



## The life and contributions of Prof Xin Jie-Liu (1909–1994)\*

ZHI-QIANG ZHANG<sup>1</sup> & HUI-QIN DONG<sup>2</sup>

<sup>1</sup> Landcare Research, Private Bag 92970, Auckland, New Zealand

E-mail: ZhangZ@LandcareResearch.co.nz

<sup>2</sup> School of Life Sciences, Fudan University, Shanghai, China

E-mail: hqdong@fudan.edu.cn

\* In: Zhang, Z.-Q., Hong, X.-Y. & Fan, Q.-H. (eds) Xin Jie-Liu Centenary: Progress in Chinese Acarology. *Zoosymposia*, 4, 1–345.

### Abstract

Prof Xin Jie-Liu (1909–1994) was an outstanding entomologist in China during the last century. He was one of the founders of acarology and stored product entomology in China. He was also a pioneer of forest entomology, insect pathology, insect physiology and soil zoology in China. This tribute is prepared to commemorate the centenary of his birth. An account of his life and career was given, along with analyses of his works and contributions to the development of acarology and entomology in China. A bibliography of his 133 papers and 42 books (including 17 translated books) was presented for the first time.

**Key words:** biography, bibliography, acarology, mites, stored grain, entomology, soil zoology, pest control, history of science, China

### Introduction

The early development of many branches of biological sciences in China is closely associated with the first couple of generations of scientists, who studied overseas (mostly in Europe, USA, or Japan) and returned to China as pioneers and founders of various branches of biosciences in the early 1900s. Prof Xin Jie-Liu<sup>1</sup> (1909–1994) was one of them and helped to establish acarology and several other branches of zoology in China. Here we review his life and contributions to commemorate the centenary of his birth.

There are only a few published accounts of Prof Xin's life and contributions. In their historical review of acarology in China, Chen *et al.* (1982) included a couple of paragraphs on Prof Xin (pp. 67–68). This was updated by Chen and Ma (1992) in their book “*Researches of Acarology in China*”, with the addition of only a few sentences. A brief resume of Prof Xin was also published in the “*China Agriculture Encyclopaedia Insect Volume*” by Yang (1990). Similar entries were included in dictionaries and records of professors by Zhang D.-L. (1988), Wang Z.-F. (1992), Wu (2001) and Wang R.-H. (2007). Dong Hui-Qin also found a brief account of him from Fudan University personnel records. Shen (1995) and Zhang G.-L. (1995) published brief accounts of Prof Xin on the first anniversary of his death. All of these are very brief and within one page in length. He (1996) published a biographic sketch of Prof Xin, with a focus on his contributions in late years.

---

1. In Chinese 忻介六; also transliterated as Chiu Chu-Sieh or Shin Kai-Lo in early years

To compile Prof Xin's bibliography, Zhang Zhi-Qiang consulted his own collected books and journals. He also visited the Fudan University Library and Shanghai Library to examine the books and journals in their collections. The online catalogue of the National Library of China was consulted and this is an important source of his early books. The Dacheng Full Text Database of Old Chinese Journals<sup>2</sup> was consulted for his early papers. Another online database—Zhizhen Book Search<sup>3</sup>—was also consulted. To find the missing links of his life, Zhang interviewed (by phone) Prof Li Long-Shu—an early student of his in the late 1930s and also Prof Wen Ting-Huan of Medical College of Fudan University. He visited Fudan University in December 2009 and talked with Profs Su De-Ming, Ding Ting-Zhong, Le Yun-Xian and Liang Lai-Rong. Dong Hui-Qin talked with Mrs Xin and obtained some old photographs of Prof Xin used in this paper.

### Prof Xin—a brief resume

Prof Xin was born on 2 Nov. 1909 in Yin County<sup>4</sup> (now Yinzhou District of Ningbo City), Zhejiang Province, China, where he spent his early years. In 1924, he went to study in Japan and graduated from Tokyo Higher Normal School<sup>5</sup> in 1929. It was during this period that he developed an early interest in entomology. Later he majored in insect pathology at the Faculty of Agriculture of Kyoto University<sup>6</sup> during 1929 to 1931. Then, he went to Germany for his graduate studies on the ecology of forest insects at Universität Rostock (Fig. 1). He graduated with PhD degree in 1935. In that year, he visited the Department of Entomology, The British Museum (Natural History) in London, where he conducted research on the taxonomy of sawflies for a few months. In 1935, he returned to China and held an entomologist position at the Agricultural Academy of Jiangxi Province<sup>7</sup>, working on stored grain research and granary pest control. After the start of the Sino-Japanese War (1937–1945), many Chinese research institutions and universities moved to southwest China. In 1938, Prof Xin moved to Chengdu, Sichuan and took a position as professor and chair of Plant Protection in the Agricultural College, Sichuan University<sup>8</sup> where he taught entomology for a couple of years. He then entered into public service for eight years and worked on the management of grain, grain storage and granary pest control in several government departments (Bureau of Agriculture<sup>9</sup>, National Bureau for the Management of Grain<sup>10</sup>, and Ministry of Grain<sup>11</sup>) in Chongqing. After that, he returned to academia and took a position as a professor at Jiangnan University<sup>12</sup> for a few years. In 1952, universities in China were re-organized and private universities were merged into public universities. During this re-organization, Prof Xin was transferred to the Department of Biology, Fudan University<sup>13</sup>, where he was head of zoology teaching and research division for many years and held

---

2. In Chinese 《大成老旧刊全文数据库》 <http://www.dachengdata.com/>

3. In Chinese 指针 <http://www.zhizhen.com>

4. In Chinese 浙江省鄞县

5. In Chinese 东京高等师范学校

6. In Chinese 京都帝国大学农学部昆虫病科

7. In Chinese 江西省农业院昆虫组

8. In Chinese 四川大学农学院

9. In Chinese 农本局

10. In Chinese 全国粮食管理局

11. In Chinese 粮食部

12. In Chinese 江南大学 (a private university founded by the Rong family 荣氏家族 and the first university in China with a department in grain research)

13. In Chinese 复旦大学生物系

the position of professor for over three decades until retirement in the mid-1980s. After retirement, he continued to supervise graduate students but mostly concentrated on writing the last few books at his home in Xuhui, Shanghai, where spent rest of his life until the end of his life on 15 October, 1994.



**FIGURE 1.** Youthful Xin Jie-Liu when studying at Universität Rostock in Germany (early 1930s). Photo through the courtesy of Mrs Xin.

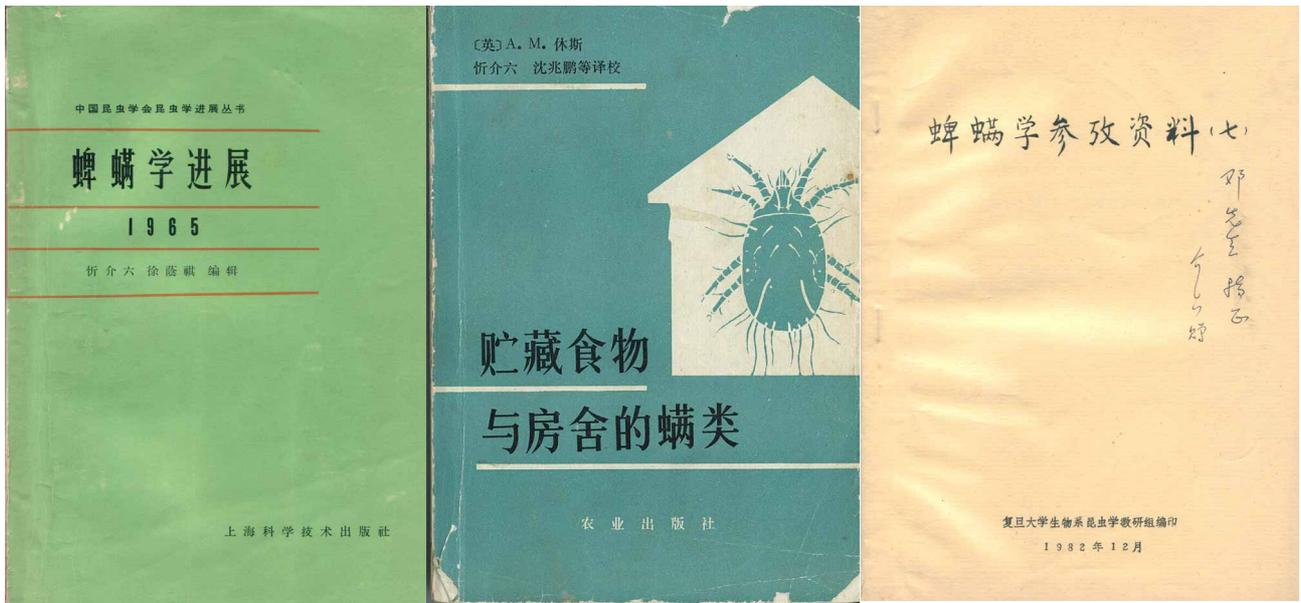
### **Prof Xin's works and contributions**

#### *An overview of Prof Xin's scientific publications*

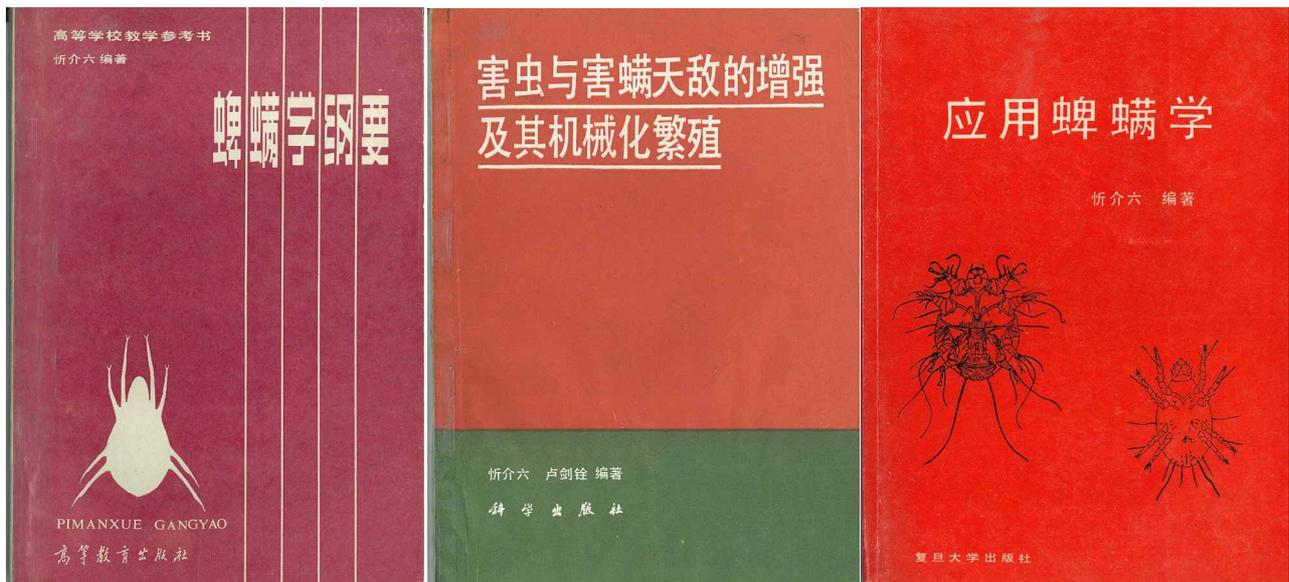
Prof Xin was a true scholar of the last century and had a passion for knowledge, reading and writing. He is well versed in several foreign languages (Japanese, German & English) and also reads French and Russian; this broad knowledge of foreign languages enabled him to gain access a wider range of literature than many of his peers and also made it possible for him to translate many books into Chinese at a time when reference books on various branches of entomology were not available or very rare. Prof Xin was very efficient in writing. He composed his writing in his mind and his first draft was often nearly publishable. His colleagues regard him as “his works equalling his height<sup>14</sup>”.

---

14. In Chinese 著作等身 (when his books are piled, they are as high as his body)



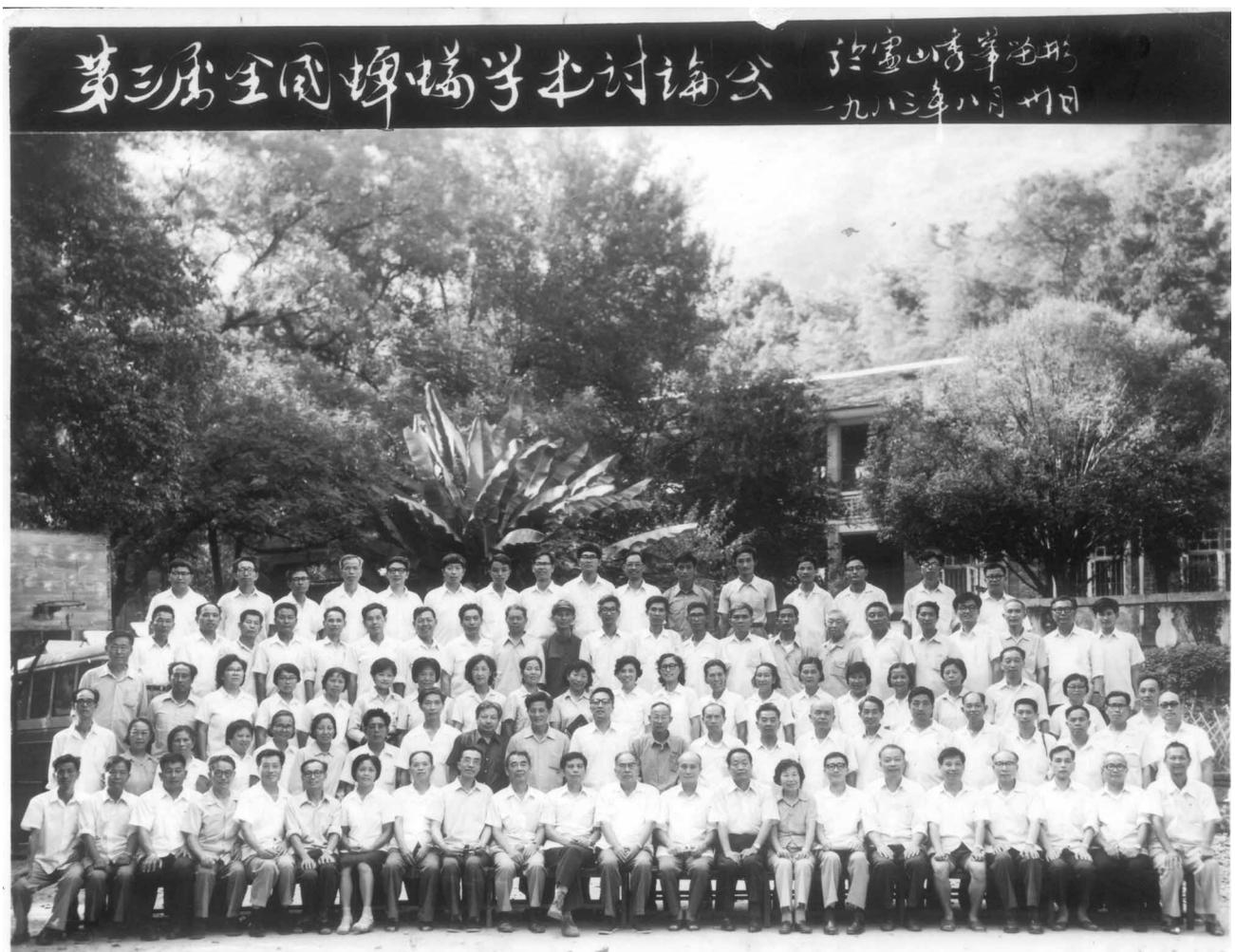
**FIGURE 2.** Covers of Shin & Hsu (1965) *Progress in Acarology* (left, photo through the courtesy of Chen Jun), Xin *et al.* (1983) *The Mites of Stored Food and Houses* (middle) and internally published *Acarology Reference Material No 7* compiled under the leadership of Prof Xin by the Entomology Teaching and Research Group, Department of Biology, Fudan University in December 1982 (right, with signature by Xin Jie-Liu when given to Prof Teng; photo through the courtesy of Chen Jun).



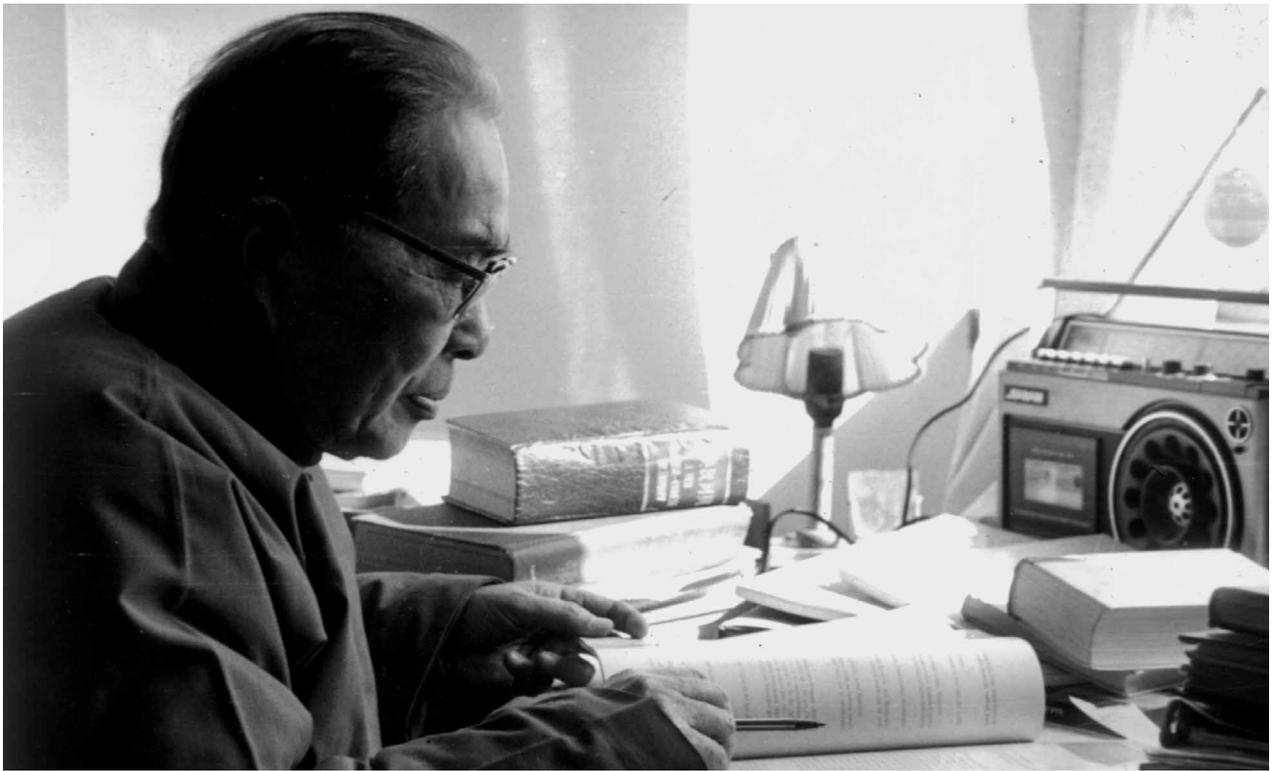
**FIGURE 3.** Covers of Xin (1984c) *An Outline of Acarology* (left), Xin & Lu (1988) *Augmentation & Mechanized Rearing of Natural Enemies of Insect and Mite Pests* (middle) and Xin (1989) *Applied Acarology* (right).

**FIGURE 4. Top:** Xin Jie-Liu writing at home in 1980. **Bottom:** Group photo in 1983 during a workshop on acarology. From left to right: Yang Qing-Shuang, Liang Lai-Rong, Hans Mori (Japan), Le Yun-Xian, Ding Ting-Zhong, Dong Hui-Qin & Xin Jie-Liu. Photo through the courtesy of Mrs Xin.





**FIGURE 5.** Prof Xin Jie-Liu and attendants of the 1983 Workshop on Mites at Fudan University, Shanghai (**top**) and attendants of the 3rd National Congress of Acarology, 30 Aug. 1983, Lushan (**bottom**).



**FIGURE 6. Top:** Prof Xin Jie-Liu writing at home in 1983; **bottom:** Prof Xin Jie-Liu (middle) with Dong Hui-Qin (left) and Ke Li-Sheng (Right) in 1981 at Fudan University, Shanghai.

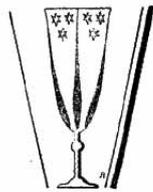
A bibliography of his scientific publications (133 papers and 42 books) is presented in the appendix and summarized in Table 1. This is the first bibliography of its kind (including 17 translated books, but excluding papers in newspapers or non-officially published proceedings and others, and also entries he wrote for dictionaries and encyclopaedias<sup>15</sup>). No doubt, there will be some missing ones, especially from his early years. It should be noted that a couple of books were also attributed to him by some colleagues, although these two were published anonymously: Anonymous (1975) "Guide to the Families of Mites" and Anonymous (1982) "Names and Terms of Acarina." The former was mainly translated by him (but during the Great Cultural Revolution, many books are published anonymously) and the latter one was mainly based on an unpublished list prepared by him and later updated by many acarologists before publication. These two are not listed in his bibliography here.

Prof Xin's publishing activities were interrupted three times: (1) a few years during his graduate studies in Germany, (2) the last couple of years during the Sino-Japanese War and a few years during and after the civil war in China and (3) nearly a decade during the Great Cultural Revolution. Thus his publishing history can be summarized into four periods using these three gaps.

Period 1. Pre-career years (1928–1932). Prof Xin started to publish very early. While still a college student in Tokyo, he published his first paper on anthropogenesis in a widely circulated popular magazine published in Shanghai (Xin, 1928; see Fig. 7). While a student of Kyoto University, he published five more papers on a wide range of subjects—from the anatomy of the silkworm to the sociality of the forest. It is not difficult to see from his early papers why he later did this Ph.D. thesis on forest entomology.

關於人類化 (Anthropogenesis) 這個問題，在古來就有許多學說。如以亞丹 (Adam) 生誕為紀元的中世紀以來一般聖書派的學者，以及以合聖書的意見，說「人類化」成在六千年前最後地變的時侯」的聖書派 (Marginal Christian. Fiedler. Dingscher. Ovarier 1768—1833) 他們的學說，當然置之論外。其他近代的諸學說，雖根據於生物學 (Biology) 和地質學 (Geology) 的長足進步，但在現在看起來，也不過是一種沒有實證的臆說而已。這是因為可作人類化成的實證的記錄，——即化石類型的發見，尚未完成的緣故。但是在第三紀開始以前，我們確知道沒有哺乳動物 (Mammalia) 存在，當然也沒有人類存在的理由。而在第四紀之初，證實有人科 (Hominidae) 生物的存在。所以人類化成的時期，應當在第三紀初至第三紀末中間的一個時期內了。

東方雜誌 第二十五卷 第十七號 人類的化



一 人類化成的時期

人類的化

析介六

關於這個問題的學說可分為二派：(一) 如克羅許 (Hermann Kuhn) 氏等，以為在很古的漸新世 (Oligocene) 或始新世 (Eocene) 就有人類幹的存在。(二) 如司旺爾白 (Gustav Schenker) 氏及其他多數的學者，則假定人類化成的時期為第三紀的末葉。這一派的學說，雖然不能斷定孰是孰非，但在我的眼光看起來，司旺爾白氏一派的學說比較合理。因為在真的類人猿 (Anthropomorpha) 型的靈長類 (Primates) 的化石，在中新世 (Miocene) 以前的，至今尚未發見，所以當然不能依了克羅許氏等的人類系統論而承認在中新世以前就有人類存在。又第四紀 (Quaternary period) 初的人類形狀，是很原始的，叫他真正的人類，實有躊躇的必要。真正的人類是在洪積世 (Tertiary period) 中世，才出現的。所以人類化成的時期當在中新世以後而近於洪積世的時候了。司旺爾白氏等因此說人類的化是成始新世 (Oligocene) 的末期，但這一說也不過是一個臆說而已，其確實與否，還須依據將來發見的決定。在

八

江西農訊

刊月半

版出日六十及日一月每

卷一第 期一十二第

錄目期本

倉庫熏蒸劑與氣體濃度的變化	析介六 (三八七)
乳牛場產品經營經過	畜牧組 (三九二)
南昌穀場調查	余其心 陳虎侯 (三九六)
防空林	熊肇元 (三四一)
舉行第二屆畜舍清潔比賽給獎大會	(三四四)
開辦骨粉肥料製造廠	(三四五)
昆蟲組織機充實設備	(三四六)
昆蟲組與化學組合作製造產殺蟲藥劑	(三四七)
王技師治癒南昌鄉豬虎列拉	(三四七)
農村通訊	(三四九)
同人消息	(三四九)

倉庫熏蒸劑與氣體濃度的變化

析介六

驅除倉庫內的積穀害虫的最通行的方法，當然要算蒸法了。所謂蒸法就是使有毒的藥劑發散為氣體，在一定時間內作用於害虫體，而使害虫死亡的方法。所以用作蒸法的藥劑必須毒力及擴散力強大，且易於揮發的藥品，纔適合於這個目的。此外更須對被蒸的物體沒有很大的惡影響，處理方法簡便，缺少危險性以及藥價低廉等等，都是蒸法的應具備的條件。假若某種藥劑能合於上述的一切條件當然是最理想的蒸劑，但却不易得到。所以在現在祇要有能適合上述條件中的最重要的幾個，

江西農訊 第二十一期 三八七

中華郵局特准 認爲新聞紙類

中華民國二十四年十一月一日出版

印編院業農省西

FIGURE 7. Left—Prof Xin's first paper in 1928 published in Oriental Magazine (in Chinese; page 81). Right—Prof Xin's first paper in 1935 at his first job at Agricultural Academy of Jiangxi Province (in Chinese; page 387).

15. For example, he wrote 15 entries on mites for the 1978 edition of *China Encyclopaedia (Biology volume)*.

**TABLE 1.** A summary of the number of papers and books by Prof Xin (3 books with unknown page numbers).

year	No of papers	No. of books			No. of pages
		authored/edited	translated	total	
1928	1	0	0	0	4
1930	1	0	0	0	3
1931	4	0	0	0	24
1935	4	0	0	0	26
1936	5	0	0	0	33
1937	5	1	1	2	433
1938	4	3	0	3	22
1939	2	1	0	1	10
1940	3	0	0	0	11
1942	1	0	0	0	5
1943	1	0	0	0	3
1944	1	0	0	0	3
1951	0	3	0	3	312
1952	3	0	0	0	9
1953	0	1	0	1	282
1955	2	0	1	1	110
1956	5	0	3	3	780
1957	8	0	2	2	485
1958	3	1	1	2	242
1959	6	0	3	3	448
1960	1	0	0	0	1
1962	3	0	0	0	14
1963	5	1	1	2	280
1964	4	1	0	1	142
1965	3	1	0	1	325
1973	1	0	0	0	3
1976	1	0	0	0	3
1977	1	0	0	0	7
1978	5	1	0	1	452
1979	3	1	0	1	225
1980	4	0	1	1	438
1981	3	0	0	0	18
1982	8	0	1	1	765
1983	3	0	1	1	414
1984	8	1	0	1	35
1985	2	1	0	1	461
1986	2	2	0	2	368
1987	2	0	1	1	339
1988	3	3	1	4	1219
1989	5	2	0	2	487
1990	1	0	0	0	5
1992	3	0	0	0	13
1993	2	0	0	0	2
1996	1	0	0	0	6
1998	0	1	0	1	187
	133	25	17	42	9454

Period 2. Early career years before new China (1935–1944). He published 26 papers, 5 books and 1 translated book during this period, mostly on stored grain management and its pest control. The majority of these were written before the Sino-Japanese War.

Period 3. Mid-career years before the Great Cultural Revolution (1951–1965). Inspired by the promise of the new China, Prof Xin began to write diligently and had three books published in 1951 summarizing his works on stored grain management and stored grain pests. This productive period of this career was unfortunately cut short by the Great Cultural Revolution (1966–1975), but he published 43 papers, 8 books and 11 translated books on a wide range of subjects including stored grain entomology, pest management, insect physiology/pathology and stored grain acarology.

Period 4. Late career years after the Great Cultural Revolution. This is the most productive period of his career. Despite the advanced age, Prof Xin published 58 papers, 12 books and 5 translated books on a variety of subjects ranging from soil zoology to general entomology. Most of these, however, are on mites of agricultural importance.

#### *Prof Xin—a founder of stored grain research and stored product entomology in China*

While at the Agricultural Academy of Jiangxi Province, Prof Xin surveyed stored grain houses and their pests in western Jiangxi Province and found the alarming high rates of loss due to pest damage (as high as 30–45%). The results of research were summarized in the first book of its kind—“*Report on Control of Stored Grain Pests in 37 Counties of Jiangxi*” (Xin & Zhong 1937). This pioneering book provides both the practical and theoretical foundation of stored grain entomology in China. In the 1930s, there was a lack of references on the subject; so Prof Xin also translated a Japanese book by Mantaro Kondo on the “*Theory and Practice for Storing Rice and Grain*” (Xin, 1937). He worked on various aspects of stored grain research and stored product entomology for a decade and half, resulting in three monographs in 1951: “*Principles and Methods for Building Stored Grain Houses*” (Xin, 1951a: 78 pages), “*Scientific Management of Stored Grain*” (Xin, 1951b: 96 pages), and “*Stored Grain Pests in China*” (Xin, 1951c: 138 pages). These important books covered a wide range of topics and laid a firm foundation for stored grain research and stored product entomology in China.

#### *Prof Xin—a pioneer of forest entomology in China*

Although Prof Xin did not publish his PhD work on forest entomology during 1932 to 1935 due to a switch of research focus right after graduation, he managed, after the founding of new China in 1949, to find time and wrote “*Forest Entomology*” (Xin, 1953), which is the first major text of its kind on this subject in China. In 1952, forest entomology was introduced into the curriculum of agriculture/forestry colleges in China and Prof Xin’s book “*Forest Entomology*” was used as a textbook (Shen & Li 2002) for a new generation of forest entomologists in China.

#### *Prof Xin—a founding member of the Entomological Society of China*

During the Sino-Japanese War, a large number of entomologists were active in Chongqing. Due to the need to enhance communication and exchange, several entomologists in Chongqing (i.e. Wu Fuzhen<sup>16</sup>, Zou Zhongling<sup>17</sup>, Xin Jie-Liu) contacted entomologists throughout China, and with the permission of the 50 or so members they acted as founders submitting an application to the National Government in May 1944 (Wu & Yue 1986). After approval, they started to prepare the first meeting of the society in October 1944. Prof Xin was also a very prominent member of the society after the

---

16. In Chinese 吴福楨

17. In Chinese 邹钟琳

founding of People's Republic of China and was the Vice President of the society for many years until his retirement in 1984. Prof Xin also served as the President of Shanghai Entomological Society until retirement. He remained as an honorary fellow of the Entomological Society of China and also Shanghai Entomological Society.

*Prof Xin—a pioneer of and facilitator to the development of insect pathology in China*

Prof Xin first became interested in insect pathology because of its role in agriculture and forestry production practice (Xin, 1956a). He translated E.A. Steinhaus "Principles of Insect Pathology" into Chinese (published in two volumes in Chinese: Xin, 1956c, 1957), which served as a major reference book for the first generation of students of insect pathology in China. His early research in insect pathology is on mycosis of aphids in Shanghai (Xin & Su, 1963). He helped the development of an insect pathology group at Fudan University led by Prof Su. This group later made significant contribution to the development of insect virus research in China.

*Prof Xin—a contributor to insect physiology in China*

Prof Xin's interest in insect physiology started with using artificial diet to rear insects (Xin 1956b, 1976). Later he published two volumes on "Artificial Diet for Insects, Mites and Spiders" (Xin & Su, 1979; Xin & Qiu, 1986), which are major reference books in this subject area. Another book is "Boreworm Physiology and Ecology" (Xin, 1964). However, his main contributions are the translated texts of the R. Chauvin's book *Insect Physiology* (published in two volumes in Chinese: Xin & Luo, 1956; Xin 1959), and V. B. Wigglesworth's "The Physiology of Insect Metamorphosis" (Xin, 1963b). These books were important references for students of insect physiology in China. Many students of insect physiology from Fudan University later played important roles in the development of this branch of entomology in China (e.g. Prof Cao Mei-Xun of the Shanghai Institute of Entomology, Chinese Academy of Sciences).

*Prof Xin—a founder of acarology in China*

Prof Xin's most important contributions were made towards the development of acarology, especially agricultural acarology in China. He was aware of the mite pests in stored grain in his early career when working on stored grain pests (Xin, 1951c). Later he pioneered the research on stored grain mites in China (Shin & Shen, 1963, 1964). He led the translation of A.M. Hughes' book "The Mites of Stored Food and Houses" (Xin *et al.*, 1983; Fig. 2 middle), which is a useful reference for research on stored product mites and house dust mites in China. His early students of acarology (Wang Xiao-Zhu, Ma En-Pei and Yuan Yi-Lan, in addition to Shen) are all key acarologists contributing to the early development of acarology in China.

Together with Prof Hsu Y.-C. and others, Prof Xin organized the first "National Congress of Acarology" held in Changchun in 1963, the proceedings of which were published in a milestone book "Progress in Acarology" (Shin & Hsu, 1965; Fig. 2 left). This book marks the beginning of acarology as a branch of biology in China.

Towards the end of the Great Cultural Revolution, Prof Xin led the translation of "Guide to the Families of Mites" by E.W. Baker and J.H. Camin (Anonymous 1975), which served as a useful identification guide in China when few such books were available.

After the Great Cultural Revolution, research and teaching resumed in universities in China. Prof Xin sparked the rapid development of agricultural acarology in China in the early 1980s. At the request of the Ministry of Agriculture, he organized a series of short courses in agricultural acarology (Fig. 5), which trained a generation of acarologists, who are still the backbone of acarology in China today. Prof Xin was among the first at Fudan University to seek international

collaboration to develop Chinese science. During the 1983 short course, he invited Prof Hans Mori<sup>18</sup> (Hokkaido University, Japan) to teach at the short course (Fig. 4 bottom). Due to lack of reference material in Chinese, Prof Xin led the compilation of a series of *Acarology Reference Material* (see Fig. 2 right) on various topics of acarology for use at the course and also in research.

Prof Xin led a series of research projects on major groups of mites important in agriculture at Fudan University and supervised associates and students in the study of the Tarsonemidae (Ding Ting-Zhong, Yang Qing-Shuang), Eriophyoidea (Ding Ting-Zhong, Dong Hui-Qin—Fig. 6), Phytoseiidae (Liang Lai-Rong and Ke Li-Sheng—Fig. 6), Stigmaeidae (Hu Chen-Ye), Oribatida and Bdellidae (Hong Mei, later published in the name of Wu Lan), Cunaxidae (Liang Guo-Wei), Pyemotidae and Pygmephoridae associated with mushrooms (Yu Hong) and Trombidioidea (Fan Xiao-Xian, Zhang Zhi-Qiang). A list of new mite species by Prof Xin and his co-authors is presented in Table 2. A list of new taxa named in honour of Prof Xin is presented in Table 3.

Prof Xin also led research projects on biological control of spider mites on vegetables, water melon and cotton using predatory mites (project members including Liang Lai-Rong, Wu Qian-Hong, Yang Yan-Yun and Jin Zuo-Qin). The success of the project was made into a film “Using Mites to Control Mites<sup>19</sup>” for educating the general public. He presented the work on using phytoseiids at the 6<sup>th</sup> International Congress of Acarology held in England in 1982 (Xin *et al.*, 1984) and also at the “*The Chinese Academy of Sciences - United States National Academy of Sciences Joint Symposium on Biological Control of Insects (September, 1982, Beijing, China)*” (Xin, 1984a). These accomplishments won the recognition of his research in the world and promoted the international exchange with overseas acarologists.

He also supervised research by graduate students on the mass-production of phytoseiids (Zhou Hong) and resistance of phytoseiids to acaricides (Ke Li-Sheng and Zhu Ke-Yan). At a time when few Chinese entomologists published in overseas journals, he and his students published a series of papers in major international journals of acarology (Xin, Liang & Ke, 1981, 1985; Xin & Dong, 1982, 1983; Lan, Xin & Aoki, 1986; Zhang & Xin, 1989a, 1992; Zhu, Ke & Xin, 1996).

Prof Xin authored three major books in acarology towards the end of his career: “*An Outline of Acarology*” (Xin, 1984b; Fig. 2 left), “*Agricultural Acarology*” (Xin, 1988) and *Applied Acarology* (Xin 1989; Fig. 3 right). He also co-authored the book “*An Outline of Acari in China*” (Deng *et al.*, 1989).

#### *Prof Xin—contributions to other areas of zoology and entomology*

Prof Xin was interested in pest control in his early career and worked mostly on the control of granary pests using chemicals through scientific management and design of stored houses. He later became interested in biological control and integrated pest management, and made significant contribution to biological control of mites in China (see review above). His other contributions to the areas are through the papers and books he published and translated (see the Appendix for list of papers). He published several monographs, including: *Boreworm Chemical Control* (Xin, 1963a); *Augmentation & Mechanized Rearing of Natural Enemies of Insect and Mite Pests* (Xin & Lu, 1988; Fig. 3 middle), and *Predatory Mites Their Biology and Roles in Biological Control* (Xin, Lu, & Zhang, Z.-Q., 1998). He also translated several books on this subject: *Pest Control Methods for Stored Grain* (Xin, 1955); *How to Prevent Grain from Pest Infection* (Xin & Zhang Y.-F., 1957); *Forecast of Outbreaks of Striped Riceborer* (Xin, 1958); *Integrated Control* (Xin & Liang, 1980) and *Guide to Design and Development of Pesticides* (Xin, 1988).

18. In Japanese/Chinese 北海道大学農学部 森 樊須

19. In Chinese 以螨治螨

**TABLE 2.** New mite species described by Prof Xin Jie-Liu and co-authors.

---

**Mesostigmata (14 species)**

- Amblyseius pseudolongispinosus* Xin, Liang & Ke, 1981—Phytoseiidae  
Now recombined as *Neoseiulus pseudolongispinosus*
- Phytoseius huaxiensis* Xin, Liang & Ke, 1982—Phytoseiidae
- Phytoseius mori* Xin, Liang & Ke, 1983—Phytoseiidae
- Phytoseius rubii* Xin, Liang & Ke, 1982—Phytoseiidae
- Phytoseius scabiosus* Xin, Liang & Ke, 1983—Phytoseiidae
- Phytoseius shanghaiensis* Xin, Liang & Ke, 1983—Phytoseiidae  
Junior synonym of *Phytoseius nipponicus* Ehara, 1962
- Phytoseius wuxianensis* Xin, Liang & Ke, 1983—Phytoseiidae  
Junior synonym of *Phytoseius minutus* Narayanan, Kaur & Ghai, 1960
- Typhlodromus acacia* Xin, Liang & Ke, 1980—Phytoseiidae
- Typhlodromus cannabis* Ke & Xin, 1983—Phytoseiidae
- Typhlodromus macrum* Ke & Xin, 1983—Phytoseiidae
- Typhlodromus platycladus* Xin, Liang & Ke, 1980—Phytoseiidae
- Typhlodromus ribei* Ke & Xin, 1983—Phytoseiidae
- Typhlodromus trimediosetus* Xin, Liang & Ke, 1980—Phytoseiidae  
Junior synonym of *Paraseiulus soleiger* (Ribaga, 1902)
- Typhlodromips clinopodii* (Ke & Xin, 1982)

**Oribatida (2 species)**

- Dometorina praedatoria* Wu, Xin & Aoki, 1986—Oribatulidae
- Schelorbitates oryzae* Wu, Xin & Aoki, 1986—Schelorbitatidae

**Prostigmata (15 species)**

- Abacarus fujianensis* Xin & Ding, 1982—Eriophyidae  
Junior synonym of *Abacarus sacchari* Channabasavanna, 1966—synonymy by Ozman-Sullivan *et al.*, 2006
- Aceria milli* Xin & Dong, 1982—Eriophyidae
- Aculops suzhouensis* Xin & Ding, 1982—Eriophyidae
- Aceria paratulipae* Xin & Dong, 1982—Eriophyidae
- Allothrombium ovatum* Zhang & Xin, 1992—Trombidiidae
- Eriophyes meliae* Dong & Xin, 1984—Eriophyidae  
Recombined as *Aceria meliae*—Amrine & Stasny 1994
- Eriophyes neosalicina* Dong & Xin, 1984—Eriophyidae  
Recombined as *Aceria neosalicina*—Amrine & Stasny 1994
- Eriophyes quadrimarginis* Dong & Xin, 1984  
Recombined as *Aceria quadrimarginis*—Amrine & Stasny 1994
- Diptacus gigantorubra* Xin & Dong, 1983
- Diptiloplatus sacchari* Xin & Dong, 1983—Diptilomiopidae
- Eriophyes artemisia* Xin & Dong, 1982—Eriophyidae  
Replaced as *Aceria yunnanensis* Dong & Hong, 1998
- Falsivalgothrombium longitarsis* (Zhang & Xin, 1989b)—Neothrombiidae  
Recombined as *Neothrombium longitarsis* (Zhang & Xin, 1989)—Małkol (2009)
- Hirstithrombium meridionalis* Zhang & Xin, 1988—Johnstonianidae
- Podothrombium paucisetarum* Zhang & Xin, 1989c—Trombidiidae
- Rhyncaphytoptus jiangsuensis* Xin & Dong, 1981—Diptilomiopidae
-

**TABLE 3.** New mite taxa named in honour of Prof Xin Jie-Liu.

---

<i>Arrenurus (Arrenurus) xini</i> Jin & Wiles, 1996—Arrenuridae (Prostigmata)
<i>Cenopalpus xini</i> Ma & Li, 1984—Tenuipalpidae (Prostigmata)
<i>Gamasellus xini</i> Liang & Ishikawa, 1989—Ologamasidae (Mesostigmata)
<i>Typhlodromus (Anthoseius) xini</i> Wu, 1983—Phytoseiidae (Mesostigmata)
<i>Xinella</i> Ma & Wang, 1991—Tetranychidae (Prostigmata)

---

Prof Xin is an early proponent of soil zoology in China. In the early 1980s, he recognized the need to pay attention to research on soil zoology in China (Xin, 1984). He initiated soil mite research at Fudan University and built international collaboration with colleagues in Japan (e.g. Lan, Xin & Aoki, 1986). Later, he published an introductory text “*Soil Animal Knowledge*” (Xin, 1986)—the first of its kind in China. He worked with Prof Yin Wen-Ying (Chinese Academy of Sciences) in organizing the first workshop on soil zoology in China. His student Prof Liang continued to participate in the national project on soil animals of subtropical China, which was led by Prof Yin with international collaboration with Japanese zoologists.

Prof Xin was interested in nomenclature of insects. His reference work “*English-Chinese Insect Common Names and Terms*” (Xin & Xia, 1978) is widely used in China. He also made important contributions to the reference book “*Names and Terms of Acarina*” (Anonymous 1982).

While teaching insect taxonomy and morphology at Fudan University, Prof Xin prepared a manual for student use. This manual was later published as “*Insect Morphology & Taxonomy*” (Xin, Yang & Hu, 1985), which is still a key reference book for students of insect taxonomy and morphology today. *Entomological Laboratory Techniques* (Guo & Xin, 1988) is also a widely used reference book for students of experimental entomology in China. Two translated general text books—*An Outline of Entomology* (Xin & Liu, 1982) and *Imms' General Textbook of Entomology* (Xin, 1987)—remain as reference books for entomology course in China today.

Prof Xin's greatest contribution to Chinese entomology is probably his founding the entomology specialization within the zoology division at Fudan University in the 1950s. This enabled the enrolment of entomology students every other year and thus he was able to train hundreds of entomology students. Several generations of entomology graduates from Fudan Universities moved to many universities, and research or governmental institutions throughout China and played important roles in the development of entomology in China.

### **Prof Xin—personal memories and reflections**

#### *Zhang Zhi-Qiang*

I first met Prof Xin during the welcoming ceremony for new students of the Department of Biology of Fudan University in the summer of 1981. All professors were sitting in the front row. When Prof Xin was introduced, he stood up, turned back towards the crowd, waved and smiled to new students. My first impression was that he was very tall and handsome, with the demeanor of a great scholar. He also looked much younger than his age. During the next four undergraduate years, I had little interaction with him as he did not teach any course. The only place where I often saw him was the department library. He did not know me then, and I looked up at him with respect when he passed by my desk in the reading room—his steps were strong and forceful on the old wooden floors of the library.

During my fourth year at Fudan University, I developed an interest in mites. In the summer of 1985, I started my graduate studies, along with Zhu Keyan, under Prof Xin's supervision. In 1987, I

become his last PH.D. student. It was only during my graduate studies that I started to have regular interaction with him. He never came to the university after 1985. So I went to his home near Shanghai Stadium in Xuhui to discuss my research with him on a regular basis. I still remember the long bicycle rides from the university on the eastern edge of the city to his home on the western side, sometimes under the hot sun, in the rain or among heavy traffic. The reward each time was an hour or so of mentoring by Prof Xin, from whom I learned much more than most students would expect from a professor.

Prof Xin was a true gentleman. He was kind, amicable, considerate and supportive to students and colleagues. Perhaps because of this, he had no enemies during the Great Cultural Revolution and he did not suffer from physical abuse and harsh treatments that many other experts and professors received from “red guards<sup>20</sup>” and “revolutionary revolters<sup>21</sup>”.

Prof Xin had a passion for books and new information. He was a master of languages, an accomplished writer and a great synthesizer of literature. This is evident in many books he wrote and translated. I learned from him every early in my career to “read and learn through writing<sup>22</sup>”. The first few papers of mine were so much improved after editing and re-writing by him. I later developed my own passion for writing and editing.

Prof Xin was a scientist with foresight. That is why he was a pioneer and founder of several branches of entomology in China. When he was 80 years old, he wrote to me that he wanted to establish a biocontrol company. This vision was ahead of time in the 1980s where the socio-economic condition was not ready. I nevertheless kept his wishes in my heart and later helped introduce natural enemies and mass-production technology into China in the 1990s—assisting the group of Zhang Yanxuan and Lin Jianzhen (Fujian Academy of Agricultural Sciences) in building the first biocontrol company producing predatory mites in China.

Prof Xin was a scientist with extraordinary diligence and perseverance. Despite setbacks for a couple of decades during the Sino-Japanese War, civil war, and the Great Cultural Revolution, he still managed to produce 42 books and 133 papers—much more than most of his peers.

### *Dong Hui-Qin*

In 1978, I became one of the first graduate students of Prof Xin after the Great Cultural Revolution. My memories of him are his burly figure, dignified dress, pleasant smile, and his demeanor of a gentleman and scholar. He was not only a leading authority in our science, but a kind farther-like mentor. I had the great fortune to study and work under his guidance for 16 years after becoming his student.

I remember the first words he spoke to me when I first met him: “Learn English well. A command of language is the basis for scientific research.” Then he taught me the first thing: he took me to the department library and showed me how to find information in journals such as “*Science*” and “*Nature*”. The first advice he gave me: “Improve your skills in oral English as soon as possible”. He not only gave me the advice, but he himself found me an English teacher. His first encouragement to me was to ask me to communicate in English with a visiting professor from Japan in Shanghai Science Hall. That was also a breakthrough for me in learning English. The first paper that he edited and revised for me is on the eriophyid mites published in the international journal “*Acarologia*” in 1982.

In the early 1980s, I joined the faculty of Fudan University. With the reform and opening of

---

20. In Chinese 红卫兵

21. In Chinese 革命造反派

22. It is only when you start to write to convey to others that you can read and learn most efficiently.

China to the outside world, I was fortunate to win state funding to study overseas. Prof Xin wrote me the first letter of recommendation. Later, I visited the University of Toronto and worked in Dr Don Chant's laboratory for a year. The first letter I received from him: he recycled a used envelope. His memo to me was always written on scrap such as sheets from an old calendar. It was his way of showing to us the importance of conservation and minimized carbon output.

Prof Xin was a scientist who holds libraries a special place in his life. He was a frequent visitor to almost all the science libraries he had access. The information he passed to his students is the most recent and his ideas are often cutting edge and creative in China at that time. He was well-versed in several languages and extremely well-read. That is why he was able to write and publish so many papers and books. It is worth mentioning that he always signed modestly as "Jie-Liu" when communicating with students and colleagues, even though he was a renowned senior professor.

Every Spring Festival, he invited us (Su De-Ming, Le Yun-Xian, Yang Qing-Shuang, Cao Kai-Ming, Ma En-Pei, Yuan Yi-Lan and me) to gather at his home, with a wonderful New Year's meal prepared by Mrs Xin. We talked and shared our achievements in the past year and aspirations for the new year. It was happy time. Prof Xin was relatively quiet, listening to us with smile. We felt like we belonged to a special big family and Prof Xin was our head of the family. The memories of those years are unforgettable.

Prof Xin had a profound influence on me through details of his words and deeds. My memories of him are still vivid so many years after his passing. It is my great honour and fortune to have met a fatherly teacher when I was young.

## Acknowledgements

We are grateful to colleagues who shared with us information about Prof Xin, esp. Profs Li Long-Shu, Su De-Ming, Ding Ting-Zhong, Le Yun-Xian, Liang Lai-Rong and Wen Ting-Huan. We also thank Dr Xue Xiaofeng (Nanjing Agricultural University, Nanjing, China) who kindly helped with copying of some papers in China. We greatly appreciate the review of this manuscript and comments by Dr Hong Xiaoyue (Nanjing Agricultural University), Dr Lin Jianzhen (Fujian Academy of Agricultural Sciences) and Dr Zhu Keyan (now Keyan Salzman of Texas A&M University, USA). Dr Lin, Dr Xue, and Dr Chen Jun (Institute of Zoology, Chinese Academy of Sciences, Beijing, China) provided photos used in this paper. While this paper was prepared, Zhang was supported by Foundation for Research, Science and Technology, New Zealand.

## References cited

- Amrine, J.W.Jr. & Stasny, T.A. (1994) *Catalog of the Eriophyoidea (Acarina: Prostigmata) of the World*. Indira Publishing House, Michigan, U.S.A., 798 pp.
- Anonymous (1975) *Guide to the Families of Mites*. Shanghai People's Press, Shanghai, 236 pp. [translated from English to China of a book by E.W. Baker and J.H. Camin].
- Anonymous [Acarology Special Committee, Entomological Society of China] (1982) *Names and Terms of Acarina*. Science Press, Beijing, 128 pp. [in Chinese, Latin & English].
- Channabasavanna, G.P. (1966) *A Contribution to the Knowledge of Indian Eriophyid Mites (Eriophyoidea: Trombiformes: Acarina)*. University of Agricultural Science, Hebbal, Bangalore, India, 154 pp.
- Chen, S.-B., Jiang, Z.-J., Lu, P.-Y. & Ma, E.-P. (1982) China. In: Prasad, V. (ed.) *History of Acarology*. Indira Publishing House, Oak Park, Michigan, USA, pp. 65–113.
- Chen, X.-B. & Ma, E.-P. (1992) *Researches of Acarology in China*. Chongqing Publishing House, Chongqing,

China. 170 pp + 15 plates.

- Deng, G.-F., Wang, H.-F., Xin, J.-L., Wang, D.-Q., Wu, W.-N. & Wang, X.-Z. (1989) *An Outline of Acari in China*. Science Press, Beijing, 240 pp. [in Chinese].
- Dong, H.-Q. & Hong, X.-Y. (1998) *Aceria yunnanensis*, a new name for *Eriophyes artemisia* Xin & Dong (Acari: Eriophyidae). *Systematic and Applied Acarology*, 3, 199.
- Dong, H.-Q. & Xin, J.-L. (1984) Three new species of Eriophyidae from China (Acarina: Eriophyoidea). *Entomotaxonomia*, 6(4), 313–317 [in Chinese, with English abstract].
- Ehara, S. (1962) Notes on some predatory mites (Phytoseiidae and Stigmeidae). *Japanese Journal of Applied Entomology and Zoology*, Japan, 6(1), 53–60.
- Guo, F. & Xin, J.-L. (1988) *Entomological Laboratory Techniques*. Science Press, Beijing, 396 pp. [in Chinese].
- He, X.-L. (1999) Late autumn's colour is the most beautiful—a sketch for Fudan University Professor Xin Jie-Liu<sup>23</sup>. In: *Selected Popular Science Works of He Xi-Lian*. Shanghai Popular Science Press, Shanghai, p. 51 [in Chinese].
- Ke, L.-S. & Xin, J.-L. (1982) Two new species of the genus *Amblyseius* Berlese from China (Acari: Phytoseiidae). *Entomotaxonomia*, 4(4), 307–310 [in Chinese with English abstract].
- Ke, L.-S. & Xin J.-L. (1983) Notes on three new species of the genus *Typhlodromus* (Acari: Phytoseiidae). *Entomotaxonomia*, 5(2), 185–188 [in Chinese with English abstract].
- Jin, D.-C. & Wiles, P.R. (1996) New species of *Arrenurus* Dugès (Acari: Hydrachnidia: Arrenuridae) from China and first records of water mites from Laos. *Acarologia*, 37, 317–344.
- Ma, E.-P. & Li, Y.-Q. (1984) A new species of the genus *Cenopalpus* from Xinjiang. *Acta Entomologica Sinica*, 27(3), 323–325 [in Chinese, with English summary].
- Ma, E.-P. & Wang, D.-S. (1991) A new genus and species of spider mites (Acarina: Tetranychidae) from Eastern China. *Entomotaxonomia*, 13 (1), 75–78.
- Małkol, J. (2009) A redescription of *Neothrombium neglectum* (Bruyant, 1909) with revision of *Neothrombium* (Acari: Neothrombiidae) and notes on the biology of species. *International Journal of Acarology*, 35(4), 275–301.
- Narayanam, E.S. & Kaur, R.B. (1960) Two new species of the genus *Typhlodromus* Scheuten from India (Acarina: Phytoseiidae). *Proceedings of the Indian Academy of Science*, 51B, 1–8.
- Ozman-Sullivan, S.K., Amrine, J.W. Jr. & Walter, D.E. (2006) A new species of Eriophyoid mite (Acari: Eriophyidae) on sugarcane in Australia. *International Journal of Acarology*, 32, 387–395.
- Shen, R.-Q. & Li, Z.-Y. (2002) Management of forest diseases and insect pest. In: Shi, Y.-C. (ed) *Chinese Academic Canon in the 20<sup>th</sup> Century: Agricultural Sciences*. Fuzhou, Fujian Education Publishing House, pp. 160–162 [in Chinese].
- Shen, Z.-P. (1995) In memory of Prof Xin on the first anniversary of his death. *Grain Storage*, 1995(3), 52 [in Chinese].
- Shin, K.-L. & Hsu, Y.-C. (1965) *Progress in Acarology* Shanghai Science and Technology Press, Shanghai, 332 pp. [in Chinese].
- Shin, J.-L. & Shen, C.-P. (1963) Morphological studies on *Aleuroglyphus ovatus* Troupeau, 1878 (Acarina: Acaridae). *Acta Entomologica Sinica*, 12(3), 300–309 [in Chinese].
- Shin, K.-L. & Shen, C.-P. (1964) Studies on the life history of *Aleuroglyphus ovatus* Troupeau, 1878 (Acarina: Acaridae). *Acta Entomologica Sinica*, 12(3), 428–435 [in Chinese].
- Su, T.-M. & Hsin, K.-L. (1963) Notes on mycosis of two species of aphid in Shanghai. *Acta Phytomycológica Sinica*, 2(2), 221–223 [in Chinese].
- Wang, R.-H. (2007) *Shanghai Dictionary (I)*. Shanghai Dictionary Press, Shanghai, p. 1764 [in Chinese].
- Wang, Z.-F. (1992) *Records of Fudan University Professors*. Fudan University Press, Shanghai, p. 75 [in Chinese].
- Wu, C.-P. (2001) *Dictionary of Shanghai Celebrities*. Shanghai Dictionary Press, Shanghai, p. 577 [in Chinese].
- Wu, F.-Z. & Yue, Z. (1986) *History of Entomological Society of China 1944–1984*. Entomological Society of

23. In Chinese 贺锡廉, 暮秋之色更美——复旦大学忻介六教授记略

- China, Beijing, 40 pp. [in Chinese].
- WU, L., Xin, J.-L. & Aoki, J. (1986) Two new species of oribatid mites of economic importance in China (Acari: Oribatida). *Proceedings of the Japanese Society of Systematic Zoology*, 34, 27–31
- Wu, W.-N. (1983) Two new species of *Typhlodromus* Scheuten (Acarina: Phytoseiidae) from China. *Zoological Research*, 4(1), 15–18 [in Chinese].
- Wu, W.-N. (1997) A review of taxonomic studies of the genus *Phytoseius* (Acari: Phytoseiidae) from China. *Systematic and Applied Acarology*, 2, 149–160.
- Yang, Q.-S. (1990) Xin Jie-Liu. In: *China Agriculture Encyclopaedia Insect Volume*. China Agriculture Press, Beijing, p. 428 [in Chinese].
- Xin, J.-L. translator (1937) *Theory and Practice for Storing Rice and Grain*. Commerce Printing House, 320 pp [translated to Chinese from a Japanese book by Mantaro Kondo].
- Xin, J.-L. (1951a) *Principles and Methods for Building Stored Grain Houses*. Commerce Printing House, Shanghai, 78 pp. [in Chinese].
- Xin, J.-L. (1951b) *Scientific Management of Stored Grain*. Xinhua Book Store, Shanghai, 96 pp. [in Chinese].
- Xin, J.-L. (1951c) *Stored Grain Pests in China*. Commerce Printing House, Shanghai, 138 pp. [in Chinese].
- Xin, J.-L. (1953) *Forest Entomology*. New Agricultural Press, Shanghai, 282 pp. [in Chinese].
- Xin, J.-L. translator (1955) *Pest Control Methods for Stored Grain*. Finance, Politics & Economics Press, Beijing, 100 pp. [translated into Chinese from Russian of the book by M.I. Shevchenko].
- Xin, J.-L. (1956a) Development of insect pathology and its role in agriculture/forestry production practice. *Entomological Knowledge*, 1956(2), 55–57 [in Chinese].
- Xin, J.-L. (1956b) Methods for rearing insects on artificial diet. *Entomological Knowledge*, 1956(6), 276–278 [in Chinese].
- Xin, J.-L. translator (1956c) *Principles of Insect Pathology*. Science Press, Beijing, 393 pp. [translation into Chinese from English of the book by Steinhaus, E.A. (1949) McGraw-Hill, New York].
- Xin, J.-L. translator (1957) *Principles of Insect Pathology Part B*. Science Press, Beijing, 395–805 pp. [translation into Chinese from English of the book by Steinhaus, E.A. (1949) McGraw-Hill, New York].
- Xin, J.-L. translator (1958) *Forecast of outbreaks of Striped Riceborer*. Shanghai Science and Technology Press, Shanghai, 152 pp. [translation into Chinese from Japanese of the book by Masatsugu Fukaya & Kenji Nakaya
- Xin, J.-L. (1959) *Insect Physiology Part B*. Science Press, Beijing, 304–612 pp. [translation into Chinese from French of the book: Chauvin, R. (1954) *Physiologie de L'Insecte: Le Comportement Les Grandes Fonctions Ecophysiologie* Paris, l'Institut National de la Recherche Agronomique].
- Xin, J.-L. (1963a) *Boreworm Chemical Control*. Shanghai City Science & Technology Translation and Editing House, Shanghai, 104 pp. [in Chinese]
- Xin, J.-L. translator (1963b) *The physiology of insect metamorphosis*. Shanghai Science and Technology Press, Shanghai, 149 pp. [translation into Chinese from English of the book: Wigglesworth, V.B. (1954) Cambridge University Press, Cambridge].
- Xin, J.-L. (1964) *Boreworm Physiology and Ecology*. Shanghai City Science & Technology Translation and Editing House, Shanghai, 128 pp. [in Chinese].
- Xin, J.-L. (1976) Artificial diet of insects. *Entomological Knowledge*, 1976(2), 62–63+41 [in Chinese].
- Xin, J.-L. (1984a) Current status and potentials for use of mites as biological control agents in China. In: Adkisson, P.L. & Ma, S.-J. (eds) *The Proceedings of The Chinese Academy of Sciences - United States National Academy of Sciences Joint Symposium on Biological Control of Insects (September, 1982, Beijing, China)*. Science Press, Beijing, pp. 282–287.
- Xin, J.-L. (1984b) The need to pay attention to research on soil zoology. *Chinese Journal of Nature*, 7(9) 681–682, +675 (part) [in Chinese].
- Xin, J.-L. (1984c) *An Outline of Acarology*. Higher Education Press, Beijing, 255 pp. [in Chinese].
- Xin, J.-L. (1986) *Soil Animal Knowledge*. Science Press, Beijing, 151 pp [in Chinese].
- Xin, J.-L. translator (1987) *Imms' General Textbook of Entomology*. Higher Education Press, Beijing, 319 pp. [translated into Chinese from English of the book: Richards, O.W. & Davies, R.G. (1977) *Imms' General*

- Textbook of Entomology: Volume 1: Structure, Physiology and Development*. 10th ed. edition, Springer].
- Xin, J.-L. (1988) *Agricultural Acarology*. China Agriculture Press, Beijing, 466 pp [in Chinese].
- Xin, J.-L. translator (1988) *Guide to Design and Development of Pesticides*. Chemical Industry Press, Beijing, 230 pp. [translation to Chinese from Japanese of the book by Iduru Yamamoto and Jun-ichi Fukami].
- Xin, J.-L. (1989) *Applied Acarology*. Fudan University Press, Shanghai, 222 pp [in Chinese].
- Xin, J.-L. & Ding, T.-Z. (1982) Two new species of the family Eriophyidae (Acarina: Eriophyoidea). *Acta Zootaxonomica Sinica*, 7(2), 166–169 [in Chinese, with English abstract].
- Xin, J.-L. & Dong, H.-Q. (1981) Two new species of the genus *Rhyncaphytoptus* from China (Acarina: Eriophyoidea). *Fudan Journal (Natural Science)*, 20(2), 216–219 [in Chinese, with English abstract].
- Xin, J.-L. & Dong, H.-Q. (1982) Two new species of the genus *Aceria* (Acarina: Eriophyoidea) in the People's Republic of China. *Acarologia*, 23(2), 158–163.
- Xin, J.-L. & Dong, H.-Q. (1983) Three new species of diptilomiopid mites found in China (Acarina: Eriophyoidea). *Acarologia*, 24(2), 181–185.
- Xin, J.-L. & Liang, L.-R. translators (1980) *Integrated Control*. Shanghai Science and Technology Press, Shanghai, 428 pp. [translation into Chinese from Japanese of the book by Masatsugu Fukaya and Keiji Tani].
- Xin, J.-L., Liang, L.-R. & Ke, L.-S. (1980) Three new species of the genus *Typhlodromus* Scheuten (Acarina: Phytoseiidae) [in Chinese]. *Fudan Journal (Natural Science)*, 19, 468–472 [in Chinese, with English abstract].
- Xin, J.-L., Liang, L.-R. & Ke, L.-S. (1981) A new species of the genus *Amblyseius* from China (Acarina: Phytoseiidae). *International Journal of Acarology*, 7, 75–80.
- Xin, J.-L., Liang, L.-R. & Ke, L.-S. (1982) Two new species of *Phytoseius* Ribaga from Yunnan and Guizhou (Acari: Phytoseiidae). *Zoological Research, Supplement*, 3, 57–60 [in Chinese, with English abstract].
- Xin, J.-L., Liang, L.-R., Ke, L.-S. (1983) Four new species of the genus *Phytoseius* Ribaga (Acarina: Phytoseiidae). *Acta Zootaxonomica Sinica*, 8(1), 45–50 [in Chinese, with English abstract].
- Xin, J.-L., Liang, L.-R. & Ke, L.-S. (1984) Biology and utilization of *Amblyseius pseudolongisponisus* (Acari: Phytoseiidae) in China. In: Griffiths, D.A. & Bowman, C.E. (eds) *Acarology VI Volume 2*, Ellis Horwood Limited, Chichester, pp. 693–698.
- Xin, J.-L. & Liu, Z.-J. translators (1982) *An Outline of Entomology*. Higher Education Press, Beijing, 736 pp [translation into Chinese from German of book: Weber, H., Weidner, H. (1974) *Grundriß der Insektenkunde*. 5. Auflage, Gustav Fischer Verlag, Stuttgart
- Xin, J.-L. & Lu, J.-Q. (1988) *Augmentation & Mechanized Rearing of Natural Enemies of Insect and Mite Pests*. Science Press, Beijing, 126 pp. [in Chinese].
- Xin, J.-L., Lu, J.-Q. & Zhang, Z.-Q. (1998) *Predatory Mites. Their Biology and Roles in Biological Control*. London, Systematic & Applied Acarology Society. 187 pp. [in Chinese with English Abstract].
- Xin, J.-L. & Luo, Z.-Y. (1956) *Insect Physiology Part A*. Beijing Science Press, Beijing, 302 pp. [translation into Chinese from Russian of the book: Chauvin, R. (1954) *Physiologie de L'Insecte: Le Comportement Les Grandes Fonctions Ecophysiologie* Paris, l'Institut National de la Recherche Agronomique, which was annotated by in Russian].
- Xin, J.-L. & Qiu, Y.-S. (1986) *Artificial Diet for Insects, Mites and Spiders Continued*. Science Press, Beijing, 211 pp [in Chinese].
- Xin, J.-L., Shen, Z.-P., Yang, Q.-S., Ding, T.-Z. & Liang, L.-R. translators (1983) *The Mites of Stored Food and Houses*. China Agriculture Press, Beijing, 395 pp. [translation into Chinese from English of the book: Hughes, A.M. (1978) *The Mites of Stored Food and Houses*. 2nd edition. Ministry of Agriculture, Fisheries and Food Technical Bulletin 9, H.M.S.O., London].
- Xin, J.-L. & Su, D.-M. (1979) *Artificial Diet for Insects, Mites and Spiders*. Science Press, Beijing, 211 pp. [in Chinese].
- Xin, J.-L. & Xia, S.-Y. (1978) *English-Chinese Insect Common Names and Terms*. Hunan People's Press, Changsha, 441 pp. [in Chinese, with English-Chinese, Chinese-English entries].
- Xin, J.-L., Yang, Q.-S. & Hu, C.-Y. (1985) *Insect Morphology & Taxonomy*. Fudan University Press, Shanghai, 447 pp [in Chinese].

- Xin, J.-L. & Zhang, Y.-F. (1957) *How to Prevent Grain from Pest Infection*. Finance, Politics and Economics Press, Beijing, 51 pp. [translation into Chinese from Russian of the book by V.G. Gavrish].
- Xin, J.-L. & Zhong, X.-Q. (1937) *Report on Control of Stored Grain Pests in 37 Counties of Jiangxi*. Agricultural Academy of Jiangxi Province (Special Bulletin 5), Nanchang, 92 pp. [in Chinese].
- Zhang, D.-L. (1988) *Records of Professors of Shanghai Higher Education System*. East China Normal University Press, Shanghai, p. 239 [in Chinese].
- Zhang, G.-L. (1995) In memory of Prof Xin on the first anniversary of his death. *Grain Storage*, 1995(5), 2 [in Chinese].
- Zhang, Z.-Q. & Xin, J.-L. (1988) Notes on *Hirstithrombium* with description of a new species from China (Acariformes: Johnstonianidae). *Entomotaxonomia*, 10, 313-316 [in Chinese, with English abstract].
- Zhang, Z.-Q. & Xin, J.-L. (1989a) Biology of *Allothrombium pulvinum* (Acariformes: Trombidiidae), a potential biological control agent of aphids in China. *Experimental & Applied Acarology*, 6(2), 101-108.
- Zhang, Z.-Q. & Xin, J.-L. (1989b) A new genus and a new species of Microtrombidinae Thor, 1935 (Acari: Trombidiidae). *Acta Zootaxonomica Sinica*, 14, 33-36 [in Chinese, with English abstract].
- Zhang, Z.-Q. & J.-L. Xin. (1989c) A new species of larva of *Podothrombium* Berlese, 1910 parasitic on aphids from China (Acariformes: Trombidiidae). *Acta Zootaxonomica Sinica*, 14, 169-173 [in Chinese, with English abstract].
- Zhang, Z.-Q. & Xin, J.-L. (1992) Review of larval *Allothrombium* (Acari: Trombidoidea), with description of a new species ectoparasitic on aphids in China. *Journal of Natural History*, 26(2), 383-393.
- Zhu, K.-Y., Ke, L.-S. & Xin, J.-L. (1996) Selection and genetic analysis of fenvalerate resistance in *Amblyseius pseudolongispinosus* (Acari: Phytoseiidae). *Systematic & Applied Acarology*, 1, 5-10.

## Appendix:

### Bibliography of Prof XIN Jie-Liu's scientific publications (also as Chiu Chu-Sieh or Shin Kai-Lo)

All publications are listed by year and sorted into two parts: (1) papers and books authored or edited by Prof Xin, and (2) books translated by Prof Xin. For early papers and books published in China without English abstract, the original Chinese titles are given in footnotes, as it is not possible to translate back into Chinese exactly.

#### *Authored/ edited books and papers*

- 1928 Xin, J.-L. (1928) Anthropogenese<sup>24</sup>. *Oriental Magazine*, 25(17), 81–84 [in Chinese].
- 1930 Xin, J.-L. (1930) An exposition on the reproductive hormone vitamin E<sup>25</sup>. *Oriental Magazine*, 27(9), 98–100 [in Chinese].
- 1931 Xin, J.-L. (1931) The anatomy of the silkworm body<sup>26</sup>. *The Nature*, 6(1), 54–64 [in Chinese].  
Xin, J.-L. (1931) The companion marriage<sup>27</sup>. *Women Magazine*, 17(15), 7–11 [in Chinese].  
Xin, J.-L. (1931) Methods for collecting, handling and preserving parasites<sup>28</sup>. *The Nature*, 6(1), 65–68 [in Chinese].  
Xin, J.-L. (1931) Sociality of the forest<sup>29</sup>. *The Nature*, 6(1), 1–4 [in Chinese].
- 1935 Xin, J.-L. (1935) Fumigants for storage houses and the changes in the gas concentration<sup>30</sup>. *Jiangxi Agricultural News*, 1(21), 387–392 [in Chinese].  
Xin, J.-L. (1935) The importance of granary pests in western Jiangxi and methods for fundamental solution<sup>31</sup>. *Jiangxi Agricultural News*, 1(23), 427–429 [in Chinese].  
Xin, J.-L. (1935) The importance of pest problems in China and control achievements in China and overseas<sup>32</sup>. *Jiangxi Agricultural News*, 1(24), 452–465 [in Chinese].  
Shiu, C.-S. (1935) An improved apparatus for termites<sup>33</sup>. *Insects and Plant Diseases*, 3(31), 618–619 [in Chinese].
- 1936 Shiu, C.-S.<sup>34</sup>. (1936) The interrelation of the self-heating of stored grain and granary pests<sup>35</sup>. *Insects and Plant Diseases*, 4(5), 80–84 [in Chinese].  
Xin, J.-L. (1936) The proper understanding of stored grain problem among Chinese people<sup>36</sup>. *Agricultural Weekly*, 5(19), 411–414 [in Chinese].  
Xin, J.-L. (1936) The self-heating of stored grain<sup>37</sup>. *Jiangxi Agricultural News*, 2(3), 56–60 [in Chinese].  
Xin, J.-L. (1936) The seriousness of stored grain problem in China and its recent control process in Jiangxi<sup>38</sup>. *Agricultural Weekly*, 5(23), 502–505 [in Chinese].  
Xin, J.-L. (1936) A survey of locally-produced fumigants in Jiangxi and a test of their efficacy<sup>39</sup>. *Bulletin of China Agricultural Society*, (155), 95–105 [in Chinese].

24. In Chinese 人类的化成

25. In Chinese 生殖素维他命 E 之解释

26. In Chinese 蚕体的解剖

27. In Chinese 伴侣婚姻

28. In Chinese 寄生虫之采集处理及保存法

29. In Chinese 森林之社会性

30. In Chinese 仓库熏蒸剂与气体浓度的变化

31. In Chinese 赣西各县积谷害虫问题之严重性及其根本解决之办法

32. In Chinese 中国虫害问题的严重性及中外除虫的业绩

33. In Chinese 改进之白蚁饲养器

34. Chu-Sieh Chiu was given in this paper as the transliterated name for 忻介六

35. In Chinese 积谷发热现象与积谷害虫

36. In Chinese 国人对积谷问题应有之认识

37. In Chinese 积谷的发热现象

38. In Chinese 我国积谷害虫问题之严重性及江西省最近防治经过

39. In Chinese 江西土产熏蒸剂之调查及其效力试验

- 1937 Xin, J.-L. (1937) New trends in the application of agricultural chemicals<sup>40</sup>. *Jiangxi Agricultural News*, 3(20), 2–6 [in Chinese].
- Xin, J.-L. (1937) The problem of grain storage in sustaining Anti-Japanese War<sup>41</sup>. *Jiangxi Agricultural News*, 3(23), 2–4 [in Chinese].
- Xin, J.-L. (1937) Sealed storage of rice and grain<sup>42</sup>. *Jiangxi Agricultural News*, 3(14), 1–3 [in Chinese].
- Xin, J.-L. (1937) Two new methods for controlling rice pests<sup>43</sup>. *Jiangxi Agricultural News*, 3(19), 2–4 [in Chinese].
- Xin, J.-L. (1937) Weather and climate and their relationship with insects<sup>44</sup>. *Book Prospect*, 2(9–10), 56–62 [in Chinese].
- Xin, J.-L. & Zhong, X.-Q. (1937) *Report on Control of Stored Grain Pests in 37 Counties of Jiangxi*<sup>45</sup>. Agricultural Academy of Jiangxi Province (Special Bulletin 5), Nanchang, 92 pp. [in Chinese].
- 1938 Xin, J.-L. (1938) Scientific Management of Stored Grain<sup>46</sup>. *Agricultural Academy of Jiangxi Province, Entomology Group Special Bulletin*, 1, 1–22 [in Chinese].
- Xin, J.-L. (1938) Research and discussion on the scientific management of storing military rice from Six Counties in Pingxiang<sup>47</sup>. *Agricultural Academy of Jiangxi Province, Entomology Group Special Bulletin*, 1, 3–8 [in Chinese].
- Xin, J.-L. (1938) Methods for rational renovation of old-style grain storage houses<sup>48</sup>. *Agricultural Academy of Jiangxi Province, Entomology Group Special Bulletin*, 1, 9–13 [in Chinese].
- Xin, J.-L. (1938) Methods for rational management of stored grain<sup>49</sup>. *Agricultural Academy of Jiangxi Province, Entomology Group Special Bulletin*, 1, 14–17 [in Chinese].
- Xin, J.-L. (1938) A draft for implementing scientific management of stored grain in the whole Province<sup>50</sup>. *Agricultural Academy of Jiangxi Province, Entomology Group Special Bulletin*, 1, 18–22 [in Chinese].
- Xin, J.-L. (1938) The problem of granary pests in China<sup>51</sup>. *New Bulletin of Agriculture and Forestry*, 16(12–14) [in Chinese].
- Xin, J.-L. (1938) Introducing a newly established agricultural organization in Jiangxi—Scientific Management of Stored Grain<sup>52</sup>. *New Bulletin of Agriculture and Forestry*, 16(17–19) [in Chinese].
- 1939 Xin, J.-L. (1939) Rational renovation of old-style grain storage houses and rational management of stored grain<sup>53</sup>. *Agricultural Academy of Jiangxi Province, Special Bulletin 3* [in Chinese].
- Xin, J.-L. (1939) The prospect for giant silkworm industry in China<sup>54</sup>. *Oriental Magazine*, 36(13), 27–29 [in Chinese].
- Xin, J.-L. (1939) The problem of stored grain in Anti-Japanese War<sup>55</sup>. *Oriental Magazine*, 36(19), 21–27 [in Chinese].
- 1940 Xin, J.-L. (1940) How to control pests in grain storage houses<sup>56</sup>. *Beipei Monthly*, 3 (4), 58–61 [in Chinese].
- Xin, J.-L. (1940) The industry for the China wax scale insect during Anti-Japanese War<sup>57</sup>. *Oriental Magazine*,

40. In Chinese 农用药剂之最新趋势

41. In Chinese 持久抗战中之粮食贮藏问题

42. In Chinese 米谷之密封贮藏法

43. In Chinese 防治稻作害虫之二新法

44. In Chinese 天气及气候与昆虫之关系

45. In Chinese 江西三十七县积谷害虫防治报告：南昌，江西省农业院

46. In Chinese 积谷之科学管理

47. In Chinese 萍乡六县军米贮藏科学管理工作之研讨

48. In Chinese 旧式积谷仓之合理改造法

49. In Chinese 积谷贮藏之合理管理

50. In Chinese 实施全省积谷科学管理草案

51. In Chinese 中国积谷害虫问题

52. In Chinese 介绍江西新创的一种农事机构—积谷科学管理

53. In Chinese 旧式谷仓之合理改造与积谷贮藏之合理管理

54. In Chinese 我国天蚕丝事业之前途；the giant silkworm species discussed in the paper is *Eriogyna pyretorum* Westwood.

55. In Chinese 抗战中贮粮损耗问题

56. In Chinese 谷仓如何防虫

- 37(3), 45–49 [in Chinese].  
 Xin, J.-L. (1940) The mistakes in current methods for grain storage in China and proper improvement in the future<sup>58</sup>. *Oriental Magazine*, 37(5), 13–14 [in Chinese].
- 1942 Xin, J.-L. (1942) Prevention of grain loss after the “Grain for Land Tax”<sup>59</sup>. *Chinese Farmer*, 1 (1), 56–60 [in Chinese].
- 1943 Xin, J.-L. (1943) Levy of grain and its storage<sup>60</sup>. *Grain Administration Monthly*, 1 (4), 18–20 [in Chinese].
- 1944 Xin, J.-L. (1944) Methods for measuring the degree of fineness of ground edible rice<sup>61</sup>. *Grain Issues*, 1(3), 115–117 [in Chinese].
- 1951 Xin, J.-L. (1951) *Principles and Methods for Building Stored Grain Houses*<sup>62</sup>. Commerce Printing House, Shanghai, 78 pp. [in Chinese].  
 Xin, J.-L. (1951) *Scientific Management of Stored Grain*<sup>63</sup>. Xinhua Book Store, Shanghai, 96 pp. [in Chinese].  
 Xin, J.-L. (1951) *Stored Grain Pests in China*<sup>64</sup>. Commerce Printing House, Shanghai, 138 pp. [in Chinese].
- 1952 Xin, J.-L. (1952) An introduction to systemic insecticides<sup>65</sup>. *Natural Sciences*, 2(5), 474–475 [in Chinese].  
 Xin, J.-L. (1952) Most recent new methods for application of insecticides: an introduction to fogging<sup>66</sup>. *Natural Sciences*<sup>67</sup>, 2(1), 45–48 [in Chinese].  
 Xin, J.-L. (1952) Pest problems in applications of agricultural chemicals<sup>68</sup>. *China Agricultural Sciences*, 1952(10), 8–10 [in Chinese].
- 1953 Xin, J.-L. (1953) *Forest Entomology*<sup>69</sup>. New Agricultural Press, Shanghai, 282 pp. [in Chinese].
- 1955 Xin, J.-L. (1955) The last three years of Professor Hai-Shan<sup>70</sup>. *Entomological Knowledge*, 1955(3), 145 [in Chinese].  
 Xin, J.-L. (1955) Current problems in food storage in China and directions for future research<sup>71</sup>. *Fudan Journal (Natural Science Edition)*, 1955(1), 107–115 [in Chinese].
- 1956 Xin, J.-L. (1956) Development of insect pathology and its role in agriculture/forestry production practice<sup>72</sup>. *Entomological Knowledge*, 1956(2), 55–57 [in Chinese].  
 Xin, J.-L. (1956) Eliminate rats and sparrows<sup>73</sup>. *Prospect*, 1956(4), 39–40 [in Chinese].  
 Xin, J.-L. (1956) New methods for pest control using atomic energy<sup>74</sup>. *Entomological Knowledge*, 1956(4), 172–

57. In Chinese 抗战期中之白蜡虫事业

58. In Chinese 我国现今屯粮方法之错误及其今後应有之改进

59. In Chinese 论田赋征实后粮食损耗之防止

60. In Chinese 粮食征集与储备

61. In Chinese 食米精碾程度测定法之研究

62. In Chinese 粮仓修建之理论与方法：上海，商务印书馆

63. In Chinese 粮食贮藏的科学管理：上海，新华书店

64. In Chinese 中国粮仓害虫学：上海，商务印书馆

65. In Chinese 内吸杀虫剂的介绍

66. In Chinese 杀虫药剂最新使用法 — 烟雾法的介绍

67. In Chinese 自然科学，published during 1951–1952 and thereafter merged into Chinese Science Bulletin.

68. In Chinese 农业药剂使用上的药害问题

69. In Chinese 森林昆虫学：上海，新农出版社

70. In Chinese 海珊先生的最后三年；Hai-Shan (海珊) is the nick name of Zhang Jin-Ou (张景欧), a former professor of Entomology, Fudan University, Shanghai, China

71. In Chinese 现今我国粮食贮藏上存在着的問題和今後進行研究工作的方向

72. In Chinese 昆虫病理学的发展及其在农林生产实践上的作用

73. In Chinese 消灭老鼠和麻雀

74. In Chinese 利用原子能的最新害虫防治法

173 [in Chinese].

Xin, J.-L. (1956) Methods for rearing insects on artificial diet<sup>75</sup>. *Entomological Knowledge*, 1956(6), 276–278 [in Chinese].

Wang, M.-Q., Xin, J.-L., Xu, H.-N. & Zhao, T.-F. (1956) Water content of rice and safety of rice storage<sup>76</sup>. *Fudan Journal (Natural Science Edition)*, 1956(2), 227–253 [in Chinese].

1957 Xin, J.-L. (1957) Development of stored product entomology and recent research status<sup>77</sup>. *Chinese Journal of Zoology*, 1(1), 38–41 [in Chinese].

Xin, J.-L. (1957) Development of stored product entomology and recent research status (continued)<sup>78</sup>. *Journal of Zoology*, 1957(2), 87–92 [in Chinese].

Xin, J.-L. (1957) Global “Journal of Insect Physiology” launched<sup>79</sup>. *Journal of Zoology*, 1957(2), 113 [in Chinese].

Xin, J.-L. (1957) On “nature conservation”<sup>80</sup>. *Journal of Zoology*, 1957(3), 129–131 [in Chinese].

Xin, J.-L. (1957) Perspective on the problem of grain storage<sup>81</sup>. *Science*, 33(3), 104–106 [in Chinese].

Xin, J.-L. (1957) The scientific name for striped riceborer<sup>82</sup>. *Entomological Knowledge*, 1957(3), 104 [in Chinese].

Xin, J.-L. (1957) Systemic insecticides<sup>83</sup>. *China Agricultural Bulletin*, 1957(1), 29 [in Chinese].

Xin, J.-L. (1957) Rearing of stored house pests<sup>84</sup>. *Entomological Knowledge*, 1957(5), 217–220 [in Chinese].

1958 Wang, M.-Q. & Xin, J.-L. (1958) *Diseases and Pest Damages*<sup>85</sup>. Shanghai Science and Technology Press, Shanghai, 86 pp. [in Chinese].

Xin, J.-L. (1958) Zur Morphologie der Schmetterlingseier<sup>86</sup>. *Journal of Zoology*, 2(1), 58–59 [in Chinese].

Xin, J.-L. (1958) Reply to Comrade Zhen Ben-Yu<sup>87</sup>. *Science*, 1958(2), 125 [in Chinese].

Xin, J.-L. & Ding, T.-Z. (1958) Studies on the chemical control of *Dinoderus minutus* Fabricius<sup>88</sup>. *Chinese Science Bulletin*, 3(18), 567–567 [in Chinese].

1959 Xin, J.-L., Xue, C.-F., Liang, L.-R., Dai, Z.-R. & Chen, L.-Q. (1959) Effects of common fumigants on the seed germination of common agricultural crops. III. Nitrotrichloromethane<sup>89</sup>. *Chinese Science Bulletin*, 4(5), 172 [in Chinese].

Xin, J.-L., Xue, C.-F., Liang, L.-R., Dai, Z.-R. & Chen, L.-Q. (1959) Effects of common fumigants on the seed germination of common agricultural crops. III. dichloroethene<sup>90</sup>. *Chinese Science Bulletin*, 4(8), 271–272 [in Chinese].

Xin, J.-L., Xue, C.-F., Liang, L.-R., Dai, Z.-R. & Chen, L.-Q. (1959) Effects of common fumigants on the seed germination of common agricultural crops. III. Bromomethane<sup>91</sup>. *Chinese Science Bulletin*, 4(8), 273 [in Chinese].

Xin, J.-L., Xue, C.-F., Liang, L.-R., Dai, Z.-R. & Chen, L.-Q. (1959) Effects of common fumigants on the seed germination of common agricultural crops. IV. Carbon disulfide and Carbon tetrachloride<sup>92</sup>. *Chinese Science*

---

75. In Chinese 昆虫的人工饲料培养法

76. In Chinese 稻谷含水量与稻谷安全贮藏

77. In Chinese 贮藏物昆虫学的发展及其近年来研究情况

78. In Chinese 贮藏物昆虫学的发展及其近年来研究情况(续)

79. In Chinese 世界性的“昆虫生理学杂志”创刊

80. In Chinese 关于“自然保护”

81. In Chinese 粮食贮藏问题的展望

82. In Chinese 二化螟的学名

83. In Chinese 内吸杀虫剂的介绍

84. In Chinese 仓库害虫的饲养

85. In Chinese 病虫害;上海科学技术出版社

86. In Chinese 鳞翅目昆虫卵的形态学 (book review)

87. In Chinese 答邹本瑜同志

88. In Chinese 竹长蠹化学防治的研究

89. In Chinese 常用薰蒸剂对农作物种籽发芽的影响. I. 氯化苦

90. In Chinese 常用薰蒸剂对农作物种籽发芽的影响. II. 二氯乙烯

91. In Chinese 常用薰蒸剂对农作物种籽发芽的影响. III. 溴甲烷

*Bulletin*, 4(10), 334 [in Chinese].

Xin, J.-L., Xue, C.-F., Liang, L.-R., Dai, Z.-R. & Chen, L.-Q. (1959) Effects of common fumigants on the seed germination of common agricultural crops. V. Hydrogen cyanide<sup>93</sup>. *Chinese Science Bulletin*, 4(11) 369 [in Chinese].

Xin, J.-L., Xue, C.-F., Chen, L.-Q. & Zhou, R.-H. (1959) Effects of common fumigants on the seed germination of common agricultural crops. VI. Germination recovery<sup>94</sup>. *Chinese Science Bulletin*, 4(16) 530–530 [in Chinese].

1960 Xin, J.-L. (1960) Entomological Society of China 1960 Symposium<sup>95</sup>. *Chinese Science Bulletin*, 5(5), 159 [in Chinese].

1962 Xin, J.-L. (1962) On some questions of stored product insects<sup>96</sup>. *China Agricultural Sciences*, 3(8), 19–22. [in Chinese].

Xin, J.-L. (1962) How to coordinate pest control<sup>97</sup>. *Zhejiang Agricultural Sciences*, 1962(7), 320–321[in Chinese].

Xin, J.-L., Su, D.-M., Ding, T.-Z. & Gong, X.-H. (1962) Studies on the control of stored food pests using mixed pesticides<sup>98</sup>. *Fudan Journal (Natural Science Edition)*, (1), 87–94 [in Chinese].

1963 Shin, J.-L. & Shen, C.-P. (1963) Morphological studies on *Aleuroglyphus ovatus* Troupeau, 1878) (Acarina: Acaridae)<sup>99</sup>. *Acta Entomologica Sinica*, 12(3), 300–309 [in Chinese].

Su, T.-M. & Hsin, K.-L. (1963) Notes on mycosis of two species of aphid in Shanghai<sup>100</sup>. *Acta Phytophylacica Sinica*, 2(2), 221–223 [in Chinese].

Xin, J.-L. (1963) Advances in insect pathology in recent years<sup>101</sup>. *China Agricultural Sciences*, 4(2), 14–19 [in Chinese].

Xin, J.-L. (1963) *Boreworm Chemical Control*<sup>102</sup>. Shanghai City Science & Technology Translation and Editing House, Shanghai, 104 pp. [in Chinese].

Xin, J.-L. (1963) Current status and perspectives in biological pest control<sup>103</sup>. *Chinese Science Bulletin*, 1963(11), 24–28 [in Chinese].

Xin, J.-L. (1963) Review of new books on biological pest control published in recent years<sup>104</sup>. *Entomological Knowledge*, 1963(2), 96–98 [in Chinese].

1964 Shin, K.-L. & Shen, C.-P. (1964) Studies on the life history of *Aleuroglyphus ovatus* Troupeau, 1878) (Acarina: Acaridae)<sup>105</sup>. *Acta Entomologica Sinica*, 12(3), 428–435 [in Chinese].

Xin, J.-L. (1964) Advances in applied technology of insect pathology<sup>106</sup>. *China Agricultural Sciences*, 5(4), 30–35 [in Chinese].

Xin, J.-L. (1964) *Boreworm Physiology and Ecology*<sup>107</sup>. Shanghai City Science & Technology Translation and Editing House, Shanghai, 128 pp. [in Chinese].

Xin, J.-L. (1964) Fungi for eliminating pests<sup>108</sup>. *Popular Science*, 1964(4), 123–124 [in Chinese].

---

92. In Chinese 常用薰蒸剂对农作物种籽发芽的影响 IV . 二硫化碳与四氯化碳混合剂

93. In Chinese 常用薰蒸剂对农作物种籽发芽的影响 V . 氰酸气

94. In Chinese 常用薰蒸剂对农作物种籽发芽的影响 VI . 发芽力的恢复

95. In Chinese 中国昆虫学会 1960 年学术讨论会

96. In Chinese 关于防治贮藏物昆虫的若干问题

97. In Chinese 怎样进行害虫的协调防治

98. In Chinese 储粮害虫药剂拌合防治的研究

99. In Chinese 椭圆板白螨形态的研究 ( 蜱螨目 , 粉螨科 )

100. In Chinese 上海蔬菜蚜虫真菌病的观察

101. In Chinese 近年来昆虫病理学的进展

102. In Chinese 螟虫药剂防治 : 上海市科学技术编译馆

103. In Chinese 害虫生物防治的现况和展望

104. In Chinese 近年出版关于害虫生物防治新书的评介

105. In Chinese 椭圆食粉螨生活史的研究 ( 蜱螨目 , 粉螨科 )

106. In Chinese 昆虫病理学应用技术的进展

107. In Chinese 螟虫生理生态 : 上海市科学技术编译馆

108. In Chinese 真菌灭虫

- Xin, J.-L. (1964) On several issues in biological control of pests<sup>109</sup>. *Zhejiang Agricultural Sciences*, 1962(7), 320–321[in Chinese].
- 1965 Shin, K.-L. (1965) Recent progress of the studies on storage mites. In: Shin, K.-L. & Hsu, Y.-C. (eds.), *Progress in Acarology*. Shanghai Science & Technology Press, Shanghai, pp. 83–117 [in Chinese].  
Shin, K.-L. & Hsu, Y.-C. (1965) *Progress in Acarology*<sup>110</sup>. Shanghai Science and Technology Press, Shanghai, 332 pp. [in Chinese].  
Xin, J.-L. (1965) Advances in Acarology<sup>111</sup>. *Entomological Knowledge*, 1965(5), 320 [in Chinese].  
Xin, J.-L. (1965) Collecting and preparing specimens of stored product mites<sup>112</sup>. *Bulletin of Biology*, 1965(5), 28–29 [in Chinese].
- 1973 Xin, J.-L. (1973) On the artificial diet for ladybirds<sup>113</sup>. *Animal Utilization and Control*, 1973(6), 44–46 [in Chinese].
- 1976 Xin, J.-L. (1976) Artificial diet of insects<sup>114</sup>. *Entomological Knowledge*, 1976(2), 62–63+41 [in Chinese].
- 1977 Xin, J.-L. (1977) Operational techniques for sterile rearing of insects<sup>115</sup>. *Entomological Knowledge*, 1977(1), 3–9 [in Chinese].
- 1978 Xin, J.-L. (1978) Advances in application of beneficial mites<sup>116</sup>. *Entomological Knowledge*, 1978(3), 88–89 [in Chinese].  
Xin, J.-L. (1978) Advances in agricultural acarology<sup>117</sup>. *Entomological Knowledge*, 1978(5), 155–158 [in Chinese].  
Xin, J.-L. (1978) Brief introduction to integrative pest control overseas<sup>118</sup>. *Entomological Knowledge*, 1978(2), 32 & backcover [in Chinese].  
Xin, J.-L. (1978) Brief news on progress in systematic acarology<sup>119</sup>. *Entomological Knowledge*, 1978(2), 38 [in Chinese].  
Xin, J.-L. (1978) Integrated pest control<sup>120</sup>. *Scientific Experiments in the Countryside*, 1978(7), 5–6 [in Chinese].  
Xin, J.-L. & Xia, S.-Y. (1978) *English-Chinese Insect Common Names and Terms*<sup>121</sup>. Hunan People's Press, Changsha, 441 pp. [in Chinese, with English-Chinese, Chinese-English entries].
- 1979 Xin, J.-L. (1979) Advances in new technology for controlling stored product insects<sup>122</sup>. *Grain Storage*, 1979(1), 3–9 [in Chinese].  
Xin, J.-L. (1979) Mites and monitoring of public hazards<sup>123</sup>. *Journal of Nature*, 1979(9), 51–54 [in Chinese].  
Xin, J.-L. & Su, D.-M. (1979) Artificial Diet for Insects, Mites and Spiders<sup>124</sup>. Science Press, Beijing, 211 pp. [in Chinese].  
Yang, Q.-S., Ding, T.-Z., Dong, H.-Q. & Xin, J.-L. (1979) Discussion on the scientific name for two species of red

109. In Chinese 关于害虫生物防除的几个问题
110. In Chinese 蜚螨学进展 (书)
111. In Chinese 蜚螨学进展
112. In Chinese 贮藏物螨类标本的采集与制作
113. In Chinese 关于瓢虫的人工饲料饲养
114. In Chinese 昆虫的人工饲料
115. In Chinese 无菌饲养昆虫的操作技术
116. In Chinese 益螨利用研究的进展
117. In Chinese 农业螨类学的进展
118. In Chinese 国外害虫综合防治简介
119. In Chinese 蜚螨分类系统进展简讯
120. In Chinese 蜚螨分类系统进展简讯
121. In Chinese 英汉昆虫俗名词汇, 湖南人民出版社
122. In Chinese 贮粮害虫防治新技术的进展
123. In Chinese 螨类与公害监测
124. In Chinese 螨类和蜘蛛的人工饲料, 科学出版社

- spider mites on cotton<sup>125</sup>. *Entomological Knowledge*, 1979(4), 191–192 [in Chinese].
- 1980 Xin, J.-L. (1980) Advances in genetic control of two-spotted spider mite<sup>126</sup>. *Entomological Knowledge*, 1980(2), 95 & part of 94 [in Chinese].  
 Xin, J.-L. (1980) Advances in genetic control of stored grain pests<sup>127</sup>. *Entomological Knowledge*, 1980(3), 141 & part of 134 [in Chinese].  
 Xin, J.-L. (1980) Brief introduction to “A Manual of Acarology, 2nd edition”<sup>128</sup>. *Entomological Knowledge*, 1980(5), backcover [in Chinese].  
 Xin, J.-L., Liang, L.-R. & Ke, L.-S. (1980) Three new species of the genus *Typhlodromus* Scheuten (Acarina: Phytoseiidae) [in Chinese]. *Fudan Journal (Natural Science)*, 19, 468–472 [in Chinese, with English abstract].
- 1981 Xin, J.-L. (1981) On some issues about mites and IPM<sup>129</sup>. In: Entomological Society of China Forestry Committee (ed.) *Integrated Management of Forest Pests*. Yunnan Forestry Bureau, Kunming, pp. 34–41 [in Chinese].  
 Xin, J.-L. & Dong, H.-Q. (1981) Two new species of the genus *Rhyncaphytoptus* from China (Acarina: Eriophyoidea). *Fudan Journal (Natural Science)*, 20(2), 216–219 [in Chinese, with English abstract].  
 Xin, J.-L., Liang, L.-R., Ke, L.-S. (1981) A new species of the genus *Amblyseius* from China (Acarina: Phytoseiidae). *International Journal of Acarology*, 7(1/4), 75–80 [in Chinese, with English abstract].
- 1982 Ke, L.-S. & Xin, J.-L. (1982) Two new species of the genus *Amblyseius* Berlese from China (Acari: Phytoseiidae). *Entomotaxonomia*, 4(4), 307–310 [in Chinese, with English abstract].  
 Xin, J.-L. (1982) Introducing a newly published first volume “Glossary of Acarological Terminology”<sup>130</sup>. *Entomological Knowledge*, 1982(2), 32 [in Chinese].  
 Xin, J.-L. (1982) Application of mites in biological control<sup>131</sup>. *Entomological Knowledge*, 1982(2), 45 & 39 part [in Chinese].  
 Xin, J.-L. (1982) Issues in quality control of insect natural enemies<sup>132</sup>. *Entomological Knowledge*, 4(3), 56–60 [in Chinese].  
 Xin, J.-L. & Ding, T.-Z. (1982) Two new species of the family Eriophyidae (Acarina: Eriophyoidea). *Acta Zootaxonomica Sinica*, 7(2), 166–169 [in Chinese, with English abstract].  
 Xin, J.-L. & Dong, H.-Q. (1982) A new species of the genus *Eriophyes* from Yunnan (Acarina: Eriophyoidea). *Zoological Research*, 3(suppl), 61–63 [in Chinese, with English abstract].  
 Xin, J.-L. & Dong, H.-Q. (1982) Two new species of the genus *Aceria* (Acarina: Eriophyoidea) in the People's Republic of China. *Acarologia*, 23(2), 158–163.  
 Xin, J.-L., Liang, L.-R. & Ke, L.-S. (1982) Two new species of *Phytoseius* Ribaga from Yunnan and Guizhou (Acari: Phytoseiidae). *Zoological Research, Supplement*, 3, 57–60 [in Chinese, with English abstract].
- 1983 Ke, L.-S. & Xin J.-L. (1983) Notes on three new species of the genus *Typhlodromus* (Acari: Phytoseiidae). *Entomotaxonomia*, 5(2), 185–188 [in Chinese with English abstract].  
 Xin, J.-L. & Dong, H.-Q. (1983) Three new species of diptilomiopid mites found in China (Acarina: Eriophyoidea). *Acarologia*, 24(2), 181–185.  
 Xin, J.-L., Liang, L.-R., Ke, L.-S. (1983) Four new species of the genus *Phytoseius* Ribaga (Acarina: Phytoseiidae). *Acta Zootaxonomica Sinica*, 8(1), 45–50 [in Chinese, with English abstract].
- 1984 Dong, H.Q. & Xin, J.L. (1984) Three new species of Eriophyidae from China (Acarina: Eriophyoidea). *Entomotaxonomia*, 6(4), 313–317 [in Chinese, with English abstract].

125. In Chinese 关于为害棉花二种红叶螨学名的商榷

126. In Chinese 二点叶螨遗传防治的进展

127. In Chinese 贮粮害虫遗传防治的进展

128. In Chinese 《蜱螨学手册》第二版简介

129. In Chinese 谈谈螨类和 IPM 的一些问题 析介六

130. In Chinese 介绍新出版的第一本《蜱螨学术语词汇》

131. In Chinese 螨类在生物防治中的应用

132. In Chinese 天敌昆虫的品质管理问题

- Xin, J.-L. (1984) Agricultural Acarology in China: present status and perspective<sup>133</sup>. *Journal of Nature*, 1984(6), 418–421 & 480 part [in Chinese].
- Xin, J.-L. (1984) Management of Insect Pests with Semiochemicals—Concepts and Practice<sup>134</sup>. *Entomological Knowledge*, 1984(2), 81 [in Chinese].
- Xin, J.-L. (1984) The need to pay attention to research on soil zoology<sup>135</sup>. *Chinese Journal of Nature*, 7(9) 681–682, +675(part) [in Chinese].
- Xin, J.-L. (1984) *An Outline of Acarology*<sup>136</sup>. Higher Education Press, Beijing, 255 pp. [in Chinese].
- Xin, J.-L. (1984) Preface<sup>137</sup>. In: Jiangxi University (ed.) *Mites in Agriculture in China [Zhonggu Nongyue Manlei]*. Shanghai Science and Technology Publishing House, Shanghai, pp. 1–2 [in Chinese].
- Xin, J.-L. (1984) The problems about the biosystematics of natural enemies of insects. *Natural Enemies of Insects (Kunchong Tiandi)*, 6(4), 255–261 [in Chinese].
- Xin, J.-L. (1984) Current status and potentials for use of mites as biological control agents in China. In: Adkisson, P.L. & Ma, S.-J. (eds) *The Proceedings of The Chinese Academy of Sciences - United States National Academy of Sciences Joint Symposium on Biological Control of Insects (September, 1982, Beijing, China)*. Science Press, Beijing, pp. 282–287.
- Xin, J.-L., Liang, L.-R. & Ke, L.-S. (1984) Biology and utilization of *Amblyseius pseudolongisponisus* (Acari: Phytoseiidae) in China. In: Griffiths, D.A. & Bowman, C.E. (eds) *Acarology VI Volume 2*, Ellis Horwood Limited, Chichester, pp. 693–698.
- 1985 Xin, J.-L., Yang, Q.-S. & Hu, C.-Y. (1985) *Insect Morphology & Taxonomy*<sup>138</sup>. Fudan University Press, Shanghai, 447 pp. [in Chinese].
- Xin, J.-L. (1985) On the augmentation of natural enemies of insects<sup>139</sup>. *Natural Enemies of Insects*, 7(2), 72–81 [in Chinese].
- Xin, J.-L. (1985) Current status and prospectives in mites as biological control agents of insects<sup>140</sup>. *Chinese Journal of Biological Control*, 1985(1), 40–43 [in Chinese].
- 1986 Lan, W., Xin, J.-L. & Aoki, J. (1986) Two new species of oribatid mites of economic importance in China (Acari: Oribatida). *Proceedings of the Japanese Society of Systematic Zoology*, 34, 27–31.
- Xin, J.-L. (1986) *Soil Animal Knowledge*<sup>141</sup>. Science Press, Beijing, 151 pp [in Chinese].
- Xin, J.-L. (1986) Preface for this book<sup>142</sup>. In: Liang, L.-R. & Yang, Q.-S. (eds) *Acarological Knowledge*. Science Press, Beijing, p. ii [in Chinese].
- Xin, J.-L. & Qiu, Y.-S. (1986) *Artificial Diet for Insects, Mites and Spiders Continued*<sup>143</sup>. Science Press, Beijing, 211 pp. [in Chinese].
- 1987 Xin, J.-L. (1987) Spider mites: their biology, natural enemies and control<sup>144</sup>. *Entomological Knowledge*, 24(3), 146 [in Chinese].
- Xin, J.-L. & Ke, L.-S. (1987) Phytoseiidae. In: Institute of Zoology Chinese Academy of Sciences (ed) *Agricultural Insects of China (II)*. Agricultural Press, Beijing, p. 780–798 [in Chinese].
- 1988 Guo, F. & Xin, J.-L. (1988) *Entomological Laboratory Techniques*<sup>145</sup>. Science Press, Beijing, 396 pp. [in Chinese]

133. In Chinese 中国农业螨类学的现状和前景

134. In Chinese 以症状化学物质治理害虫 — 概念与实际

135. In Chinese 要重视土壤动物学的研究

136. In Chinese 蜱螨学纲要, 高等教育出版社

137. In Chinese 序; 中国农业螨类

138. In Chinese 昆虫形态分类学

139. In Chinese 天敌昆虫的增强问题

140. In Chinese 螨类作为害虫生物防治作用物的现况及其前景

141. In Chinese 土壤动物知识, 科学出版社

142. In Chinese 本书序; 蜱螨知识

143. In Chinese 昆虫、螨类和蜘蛛的人工饲料(续篇), 科学出版社

144. In Chinese 叶螨: 生物学、天敌与防治

145. In Chinese 昆虫学实验技术

Chinese].

Xin, J.-L. (1988) *Introducing a new journal of acarology*<sup>146</sup>. *Entomological Knowledge*, 25(3), 191 [in Chinese].

Xin, J.-L. & Lu, J.-Q. (1988) *Augmentation & Mechanized Rearing of Natural Enemies of Insect and Mite Pests*<sup>147</sup>. Science Press, Beijing, 126 pp. [in Chinese].

Xin, J.-L. (1988) *Agricultural Acarology*<sup>148</sup>. China Agriculture Press, Beijing, 466 pp. [in Chinese].

Zhang, Z.-Q. & Xin, J.-L. (1988) Effects of larval *Allothrombium pulvinum* Ewing (Acari: Trombidiidae) on the survival and reproduction of *Aphis fabae* Scopoli through parasitism in the laboratory. *Acta Phytophylacica Sinica*, 15, 78 & 84 [in Chinese].

Zhang, Z.-Q. & Xin, J.-L. (1988) Notes on *Hirstithrombium* with description of a new species from China (Acariformes: Johnstonianidae). *Entomotaxonomia*, 10, 313–316 [in Chinese, with English abstract].

1989 Deng, G.-F., Wang, H.-F., Xin, J.-L., Wang, D.-Q., Wu, W.-N. & Wang, X.-Z. (1989) *An Outline of Acari in China*<sup>149</sup>. Science Press, Beijing, 240 pp [in Chinese].

Xin, J.-L. (1989) Eriophyoidea. In: Deng, G.-F., Wang, H.-F., Xin, J.-L., Wang, D.-Q., Wu, W.-N. & Wang, X.-Z. (eds.) *An Outline of Acari in China*. Science Press, Beijing, pp. 153–172 [in Chinese].

Xin, J.-L. (1989) *Applied Acarology*<sup>150</sup>. Fudan University Press, Shanghai, 222 pp [in Chinese].

Zhang, Z.-Q. & Xin, J.-L. (1989) Biology of *Allothrombium pulvinum* (Acariformes: Trombidiidae), a potential biological control agent of aphids in China. *Experimental & Applied Acarology*, 6(2), 101–108.

Zhang, Z.-Q. & Xin, J.-L. (1989) A new genus and a new species of Microtrombidinae Thor, 1935 (Acari: Trombidiidae). *Acta Zootaxonomica Sinica*, 14, 33–36 [in Chinese, with English abstract].

Zhang, Z.-Q. & J.-L. Xin. (1989) A new species of larva of *Podothrombium* Berlese, 1910 parasitic on aphids from China (Acariformes: Trombidiidae). *Acta Zootaxonomica Sinica*, 14, 169–173 [in Chinese, with English abstract].

Zhang, Z.-Q. & Xin, J.-L. (1989) Studies on the morphology and life history of *Allothrombium pulvinum* Ewing (Acariformes: Trombidiidae). *Acta Entomologica Sinica*, 32 (2), 192–199. [in Chinese with English abstract]

1990 Ke, L.-S., Yang, Y.-Y. & Xin, J.-L. (1990) Selection and genetic analysis of dimethoate resistance in *Amblyseius pseudolongispinosus* (Acarina: Phytoseiidae). *Acta Entomologica Sinica*, 33(4), 393–397 [in Chinese with English abstract].

1992 Xin, J.-L. (1992) “Acarine Biocontrol Agents: An Illustrated Keys and Guide”<sup>151</sup>. *Entomological Knowledge*, 1992(1), 63 [in Chinese].

Xin, J.-L. (1992) Self-made pesticides for control of aphids<sup>152</sup>. *Kexue Huabao* [Science Pictorial], 1992(8), 28 [in Chinese].

Zhang, Z.-Q. & Xin, J.-L. (1992) Review of larval *Allothrombium* (Acari: Trombidoidea), with description of a new species ectoparasitic on aphids in China. *Journal of Natural History*, 26(2), 383–393.

1993 Xin, J.-L. (1993) “Acari: Reproduction, Development and Life History Strategies”<sup>153</sup>. *Entomological Knowledge*, 30(1), 48 [in Chinese].

Xin, J.-L. (1993) “Pictorial Guide to Soil Mites of Japan”<sup>154</sup>. *Entomological Knowledge*, 30(1), 14 [in Chinese].

1996 Zhu, K.-Y., Ke, L.-S. & Xin, J.-L. (1996) Selection and genetic analysis of fenvalerate resistance in *Amblyseius pseudolongispinosus* (Acari: Phytoseiidae). *Systematic & Applied Acarology*, 1, 5–10.

---

146. In Chinese 介绍一本蜱螨学新杂志

147. In Chinese 害虫与害螨天敌的增强及其机械化繁殖, 科学出版社

148. In Chinese 农业螨类学

149. In Chinese 中国蜱螨概要

150. In Chinese 应用螨类学

151. In Chinese 《螨类的生物防治作用物: 图解检索与指南》

152. In Chinese 自制农药治蚜虫

153. In Chinese 《蜱螨: 繁殖、发育及生活史策略》

154. In Chinese 《日本产土壤动物检索图说》

- 1998 Xin, J.-L., Lu, J.-Q. & Zhang, Z.-Q. (1998) *Predatory Mites. Their Biology and Roles in Biological Control*<sup>155</sup>. London, Systematic & Applied Acarology Society. 187 pp. [in Chinese with English Abstract].

***Translation of books from non-Chinese languages into Chinese***

- 1937 Xin, J.-L. translator (1937) *Theory and Practice for Storing Rice and Grain*. Commerce Printing House, 320 pp [translated to Chinese from a Japanese book by Mantaro Kondo<sup>156</sup>].
- 1955 Xin, J.-L. translator (1955) *Pest Control Methods for Stored Grain*. Finance, Politics & Economics Press, Beijing, 100 pp. [translated into Chinese from Russian of the book by M.I. Shevchenko<sup>157</sup>].
- 1956 Xin, J.-L. & Luo, Z.-Y. translators (1956) *Insect Physiology Part A*. Beijing Science Press, Beijing, 302 pp. [translation into Chinese of the book: Chauvin, R. (1954) *Physiologie de L'Insecte: Le Comportement Les Grandes Fonctions Ecophysiologie* Paris, l'Institut National de la Recherche Agronomique<sup>158</sup>].  
Xin, J.-L. translator (1956) *Principles of Insect Pathology*. Science Press, Beijing, 393 pp. [translation into Chinese from English of the book by Steinhaus, E.A. (1949) McGraw-Hill, New York<sup>159</sup>].  
Xin, J.-L. translator (1956) *Plant Protection. Pests of Agricultural Crops. Plant Diseases*. Finance, Politics & Economics Press, Beijing, 48 pp. [translated into Chinese from Russian of the book by V.N. Shegolev & A.N. Bukhgem<sup>160</sup>].
- 1957 Xin, J.-L. translator (1957) *Principles of Insect Pathology Part B*. Science Press, Beijing, 395–805 pp. [translation into Chinese from English of the book by Steinhaus, E.A. (1949) McGraw-Hill, New York].  
Xin, J.-L. & Zhang, Y.-F. (1957) *How to Prevent Grain from Pest Infection*. Finance, Politics and Economics Press, Beijing, 51 pp. [translation into Chinese from Russian of the book by V.G. Gavrish<sup>161</sup>].
- 1958 Xin, J.-L. translator (1958) *Forecast of outbreaks of Striped Riceborer*. Shanghai Science and Technology Press, Shanghai, 152 pp. [translation into Chinese from Japanese of the book by Masatsugu Fukaya & Kenji Nakaya<sup>162</sup>].
- 1959 Xin, J.-L. translator (1959) *Drying of Grain*. Shanghai Science and Technology Press, Shanghai, 38 pp. [translation into Chinese from English of the book: Andersonm J.A. & Alcock, A.W. Eds (1954) *Storage of cereal grains and their products*. Association of Cereal Chemists, St. Paul, Minnesota].<sup>163</sup>  
Xin, J.-L. translator (1959) *Stored Grain Pests and Rodents*. Shanghai Science and Technology Press, Shanghai, 94 pp. [translation into Chinese from English of the book: Andersonm J.A. & Alcock, A.W. Eds (1954) *Storage of cereal grains and their products*. Association of Cereal Chemists, St. Paul, Minnesota<sup>164</sup>].  
Xin, J.-L. (1959) *Insect Physiology Part B*. Science Press, Beijing, 304–612 pp. [translation into Chinese from French of the book: Chauvin, R. (1954) *Physiologie de L'Insecte: Le Comportement Les Grandes Fonctions Ecophysiologie* Paris, l'Institut National de la Recherche Agronomique<sup>165</sup>].
- 1963 Xin, J.-L. translator (1963) *The physiology of insect metamorphosis*. Shanghai Science and Technology Press, Shanghai, 149 pp. [translation into Chinese from English of the book: Wigglesworth, V.B. (1954) Cambridge University Press, Cambridge<sup>166</sup>].

---

155. In Chinese 捕食螨的生物学及其在生物防治中的作用

156. In Chinese 近藤万太郎, 米穀贮藏之理论与实际

157. In Chinese 舍甫岑科, 谷物贮藏防虫法

158. In Chinese 昆虫生理学, 上册, (法) 朔文 (著); (苏) 巴甫洛夫斯基 (编注)

159. In Chinese 昆虫病理学原理, (美) 史泰奥斯 (著); (苏) 巴甫洛夫 (编注)

160. In Chinese 植物保护·农作物害虫·植物病害, (苏) 谢戈列夫, (苏) 布赫盖姆 (著)

161. In Chinese 怎样预防谷物免受害虫感染, (苏) 加弗利什 (著)

162. In Chinese 二化螟发生预测, (日) 深谷昌次, 中冢宪次 (著)

163. In Chinese 谷物的干燥, (美) 安台生, 阿尔考克 (著)

164. In Chinese 贮粮害虫与齧齿动物, (美) 安台生, 阿尔考克 (著)

165. In Chinese 昆虫生理学, 下册, (法) 朔文 (著); (苏) 巴甫洛夫斯基 (编注)

- 1980 Xin, J.-L. & Liang, L.-R. translators (1980) *Integrated Control*. Shanghai Science and Technology Press, Shanghai, 428 pp. [translation into Chinese from Japanese of the book by Masatsugu Fukaya and Keiji Tani<sup>167</sup>].
- 1982 Xin, J.-L. & Liu, Z.-J. translators (1982) *An Outline of Entomology*. Higher Education Press, Beijing, 736 pp [translation into Chinese from German of book: Weber, H., Weidner, H. (1974) *Grundriß der Insektenkunde*. 5. Auflage, Gustav Fischer Verlag, Stuttgart<sup>168</sup>].
- 1983 Xin, J.-L., Shen, Z.-P., Yang, Q.-S., Ding, T.-Z. & Liang, L.-R. translators (1983) *The Mites of Stored Food and Houses*. China Agriculture Press, Beijing, 395 pp. [translation into Chinese from English of the book: Hughes, A.M. (1978) *The Mites of Stored Food and Houses*. 2nd edition. Ministry of Agriculture, Fisheries and Food Technical Bulletin 9, H.M.S.O., London<sup>169</sup>].
- 1987 Xin, J.-L. translator (1987) *Imms' General Textbook of Entomology*. Higher Education Press, Beijing, 319 pp. [translated into Chinese from English of the book: Richards, O.W. & Davies, R.G. (1977) *Imms' General Textbook of Entomology: Volume 1: Structure, Physiology and Development*. 10th ed. edition, Springer<sup>170</sup>].
- 1988 Xin, J.-L. translator (1988) *Guide to Design and Development of Pesticides*. Chemical Industry Press, Beijing, 230 pp. [translation to Chinese from Japanese of the book by Iduru Yamamoto and Jun-ichi Fukami<sup>171</sup>].

---

166. In Chinese 昆虫变态生理, (英) 韦格尔斯华滋 (著)

167. In Chinese 综合防治, (日) 深谷昌次, 桐谷圭治 (编)

168. In Chinese 昆虫学纲要, 第五版, (德) 韦贝尔 (原著); (德) 魏德纳 (修订)

169. In Chinese 贮藏食物与房舍的螨类, (英) A.M. 休斯 (原著)

170. In Chinese 伊姆斯普通昆虫学教程 第十版 第一卷 构造生理和发育

171. In Chinese 农药的设计与开发指南. 第三册, 农药的选择毒性与抗性, (日) 山本出, 深见顺一 (主编)