



Formosan Entomologist

Journal Homepage: entsocjournal.yabee.com.tw

A New Species and Five New Records of Ameroseiidae from Taiwan (Acari: Mesostigmata) 【Research report】

臺灣美綏蟎科一新種和五新紀錄種 (蜱蟎亞綱：中氣門目) 【研究報告】

Chyi-Chen Ho^{1*}, Li-Ming Ma², Shun-Cheng Wang³, and Lucia Liu Severinghaus⁴
何琦琛^{1*}、馬立名²、王順成³、劉小如⁴

*通訊作者E-mail: mtho2005@yahoo.com.tw

Received: 2010/03/01 Accepted: 2010/06/08 Available online: 2010/06/01

Abstract

Six species of Ameroseiidae (Berlese, 1919) are reported from Taiwan, including one new species and five new records. *Afrocypholaelaps analicullus* sp. nov. and *Neocypholaelaps ewae* Haitlinger, 1987 were collected from *Apis mellifera* L. The other four species, *Ameroseius magnisetosa* Ishikawa, 1972, *Ameroseius lidiae* Bregetova, 1977, *Ameroseius matsudai* Ishikawa, and *Ameroseius vietnamensis* Micherdzinski, 1965 were collected from soil. Ameroseiid mites from Taiwan, China, Japan, and Vietnam are listed to check the commonly distributed species. A key to the world species of the genus *Afrocypholaelaps* is given.

摘要

記述臺灣美綏蟎科Ameroseiidae (Berlese, 1919) 一新種和五新紀錄種。新種肛小非曲厲蟎*Afrocypholaelaps analicullus* sp. nov.及新紀錄種耶娃新曲厲蟎*Neocypholaelaps ewae* Haitlinger, 1987 採自蜜蜂 (*Apis mellifera* L.)。其餘 4 新紀錄種巨毛美綏蟎 *Ameroseius magnisetosa* Ishikawa, 1972、力狄美綏蟎 *Ameroseius lidiae* Bregetova, 1977、松田氏美綏蟎 *Ameroseius matsudai* Ishikawa和越南美綏蟎*Ameroseius vietnamensis* Micherdzinski, 1965 採自土壤。文中列舉台灣、大陸、日本及越南的美綏蟎以比較共同分布種類，並提出非曲厲蟎屬*Afrocypholaelaps*之全球種類索引。

Key words: Ameroseiidae, *Afrocypholaelaps*, *Neocypholaelaps*, *Ameroseius*, Taiwan

關鍵詞: 美綏蟎科、非曲厲蟎屬、美綏蟎屬、新曲厲蟎屬、臺灣。

Full Text: [PDF\(1.16 MB\)](#)

下載其它卷期全文 Browse all articles in archive: <http://entsocjournal.yabee.com.tw>

A New Species and Five New Records of Ameroseiidae from Taiwan (Acari: Mesostigmata)

Chyi-Chen Ho^{1*}, Li-Ming Ma², Shun-Cheng Wang³, and Lucia Liu Severinghaus⁴

¹ Retired scholar, mtho2005@yahoo.com.tw

² Chinese Base for Control and Prevention of Plague and Brucellosis, Baicheng, Jilin, China

³ Department of Environmental Engineering and Management, Chaoyang University of Technology, Taichung County 41349, Taiwan

⁴ Biodiversity Research Center, Academia Sinica, Taipei City 11529, Taiwan

ABSTRACT

Six species of Ameroseiidae (Berlese, 1919) are reported from Taiwan, including one new species and five new records. *Afrocypholaelaps analicullus* sp. nov. and *Neocypholaelaps ewae* Haitlinger, 1987 were collected from *Apis merlifera* L. The other four species, *Ameroseius magnisetosa* Ishikawa, 1972, *Ameroseius lidiae* Bregetova, 1977, *Ameroseius matsudai* Ishikawa, and *Ameroseius vietnamensis* Micherdzinski, 1965 were collected from soil. Ameroseiid mites from Taiwan, China, Japan, and Vietnam are listed to check the commonly distributed species. A key to the world species of the genus *Afrocypholaelaps* is given.

Key words: Ameroseiidae, *Afrocypholaelaps*, *Neocypholaelaps*, *Ameroseius*, Taiwan

Introduction

Mites of the family Ameroseiidae (Berlese, 1919) were collected from store products, soil, decomposing organic matter, flower and flower visiting animals, rodents. Seven genera, *Afrocypholaelaps*, *Ameroseius*, *Brontispalaelaps*, *Epicriopsis*, *Hattena*, *Sertitympanum*, and *Sinoseius*, and 110 species are recognized in the family.

In the 1970s, three ameroseiid species from Taiwan were recorded, *Ameroseius*

plumosus (Oudemans), 1902 and *Ameroseius plumigera* Oudemans, 1930 from stored grains (Tjying, 1972), and *Neocypholaelaps indica* Evans, 1963 from honeybee (Lo and Chao, 1975). This article adds one new species and five newly recorded species to the list of ameroseiid mites from Taiwan. Two of these species, including the new species, were collected from a feeble looking honeybee, *Apis merlifera* L., resting on a wall. The other species were collected from soil and leaf

*Corresponding email: mtho2005@yahoo.com.tw

litter samples from mountainous areas.

For identification of genus the key to the genera was adopted from Halliday (1997). Dorsal setae were nominated in accordance with Lindquist and Evans (1965).

***Afrocypholaelaps analicullus* sp. nov.**

肛小非曲厲蟎 (Figs. 1-2)

Female

Idiosoma elliptic, length 409 (364-436) μm , width 243 (216-279) μm . Dorsal shield entire, very weakly sclerotized with faint margin, often only recognizable by bordering longitudinal cuticular striae; lateral area faintly reticulate. Dorsal shield with 29 pairs of setae, all dorsal setae much shorter than one half the distance to next setae, smooth, except posterior 6 pairs (*J4*, *Z4*, *Z5*, *S3*, *S4*, *S5*) serrated. Sternal shield margin barely recognizable, anterior lined with many striations and hard to distinguish the border, posterior margin too faint to recognize, width at *st2* level 72 (66-76) μm ; sternal region with 4 pairs of setae. *st1* and *st2* on sternal shield, *st3* on small platelets, *st4* in cuticular striae; with 3 pairs of faint hard to see lyrifissures. Genital shield margin faint but recognizable, length 112 (106-120) μm , width at genital setae level 54 (47-61) μm , with one pair of genital setae, anterior-central genital folds can extend to or close to *st2* level. Anal shield quite small, posterior half expanded, width at widest part 61 (54-65) μm , length 57 (53-61) μm , only with circum anal setae, para-anal setae at mid level of anus, slightly shorter than anus, postanal seta approximately as long as para-anal setae; cribium V-shaped, extend anteriorly to or beyond para-anal setae. Six pairs of setae around anal shield, *JV1*, *JV2*, *JV3*, and *ZV2* between genital shield and anal shield, *JV4* laterad of and *JV5* postero-laterad of anal shield, *JV5* serrate in some specimens. Peritreme reaching anteriorly to the middle of coxa I. Tectum bowl shape and finely dentate, with two dorsal rows of

denticles. Deutosternum narrow, hypostome with five short rows of denticles on each side of deutosternum, 3 rows posterior to palpal trochanter, one row above and one row behind hypostomal setae 4. Cheliceral chela short, movable digit with one small, non-prominent tooth, fixed digit with 2 teeth and a membranous lobe-like pilus dentilis.

Coxae formula: 2, 2, 2, 1; setae formula of femur, genu, tibia of leg I: 2 3/1 2/2 2, 2 3/2 2/1 2, 2 3/2 2/1 2; leg II: 2 2/1 2/1 1, 1 3/1 2/1 1, 1 2/1 2/1 1; leg III: 1 2/1 2/0 0, 1 2/1 2/1 1, 1 1/1 2/1 1; leg IV: 1 2/1 2/0 0, 2 2/1 3/0 1, 2 1/1 3/1 1. Length of leg I 384 (382-389), leg II 298 (262-323), leg III 283 (272-307), leg IV 368 (340-387). Tiny claws observable at 1000X.

Material examined

Holotype ♀ and paratype 3 ♀ (2 on the same slide), CHIAYI: Fenchihu 奮起湖, 2007-VII-20, Lucia Liu Severinghaus, ex *Apis merlifera* L.. Holotype will be deposited in the National Museum of Natural Science, Taichung, Taiwan. Paratypes are deposited in the personal collection of C. C. Ho.

Remarks

Though tiny claws can be seen at 1000X, femur II, genu II-III, and tibia II-III of the new species are in the typical chaetotaxy of the genus *Afrocypholaelaps*. Also, the dorsal chaetotaxy and the shape of the ventral shield of the new species closely resembles those of *A. lindquisti* (Prasad, 1968) and *A. africana* (Evans, 1963). Thus we assigned the new species to the genus *Afrocypholaelaps*.

The new species is similar to *A. lindquisti*, having dorsal shield with 29 pairs of short setae of which posterior 6 pairs are serrated; lacking *v3* on femur II, *al2* on genu II, and *pl2* on tibia II. However, it differs from *A. lindquisti* in that hypostomal setae 2 and 3 are of similar length, hypostome with five short rows of denticles on each side, anal shield expanded posteriorly, with V-shaped cribium, *JV4* and *JV5* located close to the anal

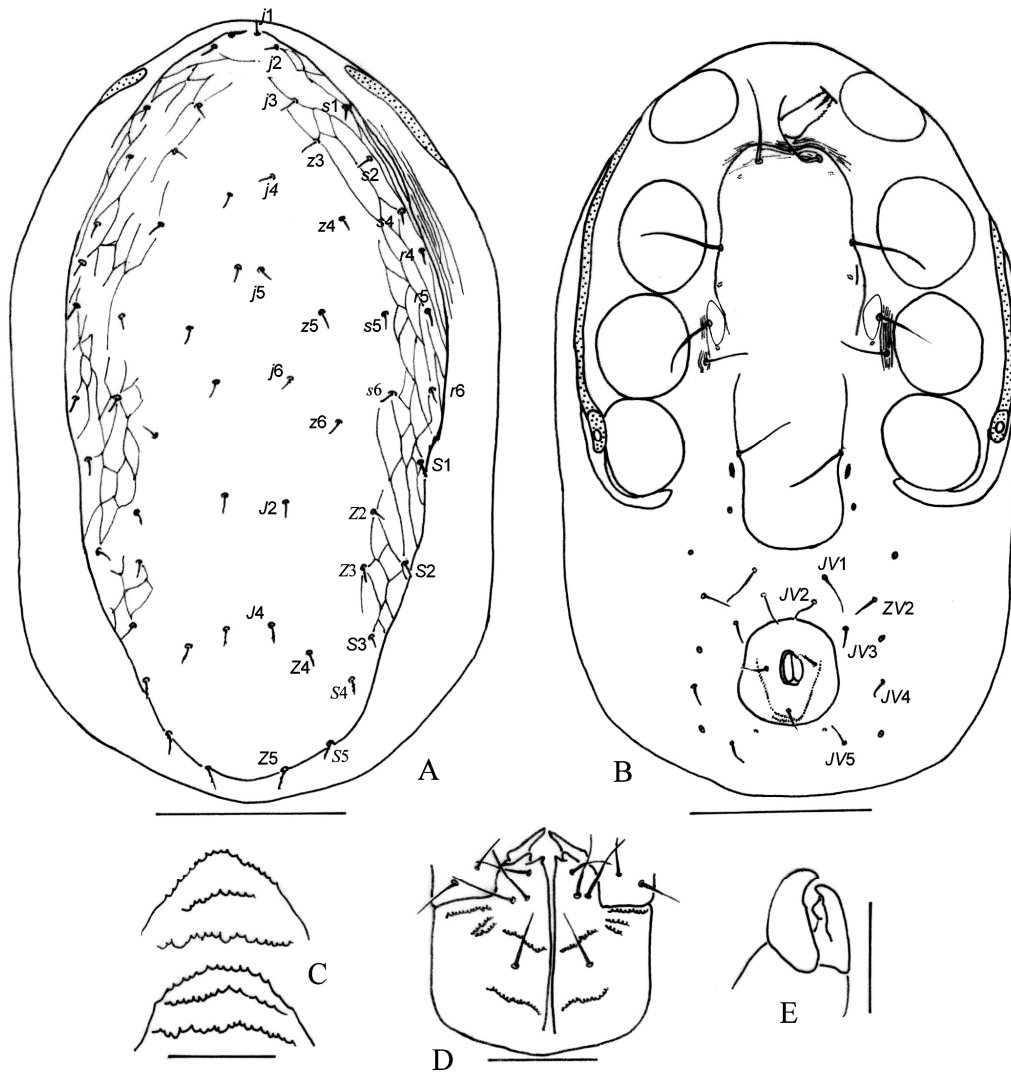


Fig. 1. 肛小非曲属螨 *Afrocypholaelaps analicullus* sp. nov. adult female: A. dorsal view, B. ventral view, C. tectum, D. hypostome, E. chelicerae. Scale: 100 µm (A-B), 40 µm (D), 20 µm (C, E).

shield, whereas in *A. lindquisti*, hypostomal setae 2 is distinctly longer than hypostomal setae 3, hypostome with two long and one short rows of denticles; anal shield rounded, cribium U-shaped, and *JV4* and *JV5* distant from the anal shield.

A. analicullus has cuticular striae among shields but not in the area between sternal shield and genital shield. We could

not recognize the posterior margin of the sternal shield and neither the platelets that *st3* insert on. However, one paratype shows the platelets after remounting the specimen.

Due to the very weak sclerotization of this species, the margin of shields, the dorsal reticulation, the denticles on tectum and hypostome, and the setae serration can only be observed at 1000X.

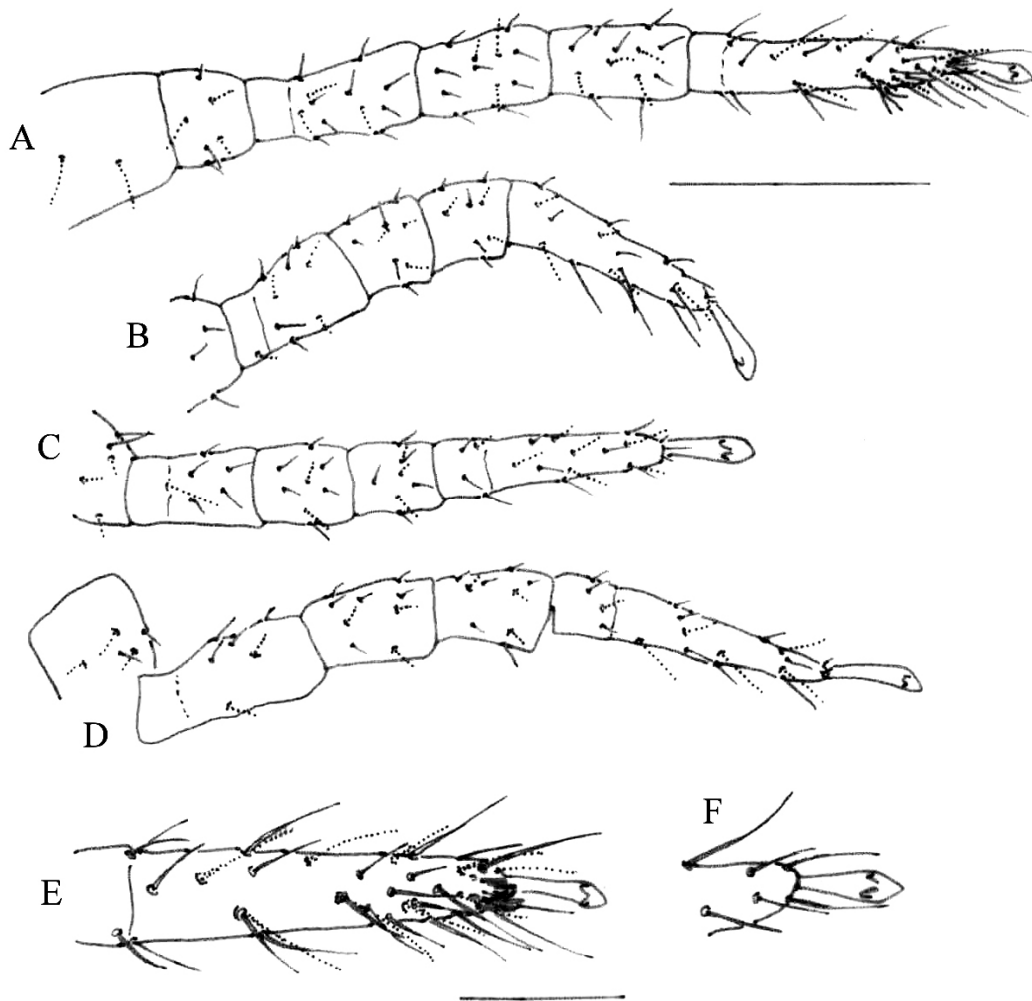


Fig. 2. 肛小非曲屬蟎 *Afrocypholaelaps analicullus* sp. nov. adult female: A: leg I, B: leg II, C: leg III, D: leg IV, leg I, III in dorsal view, leg II, IV in posterolateral view, E: tarsus I dorsal view, F: proximal venter of leg I. Scale: 100 μ m (A-D), 40 μ m (E-F).

Etymology

The new species is named after the small anal shield.

Key to world species of *Afrocypholaelaps*

1. Dorsal shield with 28 pairs of setae, integument around anal shield with 4 pairs of setae.....*A. ranomafanaensis*
- Dorsal shield with 29 pairs of setae, integument around anal shield with 6

- pairs of setae 2
2. Opisthosomal dorsal with 3 pairs of serrate setae, femur II with 3 ventral setae.....*A. africana**
- Opisthosomal dorsal with 6 pairs of serrate setae, femur II with 2 ventral setae..... 3
3. Setae *JV4* and *JV5* distant from anal shield, anal shield rounded with U-shaped cribium, hypostomal setae 2

- distinctly longer than setae 3
 *A. lindquisti*
 -- Setae JV4 and JV5 close to anal shield,
 anal shield expanded posteriorly, with
 V-shaped cribrum, hypostomal setae 2
 and setae 3 similar in length
 *A. analicullus*

*. Chaetotaxy of *A. africana* is based on Halliday (1997).

***Neocypholaelaps ewae* Haitlinger, 1987**
 耶娃新曲厲蟎

Material examined

CHIAYI: Fenchihu 奮起湖, 1 ♀, 2007-VII-20, Lucia Liu Severinghaus, bee.

Distribution

Vietnam, phoretic on butterfly; Taiwan.

Remarks

This mite species is recorded from Taiwan for the first time.

***Ameroseius magnisetosa* Ishikawa, 1972** 巨毛美綏蟎

Material examined

TAICHUNG: Tungshih 東勢, 1 ♀, 1988-III-31, C. C. Ho, soil, with spall, under *Amischotolype chinensis* (N. E. Br.) E. H. Walker ex *Hatusima* 中國穿鞘花. NANTOU: Guohsing 國姓, Dahenpinshan 大橫屏山, 232556/2660971/522m, 1 ♀, 2006-VIII-02, C. C. Ho, soil, with spall, under *Bidens parviflora* 小花鬼針草.

Distribution

Japan, Taiwan.

Remarks

This mite species is recorded from Taiwan for the first time.

***Ameroseius lidiae* Bregetova, 1977** 力狄美綏蟎

Material examined

TAICHUNG: Tungshih 東勢, Shihchen 石城, 227990/2686725/280m, 1 ♀, 2003-XI-24, C. C. Ho, soil.

Distribution

Ukraine, Moldavia, Tajikistan, inhabiting tree hole, nest or body of rodents and insectivores; Taiwan.

A female specimen was obtained from a quarantine sample that was taken from *Solvia officinalis* 鼠尾草 imported from USA, 2006-VII-06.

Remarks

This mite species is recorded from Taiwan for the first time.

***Ameroseius matsudai* Ishikawa, 1977**
 松田氏美綏蟎

Material examined

MIAOLI: Kongguan 公館, Fayun temple 法雲寺, 236769/2705169/416m, 2 ♀, 2004-XI-28, C. C. Ho, soil in woods. NANTOU: Hsinyi 信義, Tatajia 塔塔加, Lulin pass 鹿林步道, 237789/2596524/2711m, 2 ♂, 2005-III-07, C. C. Ho, soil under *Yushania niitakayamensis* 玉山箭竹, Tatajia, Gigantic hemlock fir 大鐵杉, 238950/2597194/2684m, 1 ♂, 2005-III-09, C. C. Ho, soil under mixed *Yushania niitakayamensis* and *Tsuga* sp. 鐵杉, Guohsing 國姓, Dahenpin Shan 大橫屏山, 232101/2661572/794m, 1 ♂, 2006-VIII-02, C. C. Ho, soil. PINTUNG: Manzhou 滿州, Nanren Shan 南仁山, beside a lake, 235372/2443053/353m, 2 ♀, 2005-II-16, C. C. Ho, soil.

Distribution

Japan, Taiwan.

Remarks

This mite species is recorded from Taiwan for the first time.

***Ameroseius vietnamensis* Micherdzinski, 1965** 越南美綏蟎

Material examined

CHIAYI: Alishan 阿里山, Eryu Shan 兒玉山, 2588m, 2 ♀, 2003-X-26, ex soil with thick litter under *Yushania niitakayamensis* 玉山箭竹; NANTOU: Hsinyi 信義, Tatajia 塔塔加, Gigantic hemlock fir 大鐵杉, 238950/2597194/2684m, 1 ♀, 2004-XII-10, ex soil under *Tsuga* sp. 鐵杉 and *Yushania niitakayamensis*; Tatajia 塔塔加, Lulin pass 鹿林步道, 237589/2596650/2650m, 1 ♀, 2005-I-07, ex soil under *Pinus taiwanensis* 二葉松 and *Yushania niitakayamensis*; TAICHUNG: Hoping 和

平, Shaoshueshan Trail 小雪山步道, 248089/2682576/2057m and 248089/2682576/2157m, 2♀, 2005-VIII-11, ex litter in broad-leaf forest; MIAOLI: Taian 泰安, Henlounshan 橫龍山. 246562/2710629/1467m, 2♀, 2005-XII-25, ex soil. All specimens were collected by C. C. Ho.

Distribution

Vietnam, in cave, leaf litter, moss; Taiwan.

Remarks

This mite species is recorded from Taiwan for the first time.

Ameroseiid mites have been recorded from several countries neighboring Taiwan. Six species have been reported from Vietnam including *Afrocypholaelaps lindquisti* Prasad, 1968, *Ameroseius decemsetosus* Mrcherdzlinski, 1965, *Ameroseius halongica* (Haitlinger, 1987), *Ameroseius vietnamensis* Mrcherdzlinski, 1965, *Neocypholaelaps ewae* Haitlinger, 1987, and *Neocypholaelaps indica* Evans, 1963 (Mrcherdzlinski, 1965; Haitlinger, 1987). Twenty-seven species have been recorded from China including *Afrocypholaelaps lindquisti* Prasad, 1968, *Ameroseius crassisetosus* Ye et Ma, 1993 (= *Ameroseius qinghaiensis* Li et Yang, 2000, syn. (Ma, 2006b)), *Ameroseius cuiqisheng* Ma, 1995, *Ameroseius curvatus* Gu, Wang, et Bai, 1989, *Ameroseius denticulatus* Gu et Guo, 1997, *Ameroseius furcatus* Karg, 1971, *Ameroseius guyiming* Ma, 1997 (= *Ameroseius qinghaiensis* Ma, 2008, syn. (Ma, L. M., unpublished data)), *Ameroseius lanceosetis* Livshitz et Mitrofanov, 1975, *Ameroseius longisetosus* Ye et Ma, 1993, *Ameroseius longitrichus* Hirschman, 1963, *Ameroseius magnisetosa* Ishikawa, 1973, *Ameroseius marginalis* Fan et Li, 1993, *Ameroseius multus* Gu, Wang, et Bai, 1989, *Ameroseius pavidus* (C. L. Koch, 1839), *Ameroseius pinicola* Ishikawa, 1972, *Ameroseius plumigera* Oudemans, 1930, *Ameroseius plumosoides* Gu, Wang, et Bai, 1989, *Ameroseius plumosus* Oudemans, 1902, *Ameroseius pulcher* Westerboer,

1963, *Ameroseius sichuanensis* Fan et Li, 1993, *Ameroseius submagnisetosus* Ma et Lin, 2005, *Ameroseius taoerhensis* Ma, 1995, *Epicriopsis jilinensis* Ma, 2002, *Epicriopsis stellata* Ishikawa, 1972, *Neocypholaelaps indica* Evans, 1963, *Neocypholaelaps hongkongensis* Mo, 1969, *Sinoseius lobatus* Bai, Gu, et Fang, 1995 (Bai et al., 1995; Bei et al., 2009; Fan and Li, 1993; Gu and Bai, 1995; Gu and Guo, 1997; Gu et al., 1989; Guo, 1999; Haitlinger, 1987; Li and Yang, 2000; Ma 1995, 1996, 1997, 2000, 2002, 2004, 2006b; Ma and Lin, 2005; Ma, Y. 2008; Mo, 1969, 1971, 1972; Piao, 1990; Wang et al., 1995; Ye and Ma, 1993; Yan et al., 1999; Ye et al., 2000). The name *Ameroseius qinghaiensis* has been used twice on two species differing in morphology and habitat by Li and Yang (2000) and Ma (2008). Ishikawa (1968, 1972, 1977, 1979, 1984) recorded ten ameroseiid species from Japan including *Ameroseius elegantissimus* Ishikawa, 1984, *Ameroseius magnisetosa* Ishikawa, 1972, *Ameroseius matsudai* Ishikawa, 1977, *Ameroseius pinicola* Ishikawa, 1972, *Ameroseius plumosa* (Oudemans, 1902), *Ameroseius pulcher* Westerbaer, 1963, *Epicriopsis stellata* Ishikawa, 1972, *Ameroseius variolarius* Ishikawa, 1972, *Neocypholaelaps africana* Evans, 1963, *Neocypholaelaps favus* Ishikawa, 1968.

Three ameroseiid mites from Taiwan were recorded previously. This paper adds 6 more species making the number of ameroseiid species in Taiwan a total of nine species. Considering the small area of Taiwan, the bio-diversity in mite fauna of Taiwan is relatively high.

Three species of ameroseiid mites are common between Taiwan and Vietnam, *A. vietnamensis*, *N. ewae*, *N. indica*, 3 species are common between Taiwan and Japan, *A. magnisetosa*, *A. matsudai*, *A. plumosus*, and 4 species are common between Taiwan and China, *A. magnisetosa*, *A. plumigera*, *A. plumosus*, *N. indica* (Table 1). Three species were recorded from three countries,

Table 1. Ameroseiid species found from Taiwan, China, Japan, and Vietnam

	Taiwan	China	Japan	Vietnam
<i>Afrocypholaelaps analicullus</i> sp. n.	v			
<i>Afrocypholaelaps africana</i> Evans, 1963			v	
<i>Afrocypholaelaps lindquisti</i> Prasad, 1968		v		v
<i>Ameroseius crassisetosus</i> Ye et Ma, 1993		v		
<i>Ameroseius cuiqishengi</i> Ma, 1995		v		
<i>Ameroseius curvatus</i> Gu, Wang, et Bai, 1989		v		
<i>Ameroseius decemsetosus</i> Mrcherdzlinski, 1965				v
<i>Ameroseius denticulatus</i> Gu et Guo, 1997		v		
<i>Ameroseius furcatus</i> Karg, 1971		v		
<i>Ameroseius elegantissitnus</i> Ishikawa, 1984			v	
<i>Ameroseius guyiming</i> Ma, 1997		v		
<i>Ameroseius halongica</i> (Haitlinger, 1987)				v
<i>Ameroseius lanceosetis</i> Livshitz et Mitrofanov, 1975		v		
<i>Ameroseius lidiae</i> Bregetova, 1977	v			
<i>Ameroseius longisetosus</i> Ye et Ma, 1993		v		
<i>Ameroseius longitrichus</i> Hirschman, 1963		v		
<i>Ameroseius magnisetosa</i> Ishikawa, 1972	v	v	v	
<i>Ameroseius marginalis</i> Fan et Li, 1993		v		
<i>Ameroseius matsudai</i> Ishikawa, 1977	v		v	
<i>Ameroseius multus</i> Gu, Wang, et Bai, 1989		v		
<i>Ameroseius pavidus</i> (C. L. Koch, 1839)		v		
<i>Ameroseius pinicola</i> Ishikawa, 1972		v	v	
<i>Ameroseius plumigera</i> Oudemans, 1930	v	v		
<i>Ameroseius plumosoides</i> Gu, Wang, et Bai, 1989		v		
<i>Ameroseius plumosus</i> (Oudemans), 1902	v	v	v	
<i>Ameroseius pulcher</i> Westerbaer, 1963		v	v	
<i>Ameroseius sichuanensis</i> Fan et Li, 1993		v		
<i>Ameroseius submagnisetosus</i> Ma et Lin, 2005		v		
<i>Ameroseius taoerhensis</i> Ma, 1995		v		
<i>Ameroseius variolarius</i> Ishikawa, 1972			v	
<i>Ameroseius vietnamensis</i> Micherdzinski, 1965	v			v
<i>Epicriopsis jilinensis</i> Ma, 2002		v		
<i>Epicriopsis stellata</i> Ishikawa, 1972		v	v	
<i>Neocypholaelaps ewae</i> Haitlinger, 1987	v			v
<i>Neocypholaelaps favus</i> Ishikawa, 1968			v	
<i>Neocypholaelaps indica</i> Evans, 1963	v	v		v
<i>Neocypholaelaps hongkongensis</i> Mo, 1969		v		
<i>Sinoseius lobatus</i> Bai, Gu, et Fang, 1995		v		

A. magnisetosa and *A. plumosus* from Taiwan, China, and Japan; *N. indica* from Taiwan, China, and Vietnam. Studies on ameroseiid mites are not prevalent. Most ameroseiid species of China are collected from the northern or southwest part of

China, and many are from rodents. There likely will be more common species between China and Taiwan if the ameroseiid mites from central and southern China are studied. Likewise, more species should be found that are

common among the countries in the Far East.

Acknowledgment

We are grateful to Dr. Halliday and Dr. de Moraes for reading this manuscript and for providing valuable comments, especially the comments on the determination of the genus of the new species.

References

- Bai, X. L., Y. M. Gu, and L. Fang.** 1995. A new genus and species of Ameroseiidae (Acari: Gamasina). *Acta Zootaxonomica Sinica* 20: 435-438.
- Bassols, I. B., M. Vargas, and O. J. Polaco.** 1993. Some considerations on *Sertitympanum contiguum* Elsen and Whitaker, 1985 (Mesostigmata, Ameroseiidae) and description of the male. *Folia Entomol. Mex.* 88: 1-7. (in Spanish)
- Bei, N. X., W. P. Chen, Y. Y. Zhaom, S. G. Yin, and Y. H. Wu.** 2009. New records of mesostigmatic mites (Acari: Gamasina) from China. *Entomotaxonomia* 31: 64-67.
- Bhattacharyya, A. K.** 2004. A new species of *Ameroseius* (Mesostigmata: Ameroseiidae) from the Indian Thar Desert. *Zootaxa* 620: 1-7.
- Bregetova, N. G.** 1977. Family Ameroseiidae (Berlese, 1919) Evans, 1961. pp. 148-169. In: M. S. Gilyarov, and N. G. Bregetova, eds. *Key to Soil-inhabiting Mites, Mesostigmata*. Science Press, Leningrad. (In Russian)
- Delfinado-Baker, M., and E. W. Baker.** 1983. A new species of *Neocypholaelaps* (Acari: Ameroseiidae) from brood combs of the Indian honey bee (1). *Apidologie* 14: 1-7.
- Delfinado-Baker, M., E. W. Baker, and A. C. G. Phoon.** 1989. Mites (Acari) associated with bees (Apidae) in Asia, with description of a new species. *Am. Bee J.* 129: 609-616.
- Ehara, S.** 1980. Illustrations of the Mites and Ticks of Japan. Zenkoku Noson Kyoiku Kyokai. (In Japanese).
- Elsen, P.** 1973. Nouvelles especes d'*Ameroseius* Berlese, 1903 (Acari, Mesostigmata: Ameroseiidae) phoretiques d'Hymenopteres et de Coleopteres. *Rev. Zool. Bot. Afr.* 87: 729-757.
- Fan, Q. H., and L. S. Li.** 1993. Two new species of the genus *Ameroseius* from China (Acari: Ameroseiidae). *Entomol. J. East China* 2: 17-20. (in Chinese)
- Gu, Y. M., and X. L. Bai.** 1995. A newly recorded species of *Ameroseius* from China (Acari: Ameroseiidae). *Acta Zootaxonomica Sinica* 20: 305.
- Gu, Y. M., and X. G. Guo.** 1997. A new species of the genus *Ameroseius* from China (Acari; Ameroseidae). *Acta Zootaxonomica Sinica* 22: 137-139.
- Gu, Y. M., C. S. Wang, and X. L. Bai.** 1989. New species and new record of the genus *Ameroseius* from China (Acari: Ameroseiidae). *Acta Zootaxonomica Sinica* 14: 46-51.
- Guo X.** 1999. Species-abundance distribution and expected species estimation of the gamasid mite community in western Yunnan, China. *Systematic and Applied Acarology* 4: 49-56.
- Haitlinger, R.** 1987. *Kleemannia halongica* sp. n., *Neocypholaelaps ewae* sp. n. and two species of mites (Acari, Mesostigmata, Ameroseiidae) new to the fauna of Viet-Nam. *Polskie Pismo Entomologiczne* 57: 361-366.
- Halliday R. B.** 1997. Revision of the Australian Ameroseiidae (Acarina: Mesostigmata). *Invertebrate Taxonomy* 10: 179-201.
- Ishikawa, K.** 1968. Studies on the mesostigmatid mites associated with the insects in Japan (I). *Rep. Res. Matsuyama Shinonome Junior College* 3: 197-218.
- Ishikawa, K.** 1972. Studies on the mesostigmatid mites in Japan V. Family Ameroseiidae Evans. *Ann.*

- Zool. Jap. 45: 94-103.
- Ishikawa, K.** 1977. On the mesostigmatid mites associated with the cerambycid beetle, *Monochamus alternatus* Hope (II). Ann. Zool. Jap. 50: 182-186.
- Ishikawa, K.** 1979. Studies on some mesostigmatid mites (Acarina) from the Japanese Archipelago. Rep. Res. Matsuyama Shinonome Junior College 10: 107-120.
- Ishikawa, K.** 1984. Studies on the mesostigmatid mites associated with the insects in Japan (II). Rep. Res. Matsuyama Shinonome Junior College 15: 89-102.
- Li, C., and X. Z. Yang,** 2000. *Ameroseius qinghaiensis* sp. nov., a new species from compost in Qinghai Province, northwest China (Acari: Ameroseiidae). Sys. Appl. Acarol. 5: 65-67.
- Lindquist, E. E., and G. O. Evans.** Taxonomic concepts in the Ascidae, with a modified setal nomenclature for the idiosoma of the Gamasina (Acarina: Mesostigmata). Mem. Etnomol. Soc. Can. 47: 1-64.
- Lo, K. C., and R. S. Chao.** 1975. The preliminary investigations on bee mites in Taiwan. Chinese J. Agric. Res. 24: 50-56. (in Chinese)
- Ma, L. M.** 1995. Two new species of the genus *Ameroseius* from Jilin Province, China (Acari: Ameroseiidae). Acta Arachnologica Sinica 4: 92-95.
- Ma, L. M.** 1996. A new record of *Poecilochirus* and a new record of *Ameroseius* from China (Acari: Gamasina). Acta Zootaxonomica Sinica 21: 201.
- Ma, L. M.** 1997. A new speices of the genus *Ameroseius* from Jilin province, China (Acari: Ameroseiidae). Acta Zootaxonomica Sinica 22: 140-142.
- Ma, L. M.** 2000. Descriptions on male of *Ameroseius curvatus* and protonymph of *Ameroseius taoerhensis* (Acari: Gamasina: Ameroseiidae). Acta Arachnologica Sinica 9: 75-77.
- Ma, L. M.** 2002. Descriptions on a new species of the genus *Epicriopsis* and male and deutonymph of *Ameroseius taoerhensis* Ma, 1995 (Acari: Gamasina: Ameroseiidae). Entomotaxonomia 24: 308-312.
- Ma, L. M.** 2004. New records of mesostigmatic mites from China (2) (Acari: Gamasina, Uropodina). Acta Arachnologica Sinica 13: 86-92.
- Ma, L. M., and J. Z. Lin.** 2005. A new species of the genus *Ameroseius* (Acari: Gamasina: Ameroseiidae) from China. Entomotaxonomia 27: 77-80.
- Ma, L. M.** 2006a. Description of male *Ameroseius cuiqishengi* Ma (Acari: Gamasina: Ameroseiidae). Acta Arachnologica Sinica 15: 78-79. (in Chinese)
- Ma, L. M.** 2006b. New synonyms of gamasid mites (Acari: Mesostigmata). Acta Arachnologica Sinica 15: 23-26
- Ma, Y.** 2008. A new species of the genus *Ameroseius* from Qinghai, China (Acari, Ameroseiidae). Acta Zootaxonomica Sinica 33: 748-750.
- Micherdzinski, W.** 1965. Two new species of *Ameroseius* Berlese, 1903 (Mesostigmata: Ameroseiidae) from Vietnam. Acarologia 7: 17-29.
- Mo, C. F.** 1969. On some parasitic mites from south China with descriptions of two new species. New Asia College Acad. Ann. 11: 87-106.
- Mo, C. F.** 1971. Studies on the life-history of *Neocypholaelaps indica* Evans (Acarina, Ameroseiidae). New Asia College Acad. Ann. 13: 97-107.
- Mo, C. F.** 1972. The male of *Neocypholaelaps indica* Evans (Acari, Ameroseiidae). Acarologia 14: 15-17.
- Piao, X. G.** 1990. Studies on the mites infesting herb medicine in China and Japan and their derivation. Jap. J. Sanitary Zool. 41: 1-7.
- Shen, X. C.** 1993. A Checklist of Insects from Henan. China Agric. Tech. Press. Beijing.
- Tjying, I. S.** 1970. Survey and study on the mites of stored grain in Taiwan. Plant

- Prot. Bull. 12: 113-123.
- Tseng, Y. H.** 1982. A Catalogue and Bibliography of Acari of Taiwan (Arachnida: Acarina). Bureau of Commodity Inspection and Quarantine. Taiwan.
- Wang, Z. C., X. L. Bai, and Y. M. Gu.** 1995. A new record of *Ameroseius* from China. Acta Zootaxonomica Sinica 20: 85.
- Yan (Yin), X. Q., P. Chen, X. P. Zhang, W. L. Hou, L. J. Qin, Y. B. Chen, and L. M. Ma.** 1999. 12 new records of skin mites in Heilongjiang. Chinese J. Vector Biol. Contr. 10: 133-134.
- Ye, R. Y., and L. M. Ma.** 1993. Two new species of genus *Ameroseius* from China (Acari: Ameroseiidae). Endemic Diseases Bull. 8: 86-89.
- Ye, R. Y., W. D. Li, B. Shi, J. Zhou, W. Li, Z. Y. Wang, and L. M. Ma.** 2000. Six new records of gamasid mite in Xinjiang and the deutonymph morphology of *Hirstionyssus meridianus* Zenskaja, 1955 (Acari). Endemic Diseases Bull. 15: 48-50.

Received: March 1, 2010

Accepted: June 8, 2010

臺灣美綏蟎科一新種和五新紀錄種 (蜱蟎亞綱：中氣門目)

何琦琛^{1*}、馬立名²、王順成³、劉小如⁴

¹ 退休研究人員 mtho2005@yahoo.com.tw

² 中國鼠疫布氏菌病預防控制基地 137000 吉林省白城市海明西路 85 號

³ 朝陽科技大學環境工程與管理學系 41349 台中縣霧峰鄉吉峰東路 168 號

⁴ 中央研究院生物多樣性研究 11529 台北市南港區研究院路 2 段 128 號

摘 要

記述臺灣美綏蟎科 Ameroseiidae (Berlese, 1919) 一新種和五新紀錄種。新種肛小非曲屬蟎 *Afrocypholaelaps analicullus* sp. nov. 及新紀錄種耶娃新曲屬蟎 *Neocypholaelaps ewae* Haitlinger, 1987 採自蜜蜂 (*Apis merlifera* L.)，其餘 4 新紀錄種巨毛美綏蟎 *Ameroseius magnisetosa* Ishikawa, 1972、力狄美綏蟎 *Ameroseius lidiae* Bregetova, 1977、松田氏美綏蟎 *Ameroseius matsudai* Ishikawa 和越南美綏蟎 *Ameroseius vietnamensis* Micherdzinski, 1965 採自土壤。文中列舉台灣、大陸、日本及越南的美綏蟎以比較共同分布種類，並提出非曲屬蟎屬 *Afrocypholaelaps* 之全球種類索引。

關鍵詞：美綏蟎科、非曲屬蟎屬、美綏蟎屬、新曲屬蟎屬、臺灣。

*論文聯繫人

Corresponding email: mtho2005@yahoo.com.tw

One New Species and Five New Records of Ameroseiidae from Taiwan 177