

# 湖南省蚁科昆虫初步名录\*

黄建华<sup>1,2</sup>, 陈斌<sup>2</sup>, 周善义<sup>1\*\*</sup>

(1. 广西师范大学生命科学学院, 桂林 541004; 2. 西南农业大学植物保护学院, 重庆 400716)

**摘要:** 本文报道湖南省蚁科昆虫共 9 亚科 58 属 166 种, 其中 95 种为湖南省首次报道。

**关键词:** 膜翅目; 蚁科; 湖南

## A preliminary list of the family Formicidae (Insecta: Hymenoptera) from Hunan Province, China

Huang Jianhua<sup>1,2</sup>, Chen Bin<sup>2</sup>, Zhou Shanyi<sup>1\*\*</sup>

(1. College of Life Sciences, Guangxi Normal University, Guilin 541004, China;

2. College of Plant Protection, Southwest Agricultural University, Chongqing 400716,

China)

**Abstract:** A total of 166 species of ants, which belong to 58 genera in 9 subfamilies, are reported from Hunan Province, China, with 95 species recorded for the first time from this province.

**Key words:** Insecta; Hymenoptera; Formicidae; Hunan

湖南地处我国华中区, 地形地貌复杂, 属大陆性中亚热带季风湿润气候, 昆虫种类非常丰富。先前的学者曾在他们的研究论文或著作中记述过一些来自湖南的蚁科种类, 如童新旺等(1988)最早报道湖南蚂蚁 63 种, 吴坚等(1992)在《湖南森林昆虫图鉴》中记载湖南蚂蚁 71 种, 之后在《中国蚂蚁》(1995)中记载 82 种; 唐觉等(1995)在《中国经济昆虫志》(蚁科)中记载 23 种; 王敏生(1992)在《西南武陵山地区昆虫》中记载 14 种; 周善义(2001)在《广西蚂蚁》中记载 55 种; 累计种类数为 102 种, 但无人对其区系和分类进行系统研究。与邻省广西的 220 多种和云南西双版纳地区的 290 多种相比, 显然可见, 湖南蚁科调查还很不全面, 还有大量种类有待于发现, 湖南蚁科昆虫区系和分类工作需要系统地展开。

有鉴于此, 作者对湖南省的蚁科昆虫进行了较为系统的采集, 采集工作从 2003 年 8 月开始, 至

2004 年 11 月结束, 两年累计约 9 个月, 采集范围包括分布在全省 33 个县的 7 个国家级自然保护区、18 个省级自然保护区、4 个县级自然保护区、10 个森林公园及风景名胜(含国家级、省级和县级)及 5 个林区乡镇, 共采集到蚂蚁标本 3 万多号。对采集到的标本进行了认真整理和鉴定, 共有 9 亚科、58 属、166 种, 其中 95 种在湖南省属首次报道。

### 1. 猛蚁亚科 Ponerinae

- (1) 褐红钝猛蚁 *Amblyopone rubiginosa* Wu et Wang
- (2) 西福氏钝猛蚁 *Amblyopone silvestrii* (Wheeler)
- (3) 光亮大齿猛蚁 *Odontomachus fulgidus* Wang
- (4) 大齿猛蚁 *Odontomachus haematodus* (Linnaeus)
- (5) 里氏钩猛蚁 *Anochetus risii* Forel
- (6) 长腹卷尾猛蚁 *Proceratium longigaster* Kara-

\* 国家自然科学基金项目资助(项目编号: 30360013)

通讯联系人, E-mail: syzhou@mailbox.gxnu.edu.cn

vaiev

- (7) 红曲颊猛蚁 *Gnamptogenys coccina* Zhou  
 (8) 四川曲颊猛蚁 *Gnamptogenys panda* (Brown)  
 (9) 中华曲颊猛蚁 *Gnamptogenys sinensis* Wu et Xiao  
 (10) 拟大隐猛蚁 *Cryptopone pseudogigas* Zhou et Zheng  
 (11) 邵氏隐猛蚁 *Cryptopone sauteri* (Wheeler)  
 (12) 长棒姬猛蚁 *Hypoponera beppin* Terayama  
 (13) 日本姬猛蚁 *Hypoponera nippona* (Santschi)  
 (14) 邵氏姬猛蚁 *Hypoponera sauteri* Onoyama  
 (15) 中华细猛蚁 *Leptogenys chinensis* (Mayr)  
 (16) 基氏细猛蚁 *Leptogenys kitteli* (Mayr)  
 (17) 明卿细猛蚁 *Leptogenys minchinii* Forel  
 (18) 勃氏细猛蚁 *Leptogenys peuqueti* (Andre)  
 (19) 粗壮细猛蚁 *Leptogenys strenua* Zhou  
 (20) 聚纹双刺猛蚁 *Diacamma rugosum* (Le Guilou)  
 (21) 横纹齿猛蚁 *Odontoponera transversa* (Smith)  
 (22) 安南厚结蚁 *Pachycondyla annamita* (Andre)  
 (23) 敏捷厚结蚁 *Pachycondyla astuta* F. Smith  
 (24) 黄足厚结蚁 *Pachycondyla luteipes* (Mayr)  
 (25) 夏普氏厚结蚁 *Pachycondyla sharpii* Forel

## 2. 粗角猛蚁亚科 Cerapachyinae

- (26) 毕氏粗角猛蚁 *Cerapachys biroi* Forel  
 (27) 槽结粗角猛蚁 *Cerapachys sulcinodis* Emery

## 3. 行军蚁亚科 Dorylinae

- (28) 东方食植行军蚁 *Dorylus orientalis* Westwood

## 4. 双节行军蚁亚科 Aenictinae

- (29) 卡氏双节行军蚁 *Aenictus camposi* Wheeler et Chapman  
 (30) 锡兰双节行军蚁 *Aenictus ceylonicus* (Mayr)  
 (31) 齿突双节行军蚁 *Aenictus dentatus* Forel  
 (32) 光柄双节行军蚁 *Aenictus laeviceps* (F. Smith)

## 5. 细蚁亚科 Leptanillinae

- (33) 湖南细蚁 *Leptanilla hunanensis* Tang, Li et Chen  
 (34) 台湾细蚁 *Leptanilla taiwanensis* Ogata, Terayama et Masuko

## 6. 伪切叶蚁亚科 Pseudomyrmecinae

- (35) 飘细长蚁 *Tetraoponera allaborans* (Walker)  
 (36) 狭唇细长蚁 *Tetraoponera attenuata* F. Smith  
 (37) 榕细长蚁 *Tetraoponera microcarpa* Wu et Wang  
 (38) 平静细长蚁 *Tetraoponera modesta* (F. Smith)

## 7. 切叶蚁亚科 Myrmicinae

- (39) 粒沟切叶蚁 *Cataulacus granulatus* (Latreille)  
 (40) 粗纹举腹蚁 *Crematogaster artifex* Mayr  
 (41) 比罗举腹蚁 *Crematogaster biroi* Mayr  
 (42) 亮胸举腹蚁 *Crematogaster egidyi* Forel  
 (43) 立毛举腹蚁 *Crematogaster ferrarii* Emery  
 (44) 玛氏举腹蚁 *Crematogaster matsumurai* Forel  
 (45) 大阪举腹蚁 *Crematogaster osakensis* Forel  
 (46) 黑褐举腹蚁 *Crematogaster rogenhoferi* Mayr  
 (47) 上海举腹蚁 *Crematogaster zoceensis* Santschi  
 (48) 刘氏瘤颚蚁 *Strumigenys lewisi* Cameron  
 (49) 多毛瘤颚蚁 *Strumigenys pilosa* Zhou  
 (50) 犬齿塔蚁 *Pyramica canina* (Brown et Boisvert)  
 (51) 日本塔蚁 *Pyramica japonica* (Ito)  
 (52) 吉上塔蚁 *Pyramica kichijo* (Terayama, Lin et Wu)  
 (53) 截头塔蚁 *Pyramica mutica* (Brown)  
 (54) 邵氏塔蚁 *Pyramica sauteri* Forel  
 (55) 提西塔蚁 *Pyramica tisiophone* Bolton  
 (56) 裸心结蚁 *Cardiocondyla nuda* (Mayr)  
 (57) 知本火蚁 *Solenopsis tipuna* Forel  
 (58) 黑沟巨首蚁 *Pheidologeton melasolenos* Zhou et Zheng  
 (59) 粗纹巨首蚁 *Pheidologeton trechiderus* Zhou et Zheng  
 (60) 湖南稀切叶蚁 *Oligomyrmex hunanensis* Wu et Wang  
 (61) 钝齿稀切叶蚁 *Oligomyrmex obtusidentus* Xu  
 (62) 直背稀切叶蚁 *Oligomyrmex rectidorsus* Xu  
 (63) 双隆骨铺道蚁 *Tetramorium bicarinatum* (Nylander)  
 (64) 铺道蚁 *Tetramorium caespitum* (Linnaeus)  
 (65) 广西铺道蚁 *Tetramorium guangxiensis* Zhou et Zheng  
 (66) 克氏铺道蚁 *Tetramorium kraepelini* Forel

- (67) 茸毛铺道蚁 *Tetramorium lanuginosum* Mayr  
 (68) 陕西铺道蚁 *Tetramorium shensiense* Bolton  
 (69) 相似铺道蚁 *Tetramorium simillimum* (F. Smith)  
 (70) 沃尔什氏铺道蚁 *Tetramorium walshi* (Forel)  
 (71) 双针棱胸切叶蚁 *Pristomyrmex pungens* Mayr  
 (72) 光亮角腹蚁 *Recurvidris glabriceps* Zhou  
 (73) 弯刺角腹蚁 *Recurvidris recurvispinosa* (Forel)  
 (74) 中华小家蚁 *Monomorium chinense* Santschi  
 (75) 宽结小家蚁 *Monomorium latinode* Mayr  
 (76) 吉市红蚁 *Myrmica jessensis* Forel  
 (77) 马格丽特氏红蚁 *Myrmica margaritae* Emery  
 (78) 皱红蚁 *Myrmica ruginodis* Nylander  
 (79) 罗氏棒切叶蚁 *Rhoptromyrmex wroughtonii* Forel  
 (80) 黄无刺蚁 *Kartidris galos* Bolton  
 (81) 卡泼林氏大头蚁 *Pheidole capellinii* Emery  
 (82) 印度大头蚁 *Pheidole indica* Mayr  
 (83) 宽结大头蚁 *Pheidole noda* F. Smith  
 (84) 厚结大头蚁 *Pheidole nodifera* (F. Smith)  
 (85) 皮氏大头蚁 *Pheidole pieli* Santschi  
 (86) 史氏大头蚁 *Pheidole smythiesii* Forel  
 (87) 凹大头蚁 *Pheidole sulcaticeps* Roger  
 (88) 伊大头蚁 *Pheidole yeensis* Forel  
 (89) 埃氏扁胸切叶蚁 *Vollenhovia emeryi* Whelerv  
 (90) 褐红扁胸切叶蚁 *Vollenhovia pyrrhoris* Wu et Xiao  
 (91) 夫氏双凸切叶蚁 *Dilobocondyla fouqueti* Santschi  
 (92) 平头平胸蚁 *Rotastrumastenoceps* Bolton  
 (93) 衡山细胸蚁 *Leptothorax hengshanensis* Huang, Chen et Zhou  
 (94) 长刺细胸蚁 *Leptothorax spinosior* Forel  
 (95) 棘棱结蚁 *Gauromyrmex acanthinus* (Karawajew)  
 (96) 食草切叶蚁 *Myrmecina graminicola* (Latreille)  
 (97) 隐居瘤胸切叶蚁 *Dacatria templaris* Rigato  
 (98) 贝卡氏盘腹蚁 *Aphaenogaster beccarii* Emery  
 (99) 湖南盘腹蚁 *Aphaenogaster hunanensis* Wu et Wang  
 (100) 小刺盘腹蚁 *Aphaenogaster pumilopuncta* Zhou  
 (101) 史氏盘腹蚁 *Aphaenogaster smythiesii* Forel  
 (102) 针毛收获蚁 *Messor aciculatus* (F. Smith)
- ### 8. 臭蚁亚科 Dolichoderinae
- (103) 黑头酸臭蚁 *Tapinoma melanocephalum* (Fabricius)  
 (104) 荷狡臭蚁 *Technomyrmex horni* Forel  
 (105) 白跗节狡臭蚁 *Technomyrmex albipes* (F. Smith)  
 (106) 长角狡臭蚁 *Technomyrmex antennis* Zhou  
 (107) 戴氏穴臭蚁 *Bothriomyrmex dalyi* Forel  
 (108) 西伯利亚臭蚁 *Dolichoderus sibiricus* Emery  
 (109) 黑腹臭蚁 *Dolichoderus taprobanae* (F. Smith)  
 (110) 平背臭蚁 *Dolichoderus flatidorsalis* Zhou et Zheng  
 (111) 中华光胸臭蚁 *Liometopum sinense* Wheeler  
 (112) 扁平虹臭蚁 *Iridomyrmex anceps* (Roger)  
 (113) 无毛凹臭蚁 *Ochetellus glaber* (Mayr)
- ### 9. 蚁亚科 Formicinae
- (114) 开普刺结蚁 *Lepisiota capensis* Mayr  
 (115) 稍美刺结蚁 *Lepisiota pulchella* (Forel)  
 (116) 阿禄斜结蚁 *Plagiolepis alluaudi* Emery  
 (117) 小黄斜结蚁 *Plagiolepis exigua* Forel  
 (118) 罗思尼氏斜结蚁 *Plagiolepis rothneyi* Forel  
 (119) 角胸前结蚁 *Prenolepis angularis* Zhou  
 (120) 埃氏前结蚁 *Prenolepis emmae* Forel  
 (121) 长腹前结蚁 *Prenolepis longiventris* Zhou  
 (122) 内氏前结蚁 *Prenolepis naoroi* Forel  
 (123) 束胸前结蚁 *Prenolepis sphingthorax* Zhou et Zheng  
 (124) 暗前结蚁 *Prenolepis umbra* Zhou et Zheng  
 (125) 丝光蚁 *Formica fusca* Linnaeus  
 (126) 日本褐蚁 *Formica japonica* Motschulsky  
 (127) 无刚毛立毛蚁 *Paratrechina aseta* (Forel)  
 (128) 布氏立毛蚁 *Paratrechina bourbonica* (Forel)  
 (129) 黄立毛蚁 *Paratrechina flavipes* (F. Smith)  
 (130) 全唇立毛蚁 *Paratrechina integra* Zhou  
 (131) 后眼立毛蚁 *Paratrechina opisophthalmos* Zhou et Zheng  
 (132) 邵氏立毛蚁 *Paratrechina sauteri* (Forel)  
 (133) 夏氏立毛蚁 *Paratrechina sharpii* (Forel)  
 (134) 亮立毛蚁 *Paratrechina vividula* (Nylander)

- (135) 污黄拟毛蚁 *Pseudolasius cibdelus* Wu et Wang
- (136) 黄毛蚁 *Lasius flavus* (Fabricius)
- (137) 亮毛蚁 *Lasius fuliginosus* (Latreille)
- (138) 双齿多刺蚁 *Polyrhachis dives* F. Smith
- (139) 直刺多刺蚁 *Polyrhachis euthiacaena* Zhou et Zheng
- (140) 梅氏多刺蚁 *Polyrhachis illaudata* Walker
- (141) 江华多刺蚁 *Polyrhachis jianghuaensis* Wang et Wu
- (142) 叶形多刺蚁 *Polyrhachis lamellidens* F. Smith
- (143) 拟梅氏多刺蚁 *Polyrhachis proxima* Roger
- (144) 结多刺蚁 *Polyrhachis rastellata* (Latreille)
- (145) 红腹多刺蚁 *Polyrhachis rubigastrica* Wang et Wu
- (146) 警觉多刺蚁 *Polyrhachis vigilans* F. Smith
- (147) 黄斑弓背蚁 *Camponotus albosparsus* Bingham
- (148) 短柄弓背蚁 *Camponotus breviscapus* Zhou
- (149) 重庆弓背蚁 *Camponotus chongqingensis* Wu et Wang
- (150) 哀弓背蚁 *Camponotus dolendus* Forel
- (151) 褐毛弓背蚁 *Camponotus fuscivillosus* Xiao et Wang
- (152) 黄腹弓背蚁 *Camponotus helvus* Xiao et Wang
- (153) 肩弓背蚁 *Camponotus humerus* Wang et Wu
- (154) 伊东弓背蚁 *Camponotus itoi* Forel
- (155) 日本弓背蚁 *Camponotus japonicus* Mayr
- (156) 江华弓背蚁 *Camponotus jianghuaensis* Xiao et Wang
- (157) 大头弓背蚁 *Camponotus largiceps* Xiao et Wang
- (158) 毛钳弓背蚁 *Camponotus lasiselene* Wang et Wu
- (159) 平和弓背蚁 *Camponotus mitis* (F. Smith)
- (160) 尼科巴弓背蚁 *Camponotus nicobarensis* Mayr
- (161) 拟光腹弓背蚁 *Camponotus pseudoirritans* Wu et Wang
- (162) 四斑弓背蚁 *Camponotus quadrinotatus* Forel
- (163) 黑褐弓背蚁 *Camponotus rubidus* Xiao et Wang
- (164) 少毛弓背蚁 *Camponotus spanis* Xiao et Wang
- (165) 东京弓背蚁 *Camponotus tokioensis* Ito
- (166) 佐村悍蚁 *Polyergus samurai* Yano

**致谢** 西南林学院徐正会博士帮助核对了开普刺结蚁 *Lepisiota capensis* 的标本, 美国加州大学昆虫学系的 Philip S. Ward 教授、加拿大魁北克大学的 Andre Francoeur 博士、日本东京大学的 M. Terayama 教授赠送了分类学文献, 在此谨向他们表示最诚挚的谢意。

## 参考文献 (References)

- 唐觉, 李参, 陈益, 1992. 细猛蚁亚科在我国的首次发现及一新种记述. 浙江农业大学学报, 18(1): 107~108.
- 唐觉, 李参, 黄恩友等, 1995. 中国经济昆虫志. 膜翅目. 蚁科(一). 北京: 科学出版社. 1x+134pp.
- 童新旺, 1988. 湖南森林蚂蚁种类及其作用的初步研究. 森林病虫害通讯, (2): 6~8.
- 吴坚, 王常禄, 1992. 膜翅目: 蚁科. 见: 彭建文, 刘友樵主编. 湖南森林昆虫图鉴. 长沙: 湖南科学技术出版社. 1301~1320.
- 吴坚, 王常禄, 1995. 中国蚂蚁. 北京: 中国林业出版社. 214pp.
- 周善义, 2001a. 广西蚂蚁. 桂林: 广西师范大学出版社. 255pp.
- 徐正会, 1996. 中国细颚蚁属分类研究(膜翅目: 蚁科). 云南农业大学学报, 11(4): 222~227.
- Bolton B, 1977. The ant tribe Tetremoriini (Hymenoptera: Formicidae). The Genus *Tetramorium* Mayr in the Oriental and Australian region, and in Australia. *Bull. Brit. Mus. (Nat. Hist.) Entomol.*, 36(2): 67~151.
- Bolton B, 1982. Afrotropical species of the genera *Cardiocondyla*, *Leptothorax*, *Melissotarsus*, *Messor* and *Cataulacus* (Formicidae). *Bull. Brit. Mus. (Nat. Hist.) Entomol.*, 45(4): 307~370.
- Bolton B, 1994. Identification Guide to the Ant Genera of the World. Harvard University Press, Cambridge, Massachusetts. 222pp.
- Bolton B, 1995. A new general catalogue of the ants of the world. Harvard University Press, Cambridge, Massachusetts. 504 pp
- Bolton B, 2000. The ant tribe Dacetini. With a revision of the *Strumigenys* species of the Malgasy Region by Brian L. Fisher, and a revision of the Austral epopostriumiform genera by Steven O. Shattuck. *Mem. Amer. Entomol. Inst.*, 65: 1~1028.
- Bolton B, 2003. Synopsis and classification of Formicidae. *Mem. Amer. Entomol. Inst.*, 71: 1~370.
- Huang J H, Chen B, Zhou S Y, 2004. A new species of the ant genus *Leptothorax* Mayr (Hymenoptera, Formicidae) from Hunan, China. *Acta Zootax. Sinica*, 29(4): 766~768.
- Lin C C, Wu J W, 1998. The ant tribe Myrmecini (Hymenoptera: Formicidae) of Taiwan. *Chin. J. Entomol.*, 18: 83~100.
- Tanaka M, 1974. A new species of the ant genus *Ponera* from Yaku Island. (Hymenoptera, Formicidae). *Entomol. Rev. Japan.*, 27: 32~36.
- Taylor R W, 1967. A monographic revision of the ant genus *Ponera* Latreille (Hymenoptera: Formicidae). *Pac. Ins. Monogr.*, 13: 1~112.
- Taylor R W, 1979. Melanesian ants of the genus *Amblyopone* (Hymenoptera: Formicidae). *Aust. J. Zool.*, 6: 823~839.
- Terayama M, 1984. A new species of the army ant genus *Aenictus* from Taiwan (Insecta: Hymenoptera: Formicidae). *Bull.*

- Biogeogr. Soc. Japan* , 39: 13~16.
- Terayama M, 1985. Two new species of the ant genus *Myrmecina* (Insecta; Hymenoptera; Formicidae) from Japan and Taiwan. *Edaphologia* , 32: 35~40.
- Terayama M, 1986. Two new ants of the genus *Ponera* (Hymenoptera; Formicidae) from Taiwan. *Kontyu* , 54: 591~595.
- Terayama M, 1987. A new species of *Amblyopone* (Hymenoptera; Formicidae) from Japan. *Edaphologia* , 36: 31~33.
- Terayama M, 1989. The ant tribe Amblyoponini (Hymenoptera; Formicidae) of Taiwan, with description of a new species. *Jap. J. Entomol.* , 57: 343~346.
- Terayama M, 1996. Taxonomic studies on the Japanese Formicidae, Part 2. Seven genera of Ponerinae, Cerapachyinae and Myrmicinae. *Nat. Hum. Activ.* , 1: 9~32.
- Terayama M, 1999a. The ant genus *Componotus* Mayr (Hymenoptera; Formicidae) in Japan. *Mem. Myrmecol. Soc. Japan* , 1: 25~48.
- Terayama M, 1999b. Description and record of a new and a little known ants from Japan (Formicidae). In: Yamane, S, S. Iku-dome and M. Terayama. Identification guide to the Aculeata of the Nansei Island. Hokkaido University Press, Sapporo, 726~727.
- Terayama M, Onoyama K, 1999. The ant genus *Leptothorax* Mayr (Hymenoptera; Formicidae) in Japan. *Mem. Myrmecol. Soc. Jap.* , 1: 71~97.
- Terayama M, Kubota S, 1993. The army ant genus *Aenictus* (Hymenoptera; Formicidae) from Thailand and Vietnam, with descriptions of three new species. *Bull. Biogeogr. Soc. Jap.* , 48 (2): 68~72.
- Terayama M, Yamane S, 1989. The army ant genus *Aenictus* (Hymenoptera; Formicidae) from Sumatra, with descriptions of three new species. *Jap. J. Entomol.* , 57: 597~603.
- Wheeler W M, 1903. A revision of the north American ants of the genus *Leptothorax* Mayr. *Proc. Acad. Nat. Sci. Philadelphia* , 55: 215~260.
- Wheeler W M, 1928a. Ants collected by Professor F. Silvestri in China. *Boll. Lab. Zool. Gen. Agr.* , 22: 3~38.
- Wheeler W M, 1928b. Ants collected by Professor F. Silvestri in Japan and Korea. *Boll. Lab. Zool. Gen. Agr.* , 22: 96~125.
- Wilson E O, 1958a. Studies on the ant fauna of Melanesia. 1. The tribe Leptogenyini. 2. The tribes Amblyoponini and Platythyreini. *Bull. Mus. Comp. Zool. Harvard Coll.* , 118: 101~153.
- Wilson E O, 1958b. Studies on the ant fauna of Melanesia. 3. Rhytidoponera in western Melanesia and the Moluccas. 4. The tribe Ponerini. *Bull. Mus. Comp. Zool. Harvard Coll.* , 119: 303~371.
- Wilson E O, 1964. The true army ants of the Indo-Australian area (Hymenoptera; Formicidae; Dorylinae). *Pac. Ins.* , 6: 427~483.
- Xu Z H, 2000a. Five new species and one new record species of the ant genus *Leptogenys* Roger (Hymenoptera; Formicidae) from Yunnan Province, China. *Entomol. Sinica* , 7(2): 117~126.
- Xu Z H, 2000b. A systematic study of the ant genus *Proceratium* Roger from China (Hymenoptera; Formicidae). *Acta Zootax. Sinica* , 25(4): 434~437.
- Xu Z H, 2001a. Four new species of the ant genus *Ponera* Latreille (Hymenoptera; Formicidae) from Yunnan, China. *Entomotaxonomia* , 3(3): 217~226.
- Xu Z H, 2001b. A systematic study on the ant genus *Ponera* Latreille (Hymenoptera; Formicidae). *Entomotaxonomia* , 23(1): 51~60.
- Xu Z H, 2001c. A systematic study on the ant genus *Amblyopone* Erichson from China (Hymenoptera; Formicidae). *Acta Zootax. Sinica* , 26(4): 551~556.
- Xu Z H, 2002. A systematic study on the ant subfamily Leptanillinae of China (Hymenoptera; Formicidae). *Acta Entomol. Sinica* , 45(1): 115~120.
- Xu Z H, 2003. A systematic study on Chinese species of the ant genus *Oligomyrmez* Mayr (Hymenoptera; Formicidae). *Acta Zootax. Sinica* , 28(2): 310~322.
- Xu Z H, 2004. Systematic study on the ant genus *Pyramica* Roger (Hymenoptera; Formicidae) of China. *Acta Zootax. Sinica* , 29 (3): 440~450.
- Xu Z H, Zhang J L, 2002. Two new species of the ant subfamily Leptanillinae from Yunnan, China (Hymenoptera; Formicidae). *Acta Zootax. Sinica* , 27(1): 139~144.