

## SOME NEW RECORDS FOR THE FLORA OF TAIWAN

CHING-I PENG<sup>(1)</sup>

Forage Department, Yangmei Dairy Experiment Station,  
Taiwan Livestock Research Institute, Taoyuan,  
Taiwan, Republic of China

(Received November 19, 1977; Accepted December 4, 1977)

In the course of a systematic study on the Taiwan Compositae between 1974 and 1976, the writer made an extensive collection of the composites. Five previously unrecorded species, namely, *Blumea manillensis*, *Emilia sagittata*, *Hypochoeris radicata*, *Petasites japonicus*, and *Taraxacum officinale* were collected. Recently, in a preparation of a weed flora for the Taiwan Livestock Research Institute, I found two additional weeds: *Cichorium intybus* (Compositae) and *Geranium carolinianum* (Geraniaceae). These seven new records are briefly discussed in the following paragraphs.

*Blumea manillensis* (Less.) DC., Prodr. 5: 435. 1836. (Compositae)

According to Randeria (1960) in a taxonomic revision, *Blumea manillensis* was said to be restricted to Luzon, the northernmost tip of the Philippines. (The specific epithet refers to the type locality.) It was, however, collected by the writer from Pingtung, the southernmost county of Taiwan, which is separated from Luzon only by the Luzon Strait.

PINGTUNG CO.: Santimen, Hsu & Peng 16645, Nov. 1, 1975.

*Cichorium intybus* L., Sp. Pl. 813. 1753. (Compositae)

This is native of northern Europe and had been widely naturalized in North America. This species was found in fields of "Egyptian clover" (*Trifolium alexandrinum* L.) both at the Yangmei Dairy Experiment Station and at the Hsinhua Livestock Research Institute. According to the writer's senior colleagues, this blue-flowered weed had not previously been observed until the beginning of the cultivation of Egyptian clover in the fall of 1976.

The appearance of *C. intybus* as a concomitant of *T. alexandrinum* lead the writer to surmise that seeds of the former might have been mixed with

(1) Present address: Institute of Botany, Academia Sinica, Nankang, Taipei, Taiwan, Republic of China.

those of the latter, which have been introduced to Taiwan by the Joint Commission on Rural Reconstruction from the United States and Israel beginning in 1976. After a close examination of the remaining seeds of *T. alexandrinum* imported in 1976, the writer's hypothesis was confirmed.

Although it was the first time that this weed was accidentally brought into Taiwan, it appeared to have already become successfully adapted to this island, setting abundant fertile seeds as was observed by the writer. Furthermore, since large plantings of *T. alexandrinum* have been encouraged throughout Taiwan (Peng and Hsu, 1976), and since its seeds are imported annually, one can foresee the invasion of *C. intybus* into fields all over this island, unless some measures are taken against its spread.

This weed brings a new genus to Taiwan.

TAOYUAN CO.: Yangmei, *Peng 3145*, May 14, 1977.

TAINAN CO.: Hsinhua, *Peng 3162*, May 19, 1977.

*Emilia sagittata* (Vahl.) DC., Prodr. 6: 302. 1838. (Compositae)

This species is a native to tropical Africa and is sometimes cultivated in warm places as a garden-ornamental. It is now naturalized in Taiwan, as was observed by the writer in a field trip to Pingtung County.

Chromosome Number:  $2n=20$  (Peng, 1976).

PINGTUNG CO.: Santimen, *Hsu & Peng 16651*, Nov. 1, 1975.

*Hypochoeris radicata* L., Sp. Pl. 811. 1753. (Compositae)

It is a native of Europe, adventive in North Africa, Australia, and Japan, usually growing in weedy habitats. This species has been found in the central mountainous regions of Taiwan at elevation between 1,700 and 2,300 m, along roadsides and on mountain farms.

This plant adds another genus to the flora of Taiwan.

Chromosome Number:  $2n=8$  (Peng, 1976).

TAICHUNG CO.: Lishan, *Jeng 1741*, Aug. 28, 1977.

NANTOU CO.: Mayfeng, *Peng 622*, Oct. 24, 1974; Tsueifeng, *Peng 2322*, Sept. 1, 1975.

*Petasites japonicus* (Sieb. & Zucc.) Maxim, in Award 34th Denidov. Prize 212. 1866. (Compositae)

The writer saw a population of this species growing by a small stream on a hillside (elevation 400-500 m) in suburban Taipei.

TAIPEI CO.: Shihing, *Peng 2678*, Feb. 29, 1976.

HUALIEN CO.: Lintienshan, *Liu 904*, Feb. 6, 1975.

*Taraxacum officinale* Weber in Wiggers, Prim. Fl. Holsat. 56. 1780. (Compositae)

This is a native of Europe, now widely naturalized throughout the world. Recently it has successfully invaded nearly all of the traffic islands between Section 2 and 3 of Nanking East Road in the Taipei city. Scattered individuals can also be seen on the lawns of the National Taiwan University.

Chromosome Number:  $2n=24$  (Peng, 1976).

TAIPEI CO.: City, Peng 2576, Jan. 1, 1976.

It is readily distinguished by the following key from our native species, *T. formosanum* Kitam., the only other recorded species for *Taraxacum* in Taiwan, which is a littoral plant confined to the coast north of Taichung.

- (1) Involucral bracts corniculate at apex, outer bracts ascending .....  
 ..... *T. formosanum*
- (1) Involucral bracts not corniculate at apex, outer bracts strongly reflexed  
 ..... *T. officinale*

*Geranium carolinianum* L., Sp. Pl. 682. 1753. (Geraniaceae)

This is a native of North America. As in the case of *Cichorium intybus*, the writer supposes *G. carolinianum* to have been introduced to Taiwan by being mixed with imported forage seeds. It grows well both in the pasture and along semi-shaded roadsides by the ditches of the Yangmei Dairy Experiment Station. Flowering in the spring, it sets abundant seeds and then disappears.

TAOYUAN CO.: Yangmei, Peng 3119, April 21, 1977.

#### Acknowledgment

The writer wishes to express his sincere gratitude to Dr. Charles E. DeVol for reading the manuscript.

#### Literature Cited

- HUANG, T. C. 1977. Geraniaceae. pp. 428-433. in Li, H. L., T. S. Liu, T. C. Huang, T. Koyama, and C. E. DeVol, (eds.), Flora of Taiwan. Epoch Press, Taipei.
- OSADA, T. 1976. Coloured illustrations of naturalized plants of Japan. Hoikusha Press, Osaka.
- PENG, C. I. 1976. Systematic studies on Taiwan Compositae with a chromosome count. M. S. thesis. National Taiwan University, Taipei.
- PENG, C. I. and C. HSU. 1976. Taiwan forage plants. Joint Commission on Rural Reconstruction, Taipei.
- RANDERIA, A. J. 1960. The Compositae genus *Blumea*, a taxonomic revision. *Blumea* 10: 176-317.
- VUILLEUMIER, B. S. 1973. The genera of Lactuceae (Compositae) in the southeastern United States. *J. Arnold Arb.* 54: 42-93.

## 數種臺灣的新記錄植物

彭 鏡 毅

臺灣省畜產試驗所楊梅分所飼作系

本文報導七種臺灣的新記錄植物：牻牛兒苗科一種，菊科六種。其中菊苣屬 (*Cichorium*) 及貓兒菊屬 (*Hypochoeris*) 為新記錄屬。