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Neochalcosia witti sp. n.,
a new *Zygaenidae* species (*Chalcosiinae*) from southeast China
(*Lepidoptera*)

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Summary

A new *Zygaenidae* species, *Neochalcosia witti* sp. n., of the subfamily *Chalcosiinae* is described from southeast China and is compared with the two other species of this genus. The differences are explained and the distribution is shown.

Zusammenfassung

Eine neue *Zygaenidae*-Art, *Neochalcosia witti* sp. n. aus der Unterfamilie *Chalcosiinae* wird aus Südost-China beschrieben und mit den beiden weiteren Arten dieser Gattung verglichen. Die Unterschiede werden erläutert und die Verbreitung dargestellt.

key words: *Lepidoptera*, *Zygaenidae*, *Chalcosiinae*, *Neochalcosia witti* sp. n. southeast China, distribution.

Introduction

Intensive research on the subfamily *Chalcosiinae* has been carried out during the last ten or twenty years. During these investigations, many new species could be found and described (e. g. ENDO & KISHIDA, 1999, HORIE & OWADA, 2000, 2002, KISHIDA & ENDO, 1999, OWADA, 1996, 2001, OWADA & HORIE, 1999, 2002, YEN, 2003 a, b, 2004, YEN, ROBINSON & QUICKE, 2005). Furthermore, several important phylogentic and systematic papers were published about *Zygaenidae* or some subfamilies of *Zygaenidae* (e. g. TARMANN, 1992, YEN et al., 2005, NIEHUIS et al., 2006).

However, so far only very little is known about the biology of many species.

Chalcosiinae

Chalcosiinae is a subfamily of *Zygaenidae* which is almost restricted to the tropical Southeast Asian region. About 380 species are known in 70 genera (YEN, 2003).

YEN et al. (2005) and NIEHUIS et al. (2006) deal with the phylogenetic relationship within the subfamily *Chalcosiinae* and also with other zygaenid moths.

The genus *Neochalcosia* was established by YEN & YANG (1997) for the species *N. remota* (WALKER, 1862). This species is recorded from China (Sichuan, Shaanxi, Gansu), Korea, Japan (YEN & YANG, 1997, OWADA et al., 2006) and Taiwan (WANG, 1995). JORDAN (1913) described this species as common. It occurs in parks and habitats with *Quercus* species and the hostplants are several *Symplocos* species (*Symplocaceae*) (YEN & YANG, 1997).

OWADA et al. (2006) described a further species from Guangdong, south China., and in the present paper, a third species is described:

Neochalcosia witti sp. n. (Pl. 1, fig. 1-4)

Holotype ♂: China, Sichuan, Lao Lin Kou, 28°21' N / 103° 26' E, 26. VI – 12. VII. 2008, H ~ 1900 m NN, leg. Victor Sinyaev. Coll. Museum Witt Munich. Paratypes: 50 ♂♂, 1 ♀ with same data (2 of them in Coll. ZSM); 1 ♂, China, Szetschwan, Tatsienlu, F. Daniel – München; Szetschwan, Tatsienlu, Exp. Stötzner; 1 ♂, China, Szetschwan, Tatsienlu, F. Daniel – München, Coll. ZSM; Szetschwan, Tatsienlu, Exp. Stötzner, Sammlung Osthelder (in Coll. ZSM); 1 ♂, China, prov. Shaanxi, Tapaishan Mts. (S), Tsinlin Mts., Houbenzi, 33°51' N / 107°49'E, 1600 m, 1. – 12. VIII. 1999; 1 ♂, China, prov. Shaanxi, Tapaishan Mts. (S), Tsinlin Mts., Houbenzi, 33°51' N / 107°49'E, 1600 m, 1. – 12. VIII. 1999, leg. Dr. Ronald Brechlin;

Description and differential diagnosis:

Wingspan ♂: 42 - 58 mm, Ø 51,95 mm; forewing length 26 – 30 mm, Ø 26,21 mm.

Wingspan ♀: 52 mm, forewing length: 28 mm.

Male antenna bipectinate. Female antenna slender and thin. Eyes black. Palpi brown, short. Legs brownish with some shining blue spots. Body very dark brown. Patagia with bright red band. Wings brighter brown than body. Forewings with a white band which is narrower than in the most similar species *N. remota* (WALKER, 1854). Hindwings also with a white band from inner margin to vein m3. Basal angle white. This white region is not confluent with the white band. *N. remota* and *N. nanlingensis* OWADA, HORIE & MIN, 2006 show a large white area covering more than half of the hindwing.. The white region is not interrupted, and forms a large white dot. White marks in the new species *N. witti* are clearer. These marks are more blurred in the species *N. remota* and *N. nanlingensis*.

Male genitalia (pl. 2, fig. 8): Similar to *N. remota* and *N. nanlingensis*, but *N. witti* has a much stronger and longer ampulla. The uncus tegumen complex is stronger sclerotized than in the other species. Moreover, the tegumen is distinctively stronger. Vinculum wider. Aedeagus fully sclerotized, right angled at one third. In the other two species the right angled part is not sclerotized. Tergit with more distinctively protuberant thorns, which are also stronger sclerotized. Tergit more slender than in *N. remota* and conical. Sternite wide, U-shaped and strongly sclerotized.

Female genitalia (pl. 2, fig. 9): Thin and slender, with long, slender apophyses posteriores and shorter, stouter apophyses anteriores. Corpus bursae with two signa, which are weakly sclerotized. Papillae anales less hairy.

Etymology: The new species is dedicated to Mr. Thomas Witt, the founder of the Museum Witt (Munich), with heartfelt thanks for his always very good cooperation.

Distribution: *N. witti* is only known from the localities of the type series in Southeast China, situated in the provinces Sichuan and Shaanxi (see map).

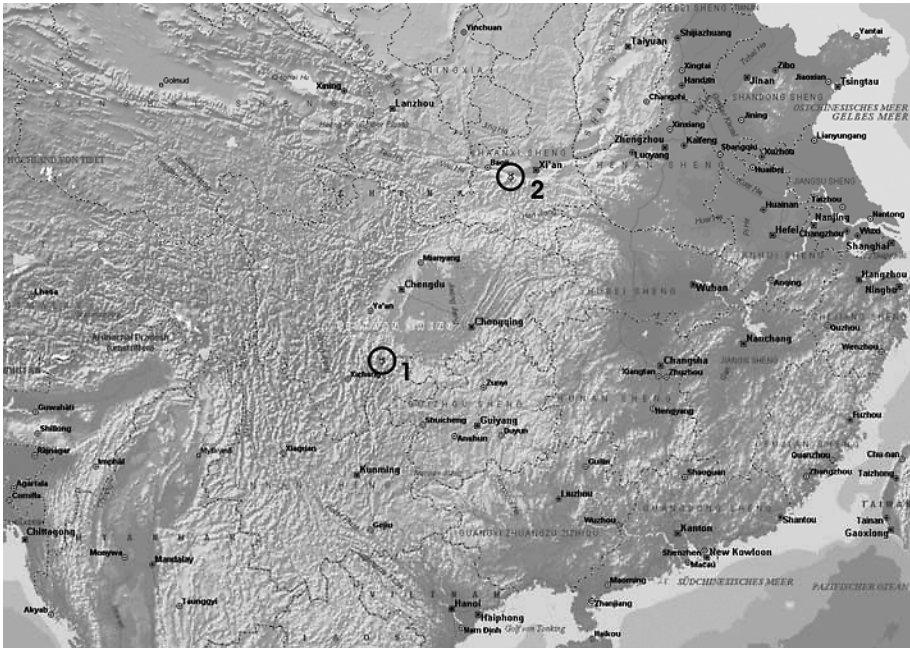


Fig. Map showing the distribution of *Neochalcosia witti* sp. n.

Discussion

The new species was collected in Southeast China which is known as a biodiversity hot spot (BROOKS et al., 2002, MYERS et al., 2000, MITTERMEIER et al., 1998). It is named the Indo-China region, if the Indo-Burmese subregion is included (SEDLAG 1987, 1995). This region is very diverse especially along and around the Greater Mekong and Yangtze rivers. Here, many new insect species could be found and described during the last years (e.g. SCHINTLMEISTER, 2001, BUCHSBAUM, 2006).

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Plate 1

Fig. 1. *Neochalcosia witti* BUCHSBAUM, CHEN & SPEIDEL sp. n. ♂. Painting by Ruth KÜHBANDNER.

Fig. 2. *Neochalcosia witti* Buchsbaum, Chen & Speidel sp. n. Holotype ♂ “China – Sichuan.; Lao Lin Kou; 28° 21’ N * 103°26’ E; 26. 06. – 12. 07. 08 H ~ 1900 m; legit Vitor Sinyaev, Coll. Museum Witt”

Fig. 3. *Neochalcosia witti* BUCHSBAUM, CHEN & SPEIDEL sp. n. ♂, underside. Paratype, same data as holotype.

Fig. 4. *Neochalcosia witti* BUCHSBAUM, CHEN & SPEIDEL sp. n. ♀. Paratype, same data as holotype.

Fig. 5. *Neochalcosia remota* (WALKER, 1854) ♂ “Japan, Pref. Shiga, Mt Hira, 1214, 23. VIII 57, leg. S. Ishida, Staatssl. München”

Fig. 6. *Neochalcosia remota* (WALKER, 1854) ♂, underside, same data as fig. 4.

Fig. 7. *Neochalcosia remota* (WALKER, 1854) ♀ “Japan, Kyoto, Kurama, 14. VII. 36, Staatssamml. München”

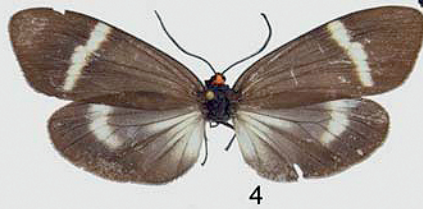
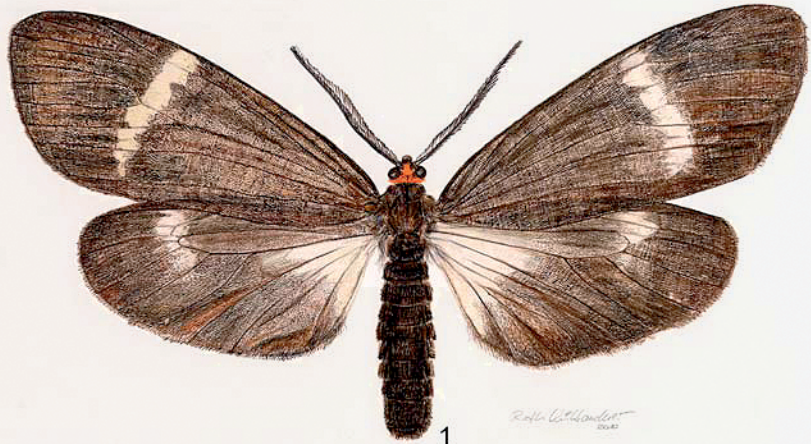


Plate 2

Fig. 8. Male genitalia of *Neochalcosia witti* BUCHSBAUM, CHEN & SPEIDEL sp. n.

Fig. 9. Female genitalia of *Neochalcosia witti* BUCHSBAUM, CHEN & SPEIDEL sp. n.



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Buchbesprechungen

BUSE, J., ALEXANDER, K.N.A., RANIUS, T., ASSMANN, T. (eds): **Saproxylic Beetles - Their role and diversity in European woodland and tree habitats.** - Pensoft, Sofia-Moscow, 2009. 235 S.

The group of saproxylic beetles consists of thousands of different species exhibiting a rich variety of form as well as varied life-cycle strategies. They play an important role in decomposition processes and thus for nutrient-cycling in natural ecosystems. Based on contributions given at the conference this book contains contributions about research on conservation ecology of saproxylic beetles as well as results from recent faunistic surveys in different European regions. It comprises aspects of saproxylic beetle ecology, faunistics, diversity and conservation issues. International experts report on their activity, management strategies and new approaches in saproxylic insect conservation. There are a lot of people doing research on saproxylic beetles in different countries of the world, but this seems to be a little bit disorganized. Hopefully, these European conferences will lead to a better, more international network.

The contributions included in this volume cover a broad spectrum of research on saproxylic beetles, organized in three main chapters: "Saproxylic beetle assemblages and regional surveys" include "Oaks in Norway", showing the abundance and composition of red-listed species of beetles in hollow oaks. Further reports on regional surveys deals with a spruce primeval forest in Romania, a hardwood floodplain forest in the Czech Republic, and the Gartow region of Lower Saxony, a hotspot of saproxylic beetle diversity in north-western Germany. "Saproxylic beetle ecology and implications for their conservation" deals with ecological studies of single species, e.g. *Limoniscus violaceus*, *Lucanus cervus*, *Osmoderma eremita* and the worldwide distribution of the genus *Cucujus*. "Advances in methodology and databases" discusses new techniques in trapping and the development of databases.

This volume gives a nice overview of the actual research on saproxylic beetles in Europe and I wish the next conference in 2010 a successful meeting; maybe some people from the UK or even overseas should be invited.

This book can be directly ordered at www.pensoft.net.

R. Gerstmeier

LESCHEN, R.A.B., BEUTEL, R.G., LAWRENCE, J.F. (Eds): **Handbook of Zoology; Arthropoda: Insecta. Coleoptera, Beetles.** Morphology and Systematics. Vol. 2. - Walter de Gruyter, Berlin/New York, 2010. 786 S.

Fünf Jahre nach Erscheinen des ersten Bandes über Morphologie, Taxonomie und Biologie der Käfer (weltweit) liegt nun der 2. Band vor, welcher die Taxa Elateroidea, Derodontiformia, Bostrichiformia und Cucujiformia beinhaltet. Insgesamt werden in diesem Teilband 101 Familien behandelt. Es wurden einige Änderungen in der Klassifikation von Familien und Unterfamilien vorgenommen, die hier nicht im einzelnen dargestellt werden sollen. Bemerkenswert wird lediglich die Etablierung der

Derodontiformia, mit den Familien Derodontidae, Nosodendridae und Jacobsoniidae. Eine Übersicht hierzu gibt das erste Kapitel "Changes in classification and list of families and subfamilies". Das zweite Kapitel "Glossary of Morphological Terms" liefert einen ersten Einstieg in eine einheitliche Terminologie adulter und larvaler morphologischer Begriffe. Die für die nächsten beiden Bände angedeutete Fortsetzung und Erweiterung dieser Begriffe wäre überaus wichtig und wünschenswert. Gegenüber dem ersten Band muss nun die einheitlichere redaktionelle Bearbeitung gelobt werden; abgesehen von den Aspidytidae gibt es nun zu allen Familien zumindest eine Gesamthabitus-Abbildung und auch die Artenzahlen werden für die einzelnen Familien angegeben. Fantastisch sind die gezeichneten Tafeln von Imagines, Larven und morphologischen Detailstrukturen der Elateridae und Tenebrionidae.

Mit dem zweiten Band der Käfer wurde nun in der Tat die hohe Qualität eines "Handbuches" erreicht. Mit Spannung dürfen jetzt die Bände 3 (Phytophaga) und 4 (special topics of morphology, natural history, and evolution) erwartet werden.

R. Gerstmeier

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