Oriental Insects

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/toin20

Two new species of Epilachna Dejean (Coleoptera: Coccinellidae) from China

Chuan-Hui Yi\textsuperscript{a}, Qiu-ju He\textsuperscript{b} & Ning-Nian Xiao\textsuperscript{c}

\textsuperscript{a} Yunnan Academy of Forestry, Kunming, 650204, P.R. China
\textsuperscript{b} Key Laboratory of Forest Disaster Warning and Control in Yunnan Province, College of Forestry, Southwest Forestry University, Kunming, 650224, P.R. China
\textsuperscript{c} Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming, 650223, P.R. China

Published online: 21 Nov 2013.

To cite this article: Chuan-Hui Yi, Qiu-ju He & Ning-Nian Xiao (2013) Two new species of Epilachna Dejean (Coleoptera: Coccinellidae) from China, Oriental Insects, 47:2-3, 111-115, DOI: 10.1080/00305316.2013.807559

To link to this article: http://dx.doi.org/10.1080/00305316.2013.807559

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms &
Two new species of Epilachna Dejean (Coleoptera: Coccinellidae) from China

Chuan-Hui Yi, Qiu-ju He and Ning-Nian Xiao

Yunnan Academy of Forestry, Kunming 650204, P.R. China; Key Laboratory of Forest Disaster Warning and Control in Yunnan Province, College of Forestry, Southwest Forestry University, Kunming 650224, P.R. China; Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming 650223, P.R. China

(Received 24 April 2012; final version received 30 September 2012)

Two new coccinellid species of the genus Epilachna Dejean from Yunnan, China viz. Epilachna monandrum sp. nov. on Elatostemma monandrum and Epilachna kunmingensis sp. nov. on Rubia oncotricha are described. The type specimens are deposited in the College of Forestry, Southwest Forestry University, Kunming, China.

Keywords: Epilachna; Epilachninae; Coleoptera; China

Introduction

The subfamily Epilachninae has around 1051 species under 22 genera as given in Jaduiszcdak and Wegzynowicz (2003). Of these, 145 species under 8 genera are from China as listed by Mulsant, whereas 75 species under 6 genera are from Yunnan Province, China as listed by Zhang and Ou (2010). Of these, the genus Epilachna is attributed to Dejean (1837) by Richards (1983), with Coccinella borealis Fabricius being its designated type species (Hope, 1840).

The genus Epilachna was defined as having its tarsal claws with a basal tooth; in its fauna from Yunnan, though Cao (1992) believed that it is in agreement, some species lack this tooth. Because of the fact that those of the Eurasian and Australian species with a basal tooth also have their sixth abdominal sternite in female divided longitudinally, similar to Epilachna borealis, Dieke (1947) adopted the latter as an important generic character and included these in the Epilachna. This study describes two new species of this genus from the Yunnan Province, China.

Materials and methods

The specimens collected were preserved in 75% ethyl alcohol, studied in a Sunyu SZM45-B2 stereo zoom microscope and measurements made using a slide caliper and given in mm. The body length given is length from the apical margin of clypeus to apex of elytra; width is that across both elytra at its widest part and height is that at the highest elytral part. The genitalia were dissected and cleared in boiling 10% NaOH. The photographs were taken in Nikon DXM1200 camera in combination with a Nikon SMZ1500 compound

*Corresponding author. Email: xiaonn4111876@126.com

© 2013 Taylor & Francis
microscope. The software TS-Elements F3.0 was used to capture images that are then cleaned up and laid out with Adobe Photoshop CS 8.01. Type specimens are deposited in the College of Forestry, Southwest Forestry University, Kunming, China (CF-SWFUK).

1. *Epilachna monandrum* sp. nov. (Figures 1–3, 7–12)

*Description*

Head brown, with a black spot large in male, small in female. Eyes brown. Pronotum yellowish brown, with a large, black, transverse elongate spot in the middle. Scutellum brown. Elytra yellowish brown, each with five large, black spots arranged in 2, 2 and 1, of these spots 2, 3, 4 and 5 surrounded by yellowish brown. Spot 1 ovate, extending to anterior margin and connecting suture line, constituting a sutural spot with a symmetrical spot in the other elytron; Spot 2 almost rounded and touching lateral margins; Spot 3 almost crescent shaped, situated at middle; Spot 4 elliptical, situated at the posterior of elytron and touching posterior margin and Spot 5 rounded, away from suture and margins (Figures 1–3). Pro, meso and metasternum black, abdomen mostly black except margins pale. Legs pale yellowish brown, except proximal of femora black.

Body elongate oval and convex, covered with greyish white hairs, with punctures on head, pronotum and elytra (Figures 1–3); punctures on spots of elytra small and regular, while those on others large and irregular. Abdominal postcoxal line complete, almost reaching the posterior margin of the first abdominal ventrite; posterior margin of fifth abdominal ventrite in female truncate and sixth curved; in male posterior margin of both fifth and sixth abdominal ventrite curved.

Male genitalia with penis moderately slender and curved in the basal half, with a distinct, triangular, inner process in penis capsule (Figure 7), apex opening ventrally, concave and rounded (Figure 8); penis guide in lateral view relatively stout,
and at basal half, gradually narrowing towards its pointed apex, in ventral view stout, long, nearly subparallel in its basal fourth/fifth, tapering to apex and apices distinctly deeply bifid and pointed (Figure 10); parameres stout, nearly subparallel, their apices setose, distinctly shorter than and nearly 0.5 × as penis guide (Figure 9). Female genitalia with coxites almost triangular and sparsely setose at apices (Figures 11 and 12).

Body length 3.5–5.0, width 2.7–3.1 and height 1.9–2.5.

**Holotype**

m, China: Yunnan Province: Kunming: Xishan Mountain, 2250 m, 19.iv.2011, Coll. Xiao Ning-Nian, on *Elatostema monandrum*; paratypes, 1 m, 1 f, with data same as holotype (CF-SWFUK).

**Etymology**

The specific name is derived from its host plant, *Elatostema monandrum*.

**Comments**

This new species is similar to *Epilachna bicrecens* (Dieke) and *Epilachna brachyloba* Zeng and Yang in general appearance and male genitalia, but it can be distinguished in (1) parameres nearly 0.5 × as penis guide (Figure 9) and (2) apex of penis guide in ventral view with a deep, bifid invagination (Figure 10).

---

Figures 7–16. (7–12) *Epilachna monandrum* sp. nov., (7–10) male genitalia: (7) penis; (8) apex of penis; (9) tegmen, lateral view; (10) tegmen, ventral view; (11, 12) female genitalia: (11) abdomen; (12) ovipositor. (13–16) *Epilachna kunmingensis* sp. nov. (13–15) male genitalia: (13) penis; (14) apex of penis; (10) tegmen, ventral view; (16) tegmen, lateral view.
2. *Epilachna kunmingensis* sp. nov. (Figures 4–6, 13–16)

**Description**

Male head, pronotum and scutellum black. Eyes greyish brown. Mouth parts and antennae brown. Ground colour of elytra black, each with six reddish brown spots arranged in 1, 2, 2, 1, with each spot surrounded by black. Spot 1 nearly circular and almost touching anterior margin; Spot 2 ovate, situated at one-third and next to suture; Spot 3 rounded, situated at one-third and next to lateral margin; Spot 4 ovate, situated at two-thirds and next to suture; Spot 5 rounded, situated at two-thirds and next to lateral margin and Spot 6 also rounded but nearly touching the posterior margin (Figures 4–6). Posterior margin of elytra pale. Pro, meso and metasternum, abdomen, epipleura and legs black.

Body elongate oval, convex, covered with greyish white hairs (Figures 4–6). Abdominal postcoxal line complete, its posterior margin nearly touching two-thirds of the first abdominal ventrite, posterior margin of fifth sternum truncate and sixth protruding.

Male genitalia with penis moderately stout, curved basally and with an obsolete, inner process of penis capsule (Figure 13); apex opening in venter, narrowing slightly at opening, its apex rounded (Figure 14); penis guide in lateral view distinctly widest at base, its inner and outer margins gradually curved outwards and its apex rounded; penis guide in ventral view stout, long, its margins widened from base to apex, widest at apical two-thirds, apex abruptly ending and rounded (Figure 16); parameres slender, subparallel, setose at apex and slightly shorter than penis guide (Figure 15).

Body length 3.7–5.5, width 4.0–4.1 and height 2.9–3.0.

**Holotype**

m, China: Yunnan Province: Kunming: Xishan Mountain, 2300 m, 19.iv.2011, Coll. Xiao Ning-Nian, on *Rubia oncoticcha*; paratypes, 2 m, 16.vi.2009, other data same as holotype (CF-SWFUK).

**Etymology**

The specific name is derived from Kunming, the locality from where it has been collected.

**Comments**

This new species resembles *Epilachna rubiacis* Cao et Xiao in general appearance and male genitalia, but can be distinguished in its (1) pronotum and legs black and (2) penis guide in ventral view with base slightly narrowed, its lateral margins expanding, with the widest part in its one-third to apex and apex abruptly pointed (Figure 15).

**Acknowledgements**

The authors express their sincere thanks to Prof. YZ Pan and ZP Xiong (Southwest Forestry University, China) for the help with digital camera and Dr Xing-Min Wang (South China Agricultural University) for his useful comments. This research was supported by the 948 programmes of State Forestry Administration, China (2008-4-68) and the Key Disciplinary Fields, Forest Protection of Yunnan Province (XKZ200905).
References


Hope FW. 1840. The coleopterist’s manual, part the third, containing various families, genera, and species of beetles, recorded by Linnaeus and Fabricius, also descriptions of newly discovered and unpublished insects. Bridgewater, London. 191 pp.


