腹板 (first abdominal segment); H. 漏斗体 (infundibulum); I. 受精囊 (receptaculum seminis); J. 生殖板 (hemisternite); K. 虫体, 背面观 (outline of the body); L. 雄性第六腹板 (sixth abdominal sternite of ♂); M. 雌性第六腹板 (sixth abdominal sternite of ♀); N. A, C, D, F, G, I, J, L, M 的标尺 (=0.25mm); O. B, E, H 的标尺 (=0.1mm)

2.4 波结毛瓢虫 *Scymnus (Neopullus) sinuanodulus* Yu et Yao 新种 (图 3)

体长 1.91—2.14mm, 宽 1.25—1.37mm。体长卵形, 两侧几乎平行, 背面中度拱起, 披淡黄色毛, 鞘翅披毛呈 S 形排列。头雄性棕色, 雌性黑褐色, 眼棕色或暗棕色; 前胸背板棕色, 具基斑, 此斑可扩大, 但前缘及侧缘明显棕色; 小盾片黑色; 鞘翅棕色, 翅基黑色, 沿鞘缝处伸至鞘翅长的 1/3, 侧缘黑斑伸至鞘翅长的 2/3, 后部斑纹稍扩大; 在鞘翅端部 2/5 处斜生一对长卵形黑斑, 此斑离鞘缝的距离短于离翅缘的, 有时与翅侧的黑斑相连。腹面黑色, 腹端部棕色, 有时口器及前胸腹板棕色; 足棕色

至黑色, 通常雌性较深。前胸腹板两纵隆线相距较窄, 伸达前缘, 基半部中度收缩, 前半部平行。第六腹板后缘雄性中央稍突, 雌性圆突。后基线完整, 后基线内刻点细, 后部稍粗, 分布不规则, 个别虫体不完整。雄性弯管囊内突长, 外突短而不明显, 弯管端 1/3 处稍膨大, 弯管端钩状, 与弯管囊不在一个平面; 阳基中叶明显长于侧叶; 雌性受精囊基结内缘波纹状明显, 漏斗体不见。

正模: ♂ (植环所), 1995-X-24, 丽江宁蒗; 配模: ♀ (植环所), 1995-X-22, 丽江河源; 副模: 1♂1♀ (植环所), 同配模; 3♂3♀ (森保所), 1995-X-26, 丽江云杉坪。

2.5 弧结毛瓢虫, 新种 *Scymnus (Neopullus) camptodromus* Yu et Liu, sp. nov. (图 4)

体长 1.89—2.19mm, 宽 1.16—1.35mm。体长卵形, 背面中度拱起, 披毛淡黄白色, 在鞘翅上呈 S 形排列。头雄性棕色, 雌性黑褐色或黑色, 口器棕色, 眼黑色; 前胸背板黑色, 前缘棕色, 窄, 有时前侧角棕色; 小盾片黑色; 鞘翅棕色, 翅基具三角形黑斑, 沿鞘缝处至多伸至鞘翅长的 1/3, 侧缘黑斑至多伸至鞘翅长的 4/7; 鞘翅上的黑色区域常缩小, 仅剩翅基黑褐色, 但如图 4-M 所示的外观仍可见 (因翅几乎透明, 褐色的后胸盾片和小盾片及黑色的体侧可映射出来)。腹面黑色, 腹端几节棕色; 足棕色, 腿和胫节大部黑色, 或腹面包括足全黑。前胸腹板两纵隆线相距较窄, 伸达前缘, 基半部中度收缩, 前半部平行。后基线

完整, 伸达第一腹板 3/4 强, 或后基线不完整, 在近前侧角处缺乏。第六腹板后缘雄性中央几乎平截, 雌性圆突。雄性弯管近中部有膜质突起, 弯管端钩状, 与弯管不在一个平面; 阳基中叶不比侧叶长; 雌性受精囊基结小于前角, 基结内缘弧形, 不呈波纹状, 漏斗体可见。

正模: ♂, 1995-X-22, 丽江河源; 配模: ♀, 副模: 13♀, 同正模; 5♀, 1995-X-24, 丽江宁蒗狗砧洞; 1♂, 四川宝兴, 1995-V-13; 1♀, 1995-VI-15, 四川宝兴。正、配模及 2♀副模存植环所, 余存森保所。

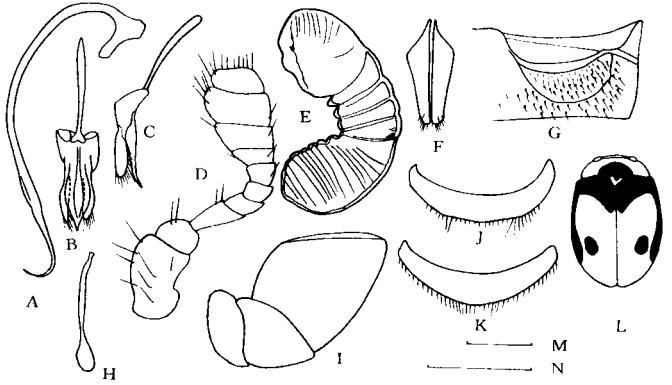


图 3 波结毛瓢虫 *Scymnus (Neopullus) sinuanodulus*

Yu et Yao, sp. nov.

Fig. 3 *Scymnus (Neopullus) sinuanodulus* Yu et Yao, sp. nov.

A. 弯管 (siphon); B. 阳基, 腹面观 (tegmen, ventral aspect); C. 阳基, 侧面观 (tegmen, lateral aspect); D. 触角 (antenna); E. 受精囊 (receptaculum seminis); F. 生殖板 (hemisternite); G. 第一腹板 (first abdominal segment); H. 第九腹内突 (ninth sternite of ♂); I. 下颚须 (maxillary palpus); J. 雄性第六腹板 (sixth abdominal sternite of ♂); K. 雌性第六腹板 (sixth abdominal sternite of ♀); L. 虫体, 背面观 (outline of the body); M. A-C, F-H, J, K 的标尺 (= 0.25mm); N. D, E, I 的标尺 (= 0.1mm)

本种的区别特征见下种注释

(*Pullus*) 和小毛瓢虫亚属 *S. (Scymnus)* 比较常见, 如中黑小瓢虫 *S. (P.) centralis* Sasaji^[5] 和长爪毛瓢虫 *S. (S.) dolichonychus* Yu et Pang^[6], 甚至在拟小瓢虫亚属, 如台湾产的立拟小瓢虫 *S. (Parapullus) #secula* Yang 一个标本的左侧(虞国跃 1992, 未发表)。本亚属两种后基线共存, 还是首次发现。这两种除在体色外很相似, 如弯管端钩状, 与基部弯管囊不在一个平面上, 生殖板狭长等, 但可从下列特征区别: 波结毛瓢虫雄性阳基中叶明显长于侧叶, 后基线离第一腹板后缘较宽, 常能容纳两列刚毛; 雌性漏斗体不见, 基结内侧边波纹状弯曲明显; 弧结毛瓢虫雄性阳基中叶稍短于侧叶, 后基线离第一腹板后缘较窄, 常能容纳一列刚毛; 雌性可见漏斗体, 基结内侧边近于弧形。前者色斑比较特殊, 易与他种区分。后者在色斑上与产于河北、北京等地松树上的平叶毛瓢虫 *S. (N.) paralleus* Yu et Pang^[7] 相似, 但老种阳基中叶窄小, 雌性生殖板宽大; 它还与最近^[8] 记录捕食铁杉球蚜的 *S. (P.) suturalis* Thunberg 相似, 但老种阳基中叶明显短于侧叶, 中叶腹面观基部收缩不明显, 雌性漏斗体棒形。

2.6 截端方瓢虫 *Pseudoscyrnus truncatulus* Yu 新种 (图 5)

体长 2.05mm, 宽 1.45mm, 体卵形, 背面中度拱起, 披淡黄色毛。头棕色, 眼黑色, 口器

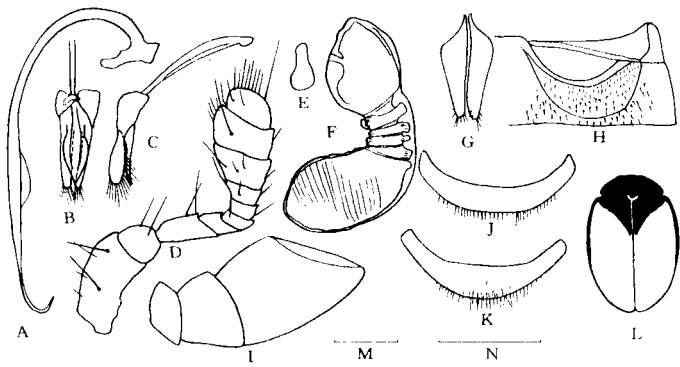


图4 弧结毛瓢虫 *Scymnus (Neopullus) camptodromus* Yu et Liu, sp. nov.

Fig.4 *Scymnus (Neopullus) camptodromus* Yu et Liu, sp. nov.

A. 弯管 (siphon); B. 阳基, 腹面观 (tegmen, ventral aspect); C. 阳基, 侧面观 (tegmen, lateral aspect); D. 触角 (antenna); E. 漏斗体; F. 受精囊 (receptaculum seminis); G. 生殖板 (hemisternite); H. 第一腹板 (first abdominal segment); I. 第九腹内突 (ninth sternite of ♂); J. 下颚须 (maxillary palpus); K. 雄性第六腹板 (sixth abdominal sternite of ♂); L. 雌性第六腹板 (sixth abdominal sternite of ♀); M. 虫体, 背面观 (outline of the body); N. A-C, G-I, K, L 标尺 (= 0.25mm); O. D-F, J 的标尺 (=0.1mm)

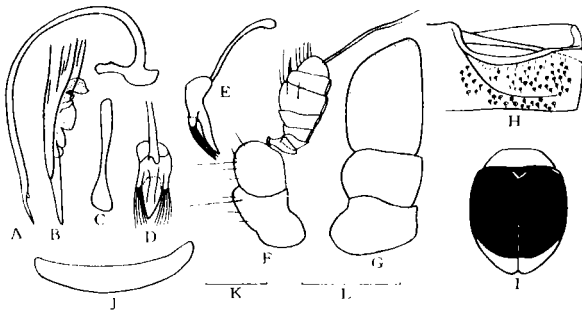


图5 截端方瓢虫 *Pseudoscymnus truncatulus* Yu, sp. nov.

Fig.5 *Pseudoscymnus truncatulus* Yu, sp. nov.

A. 弯管 (siphon); B. 弯管端 (apex of siphon); C. 第九腹内突 (ninth sternite of ♂); D. 阳基, 腹面观 (tegmen, ventral aspect); E. 阳基, 侧面观 (tegmen, lateral aspect); F. 触角 (antenna); G. 下颚须 (maxillary palpus); H. 第一腹板 (first abdominal segment); I. 虫体, 背面观 (outline of the body); J. 雄性第六腹板 (sixth abdominal sternite of ♂); K. A, C-E, H, J 的标尺 (= 0.25mm); L. B, F, G 的标尺 (= 0.1mm)

本种与产于台湾的 *P. fulvihumerus* Yang et Wu[9] 近缘, 但后者雄性第六腹板后缘明显内凹, 阳基中叶腹面观宽大。

棕色,下颚须第三节端半部黑褐;前胸背板黄色;小盾片黄棕色;鞘翅黑色,前侧角和翅端 1/5 黄色,鞘缝线带棕色。腹面黄色,翅胸黑色及第一腹板基部黑褐色;足黄色。前胸腹板两纵隆线相距较宽,伸达前缘,基部稍收缩,前部 2/3 几乎平行,长度相当于基部宽的 1.5 倍。后基线不完整,伸达第一腹板的 5/7。第六腹板后缘圆突,中央稍直。雄性外生殖器如图 5-A, B, D, E, 弯管端稍收缩,内侧有膜质附属物;阳基侧叶短,约是中叶长的 1/3,中叶两侧在基部 1/3 近于平行,后渐渐收缩。

正模:♂(植环所),1995-X-22,丽江河源。

2.7 *Stethorus* sp.

经检标本 1♀,1995-X-26,丽江云杉坪。

食螨瓢虫取食螨类,应与铁杉球蚜无关。

2.8 十六斑菌瓢虫 *Halyzia sedecimguttata* (L.)

经检标本 1♂,1995-V-13,四川宝兴。

该虫属古北区种类,我国首次记录于陕西^[10],取食白粉菌,与铁杉球蚜无关。

3 讨论

小毛瓢虫(小毛瓢虫族 Scymnini 的昆虫)是多种球蚜的重要天敌昆虫,有些种类对云杉球蚜有很好的控制作用^[1]。在调查采集的过程中,我们发现尽管铁杉球蚜仅在小范围内发生,高虫口铁杉单株却不鲜见,但并未发现死树现象,应该说天敌发挥了重要的作用。经实验室饲养,以上 8 种瓢虫中的两种即波结毛瓢虫和弧结毛瓢虫取食铁杉球蚜,另 3 种小毛瓢虫尚不能肯定其食性。我们将进一步采集铁杉上的瓢虫,确认某些种类的食性,对已知取食铁杉球蚜的两种毛瓢虫将开展习性和捕食能力的研究。

云南是目前我国已知瓢虫种类数最多的省份,1992 年已知 191 种^[12],近年来增加的种数也有二十多种,但仍有较大的潜力,特别在小毛瓢虫族。该族是瓢虫科中最大的一族,种类极多,而云南省目前已知的该族昆虫仅十余种,与台湾、福建、广东等省相比差距甚远,本研究的结果也证实了这一点。

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THE COCCINELLIDAE COLLECTED FROM *TSUGA* WITH *ADELGES TSUGA* Annand (HOMOPTERA: ADELGIDAE)

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Abstract

Expeditions were made to Yunnan and Sichuan, southwest of China, for searching the potential natural enemies of hemlock woolly adelgid, *Adelges tsuga* Annand. The collections under report contain 45 coccinellid specimens. 8 species belonging to 4 genera are enumerated in this paper. Of those, 5 species were described as new to science: *Scymnus* (*Scymnus*) *najaformis* Yu, *S.* (*Pullus*) *yunshanpingensis* Yu, *S.* (*Neopullus*) *sinuanodulus* Yu et Yao, *S.*(*N.*) *camptodromus* Yu et Liu, *Pseudoscymnus truncatulus* Yu. 2 species of Scymnini remain undetermined. *S.*(*N.*) *sinuanodulus* and *camptodromus* are found to be the predators of the adelgid through laboratory feeding. The type specimens are preserved in the authors' institutes by indicating IPEP for the first author's and RIFP for the latter's in the following text.

1. *Scymnus* (*Scymnus*) *najaformis* Yu (Fig.1)

Body length 2.19–2.50mm, width 1.35–1.76mm. Body oval. Head brown with darkish brown eyes; pronotum brown with a black basal marking, extending to 2 / 3 to 3 / 4 of pronotal length, nearly oval or sexangular in shape; scutellum black; elytra black with 3 pairs of spots, usually interconnected, the external spot sometimes disappears or the three spots are entirely wanting; black part of elytron extending posteriorly along the suture, leaving about 1 / 10 sutural line brown. Venter brown with black pterothorax and basal segments of abdomen, or venter dark to black; legs brown, or femora and tibiae dark brown.

Holotype: ♂ (IPEP), 26-X-1995, Yunshanping, Lijiang (27.1° N, 100.2° E); Allotype: ♀(IPEP); Paratypes: 1♂2♀(RIFP), same data as holotype.

This species resembles the palaearctic species *S.(S.) interruptus* (Goeze), but the latter varies in coloration with relatively narrow median piece of tegmen in ventral aspect and the postcoxal line extending to the hind margin of 1st abdominal sternite. This species is named after the shape of infundibulum which resembles a cobra (*Naja naja*).

2. *Scymnus (Pullus) yunshanpingensis* Yu (Fig.2)

Body length 2.23–2.40mm, width 1.49–1.63mm. Body elongate oval. Head brown with slightly darker eyes; pronotum brown; scutellum black; elytra black with one pair of reddish brown spots, long oblique oval and being at basal 2 / 5 of elytron, connected to reddish brown apex (1 / 3 of elytral length), but the black sutural line extending to 5 / 6 of elytron; sometimes the spots are separated from the apex if forming one small spot. Venter brown with black pterothorax and basal two segments of abdomen.

Holotype: ♂ (IPEP), 26-X-1995, Yunshanping, Lijiang, Yunnan; Allotype: ♀ (IPEP); Paratypes: 1♂ 1♀(RIFP), same data as holotype.

The new species has a peculiar coloration, and if the elytral markings disappear, it resembles *S.(P.) dichorionicus* Pang et Huang in outline, but differs in male genitalia and punctuation on 1st abdominal sternite.

3. *Scymnus (Neopullus) sinuanodulus* Yu et Yao (Fig.3)

Body length 1.91–2.14mm, width 1.25–1.37mm. Body elongate oval with nearly parallel sides. Head brown in male and dark brown in female, eyes brown or darkish brown; pronotum brown with a black basal marking (the marking may enlarge, but the anterior and lateral margins of pronotum are distinctly brown); scutellum black; elytra brown with a black marking on the base and a pair of long oblique oval spots, along the suture extending to 1 / 3 elytral length and the lateral sides extending to 2 / 3 elytral length, lateral marking slightly expanded posteriorly; the spots being at apical 2 / 5 of elytron, the distance to suture line shorter than that to lateral side. The spots are occasionally connected by the lateral marking. Underside of body black with apical part of abdomen brown, sometimes mouthparts, prothorax also brownish; legs brown to dark brown or black, usually darker in female.

Holotype: ♂ (IPEP), 1-XII-1995, Ningliang (27.2° N, 100.8° E, Lijiang); Allotype: ♀(IPEP), 22-X-1995, Heyuan(26.7° N, 99.9° E, Lijiang); Paratypes: 1♂ 2♀(IPEP), same data as allotype; 3♂ 3♀(RIFP), 26-X-1995, Yunshanping. Lijiang.

The differences are given with next species.

4. *Scymnus (Neopullus) camptodromus* Yu et Liu (Fig.4)

Body length 1.89–2.19mm, width 1.16–1.35mm. Body elongate oval. Head brown

in male, dark brown or black in female with brown mouthparts and black eyes; pronotum black with brown narrow anterior margin, sometimes with brown anterior corners; scutellum black; elytra brown with triangular marking at base, along the suture line extending to $1/3$ of elytral length at most; basal $4/7$ of lateral sides black. The black area on elytra are always contracted, leaving only the elytral base dark, but superficially the figured marking can be observed for the transparent elytra and the dark scutum and scutellum of metathorax. Venter black with apical segments of abdomen brown; legs brown with femora and tibiae largely black, or underside entirely black.

Holotype: ♂ (IPEP), 22-X-1995, Heyuan, Lijiang; Allotype: ♀ (IPRP); Paratypes: 12♀ (2 in IPEP, 10 in RIFP), same data as holotype; 5♀ (RIFP), 14-X-1995, Ningliang, Lijiang; 1♂, 13-V-1995, Baoxin (30.3°N , 102.8°E , Sichuan); 1♀, 15-VI-1995, same place as previous one.

Some specimens of the above two species have incomplete postcoxal line of 1st abdominal sternite. The former species is named after the sinuate inner margin of nodulus of receptaculum seminis and the latter one is named after the nearly arc-shaped inner margin of nodulus. The two new species resemble each other, although quite different in colour pattern and are distinguishable from the following characters: *S.(N.) sinuanodulus* with median piece of tegmen distinctly longer than lateral lobes, infundibulum of female invisible; *S.(N.) camptodromus* with median piece slightly shorter than lateral lobes, infundibulum visible. The latter species also resembles *S.(P.) suturalis*, but differs from the male genitalia and female infundibulum.

5. *Pseudoscymnus truncatulus* Yu (Fig. 5)

Body length 2.05mm, width 1.45mm. Body oval. Head yellow with black eyes, mouthparts yellow with reddish brown terminal part of maxillary palpi; pronotum yellow; scutellum yellowish brown; elytra black with basal external corners yellow and apical $1/5$ yellow, sutural line brownish. Venter yellow with black pterothorax and darkish basal part of 1st abdomen; legs yellow.

Holotype: ♂ (IPEP), 22-X-1995, Heyuan (Lijiang, Yunnan).

The present species is closely related to *P. fulvihumerus* Yang et Wu from Taiwan, but the latter's hind margin of 6th abdominal sternite is emarginate and the median piece of tegmen is relatively broad. It is named after the nearly truncate hind margin of 6th abdominal sternite medially.

Key words Coccinellidae, New species, Hemlock woolly adelgid, Predator