

## Checklist of mites from moso bamboo in Fujian, China

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### Abstract

This paper gives a report of 45 species of mites from the moso bamboo (*Phyllostachys pubescens*) in Fujian province, China. They belong to 23 genera in 9 families. Some of the Tetranychidae (e.g. *Aponychus copuzae* Rimando and *Schizotetranychus nanjingensis* Ma et Yuan) and Eriophyidae (e.g. *Aculus bambusae* Kuang), either alone or in mixed populations, cause serious injury to the moso bamboo in Fujian.

**Key words:** Acari, pest, natural enemy, bamboo, *Phyllostachys pubescens*.

### Introduction

The moso bamboo, *Phyllostachys pubescens*, is widely distributed in areas south of Qinling mountains and Changjiang (Yangtze River) in China. It is a valuable economic crop and is widely cultivated in Hunan, Jiangxi, Zhejiang and Fujian provinces.

Spider mites (Tetranychidae) are often collected on bamboo leaves in China. Wang (1981) recorded *Aponychus copuzae* Rimando injuring the moso bamboo in Zhejiang, Jiangxi, Taiwan, and Guangdong. Ma et al. (1984) also collected this species in Anhui and Guangxi. In addi-

tion, they also recorded *Stylophoronychus guangzhouensis* (Ma et Yuan 1980; see Zhang et al. 2000b), *Schizotetranychus nanjingensis* Ma et Yuan, *S. bambusae* Reck and *Tetranychus bambusae* Wang et Ma on bamboo. Cui (1989) reported eight species of tetranychid mites damaging bamboo forests in China: *A. copuzae*, *T. bambusae*, *Eotetranychus mirabilis* Wang, *Schizotetranychus celarius* (Banks), *S. elongatus* Wang et Cui, *S. bambusae* Reck, *S. minutus* Wang, and *S. emeiensis* Wang. Yu and Shi (1991) reported *S. nanjingensis* injuring the moso bamboo in Zhejiang. Shi et al. (1992a) described the biology of *S. nanjingensis*, *S. bambusae* and *A. copuzae*. Zheng (1992) recorded *Oligonychus uruma* Ehara injuring bamboo in Taiwan. Sun et al. (1997) recorded *S. bambusae* injuring the leaves of bamboo in Guangdong, Guangxi, Jiangsu, Shanxi, Beijing and Shandong. Zhang et al. (1997) recorded *S. nanjingensis*, *S. bambusae*, *A. copuzae* and *Oligonychus uruma* Ehara which caused falling of leaves and death on a large scale in the moso bamboo forests in Fujian. Zhang et al. (2000a) described *S. tenuinidus* Zhang & Zhang from the moso bamboo in Fujian.

Rust mites are also commonly found on bamboo plants in China. Kuang (1991, 1995) described *Knorella gigantochloae* Keifer on *Bambusa vulfalis* and *Gigantochloa ligulata* in Guangxi, *K. bambusae* Kuang et Zhuo on *Bambusa* sp. in Fuzhou, *Neoknorella bambusae* Kuang et Feng on *Bambusa multiplex* in Guangxi, *Dichopelmus bambusae* Kuang et Feng on *Bambusa* sp. in Guangxi, *Aculus bambusae* Kuang on *Bambusa* sp. in Nanjing, *Abacarus bambusae* Kuang et Zhuo on *Bambusa* sp. in Fuzhou and Nanjing, *A. panticis* Keifer on *Bambusa* sp. and *Bambusa ventricosa*, *A. wuyinensis* on *Bambusa* sp. in Fujian, Guangxi and Jiangsu, *Acarhynchus dendrocalami* Kuang on *Dendrocalamus giganteus* in Guangxi. Kuang and Zhang (1999) described *Tetra phyllostachyis* on *P. pubescens* in Zhangping county and Jianou city of Fujian and Jurong city of Jiangsu.

Tarsonemid mites, although not as economically important as spider mites and rust mites, are also found on bamboo. Lin and colleagues (1995) described *Daidalotarsonemus biovatus* Lin et Liu on *P. pube-*

*scens* in Shanghang, *Steneotarsonemus acricorn* Lin *et* Zhang on *P. pubescens* in Changle county, *Tarsonemus randsi* Ewing on moso bamboo in Shanghang, *T. scaurus* Ewing on moso bamboo in Longyan, Shanghang and Liancheng, Fujian. Lin *et al.* (1999) described *Xenotarsonemus xiufui*, *Tarsonemus kaibeni*, *T. zonghunii* and *Steneotarsonemus vasiljevae* Sharonov on *P. pubescens*. Lin and Zhang (1999) reported *Tarsonemus cornus* Ito in Jianou, Fujian.

Phytoseiid mites are the most common predators of phytophagous mites on bamboo. Wu (1981) reported *Typhlodromus orientalis* Ehara on *Bambusa* sp. in Jianyang, Fujian. Wu (1983) described *Phytoseius vaginatus* on bamboo in Jiangxi. Wu and Li (1983) described *Typhlodromus zhaoi* on *P. pubescens* in Sangang, Chongan county, Fujian, and *Amblyseius wuyiensis* on bamboo in Fujian, Jiangxi and Hunan. Zhu and Chen (1983) described *Amblyseius indocalami* on bamboo in Jiangxi, Fujian and Guangdong. Chen *et al.* (1984) found *Amblyseius deleoni* Muma *et* Denmark and *A. ochii* Ehara *et* Yokogawa on bamboo. Wu and Li (1984) recorded *Typhlodromus cervix* on *P. pubescens* in Hubei, Hunan, Jiangxi and Fujian. Wu and Lan (1989) described *A. leigongshanensis* on bamboo in Guizhou. Shi *et al.* (1992b) reported *Amblyseius pseudolongispinosus* Xin, Liang & Ke preying on *S. nanjingensis* in moso bamboo forests. Yin and Yu (1996) recorded *Typhlodromus bambusae* Ehara and described *Phytoseius yuhangensis* from the moso bamboo in Yuhang county, Zhejiang province. Wu *et al.* (1997) reported *Amblyseius pascalis* Tseng on bamboo in Fujian and Taiwan, *A. ezoensis* Ehara on bamboo in Jiangxi, Hunan, Fujian, Guangdong, Guangxi, and Sichuan, *A. ainu* Ehara on bamboo in Jiangxi, Hunan, Fujian, Guangdong, Guangxi, Sichuan and Guizhou, *A. ochii* Ehara & Yokogawa on bamboo in Shanxi and Jiangxi, *A. baraki* Athias-Henriot on bamboo in Fujian, Guangdong and Taiwan, *Phytoseius nipponicus* Ehara on bamboo in Liaoning, Shandong, Jiangsu, Hubei, Hunan, Jiangxi, Fujian, Guangdong, Guangxi and Yunnan, *P. hawaiiensis* Prasad on bamboo in Jiangxi, Fujian, Guangdong, Hong Kong, Guangxi, Yunnan and Guizhou, *P. chinensis* Wu *et* Li on bamboo in Fujian, *P. brevicrinis* Swirski *et* Shechter on bamboo in Guang-

dong, Hainan and Hong Kong, *Typhlodromus higoensis* Ehara on bamboo in Hunan, Fujian and Guangdong.

Predators of other families are also recorded from bamboo in Fujian, including Raphignathoidea (Fan *et al.* 1997, 2000), Cheyletidae (Lin & Liu 1994; Lin *et al.* 1994) and Erythraeidae (Zhang *et al.* 2000c)

Zhang *et al.* (1999) listed 34 species of pest and beneficial mites recorded from various species of bamboo in Fujian province. In this paper, we identify 45 species of mites collected from the moso bamboo in Fujian province, with their distributions.

### List of mites from moso bamboo and their distribution in Fujian

#### Tetranychidae

1. *Aponychus corpuzae* Rimando

*Distribution:* Minhou, Mingqing, Luoyuan, Yongchun, Anxi, Changtai, Zhangpu, Yunxiao, Yongan, Sanming, Shaxian, Youxi, Datian, Ninghua, Qingliu, Jiangle, Changting, Zhangping, Liancheng, Longyan, Shanghang, Yongding, Nanping, Jianou, Shunchang, Guangze, Shaowu, Wuyishan, Jianyang, Pucheng, Shounin, Zhounin, Fuan.

2. *Oligonychus urama* Ehara

*Distribution:* Minhou, Yongan and Longyan.

3. *Schizotetranychus bambusae* Reck

*Distribution:* Fuzhou, Nanping, and Yongan.

4. *Schizotetranychus nanjingensis* Ma & Yuan

*Distribution:* Minhou, Mingqing, Luoyuan, Yongchun, Anxi, Changtai, Zhangpu, Yunxiao, Yongan, Sanming, Shaxian, Youxi, Datian, Ninghua, Qingliu, Jiangle, Changting, Zhangping, Liancheng, Longyan, Shanghang, Yongding, Nanping, Jianou, Shunchang, Guangze, Shaowu, Wuyishan, Jianyang, Pucheng, Shounin, Zhounin, Fuan, Fuzhou.

5. *Schizotetranychus tenuinidus* Zhang & Zhang

*Distribution:* Shouning, Yongan, Shaowu, and Jianou.

6. *Stylophoronychus baghensis* (Prasad)

*Distribution*: Sanming and Yongan.

**Eriophyidae**7. *Aculus bambusae* Kuang

*Distribution*: Jianou.

8. *Tetra phyllostachyis* Kuang & Zhang

*Distribution*: Zhangping and Jianou.

**Tarsonemidae**9. *Daidalotarsonemus biovatus* Lin & Liu

*Distribution*: Shanghan, Liancheng and Wuyishan.

10. *Steneotarsonemus acricorn* Lin & Zhang

*Distribution*: Changle and Lianjiang.

11. *Steneotarsonemus vasiljevae* Sharonov

*Distribution*: Dahuang, Nanping; Shangping, Yongan; Chengguan, Shouning, and Fangdao, Jianou.

12. *Tarsonemus cornus* Ito

*Distribution*: Jianou, Fujian.

13. *Tarsonemus kaibeni* Lin, Zhang & Liu

*Distribution*: Chenda, Sanming.

14. *Tarsonemus randsi* Ewing

*Distribution*: Shanghan.

15. *Tarsonemus scaurus* Ewing

*Distribution*: Liancheng, Longyan and Shanghang.

16. *Tarsonemus zonghuii* Lin, Zhang & Liu

*Distribution*: Qunxian, Nanping; Shangping and Gongchuan, Yongan.

17. *Xenotarsonemus belemnitoides* (Weis-Fogh)

*Distribution*: Shanghan, Wuping, Yongan and Nanping.

18. *Xenotarsonemus ulignosus* (Willmann)

*Distribution*: Shounin, Zhounin and Nanping.

19. *Xenotarsonemus xiufui* Lin, Zhang & Liu

*Distribution*: Dahuang, Nanping.

### **Cheyletidae**

20. *Cheletogenes meihuashanense* Lin & Liu

*Distribution*: Longyan.

21. *Hemicheyletia pusillifolium* Lin & Zhang

*Distribution*: Shanghan, Yongan, Nanping and Jianou.

22. *Oudemansicheyla denmarki* (Yunker)

*Distribution*: Changkan, Nanping; Daping, Anxi; and Luoyuan.

### **Cunaxidae**

23. *Neocunaxoides neopectinatus* (Shiba)

*Distribution*: Zhounin.

### **Eupalospellidae**

24. *Saniosulus longanius* Fan

*Distribution*: Chengyang, Fuan.

25. *Saniosulus longidius* Fan, Zhang & Liu

*Distribution*: Fuan.

26. *Saniosulus molliculus* Fan, Zhang & Liu

*Distribution*: Fuzhou.

27. *Saniosulus yonganensis* Fan, Zhang & Liu

*Distribution*: Shengqing, Yongan.

### **Stigmaeidae**

28. *Agistemus divisus* Gonzalez

*Distribution*: Nanping, Yongan and Shouning.

29. *Agistemus exertus* Gonzalez

*Distribution*: Meilie, Sanming.

30. *Agistemus huangshanensis* Hu & Hu  
Distribution: Meilie, Sanming.
31. *Eryngiopus dicotrichus* Fan  
Distribution: Gongchuan, Yongan and Fuan.
32. *Zetzellia lushanensis* Hu & Chen  
Distribution: Fuzhou, Liancheng, Shouning and Zhangping.

### Phytoseiidae

33. *Amblyseius anuwati* Ehara & Bhandhufalck  
Distribution: Hongtian, Yongan.
34. *Amblyseius herbicolus* (Chant)  
Distribution: Lingtou, Fuzhou; Gongchuan, Yongan; Chengxian, Changtai; Xiaochi, Longyan.
35. *Amblyseius longisaccatus* Wu & Lan  
Distribution: Fuzhou; Sanyuan, Sanming; Taining; Nanyang, Shouning; Longyan; Luofang, and Hongtian, Yongan.
36. *Amblyseius longispinosus* Evans  
Distribution: Lingtou, Fuzhou; Xiaochi, Longyan; Shancheng, Taining; Hongtian, Yongan
37. *Amblyseius makuwa* Ehara  
Distribution: Changkan, Nanping
38. *Amblyseius obtuserellus* Wainstein & Beglgarov  
Distribution: Hongtian, Yongan.
39. *Amblyseius okinawanus* Ehara  
Distribution: Jiyang, Jianou;
40. *Euseius nicholsi* (Ehara & Lee)  
Distribution: Gongchuan, Yongan.
41. *Phytoseius vaginatus* Wu  
Distribution: Hongtian, Yongan.
42. *Typhlodromus bambusae* Ehara  
Distribution: Xibin, Fuan; Lingtou, Fuzou; Pengkou, Liancheng; Lanxia, Shunchang; Dahu, Minhou; Fangdao and Jiyang, Jianou; Changkan and Chimen, Nanping; Lianhexian, Xicheng and Bazhi-

qiao, Youxi; Shancheng, Taining; Hongtian, Gongchuan and Ansha, Yongan

43. *Typhlodromus cervix* Wu & Li

Distribution: Fujian

44. *Typhlodromus serrulatus* Ehara

*Distribution:* Moyuan, Jiangle; Xicheng, Youxi; Nanya, Jianou, Tongyou, Jianyang; Qunxian, Dahuang, Nanping; Chengyang, Fuan; Chengda, Sanming; Gongchuan, Shangping, Yongan.

### Erythraeidae

45. *Abalakeus bambusae* Zhang

*Distribution:* Nanping.

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Abstract in Chinese

### 福建毛竹螨类名录

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**摘要:** 本文报道福建省毛竹林上的螨类 45 种, 隶属于蜱螨亚纲 9 科, 23 属。其中叶螨科 (如: 南京裂爪螨 *Schizotetranychus nanjingensis* Ma & Yuan 和竹缺爪螨 *Aponychus corpuzae* Rimando) 和瘿螨科 (如: 竹刺瘿螨 *Aculus bambusae* Kuang) 每个种单独或混合的种群对福建省毛竹造成严重为害。

**关键词:** 蜱螨亚纲, 害螨, 天敌, 毛竹

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