

***Cotoneaster dammeri* Schneid. (Rosaceae): A New Record to the Flora of Taiwan**

Fu-Yuan Lu⁽¹⁾, Kun-Cheng Chang^(1,3), Kwo-Shang Lai⁽²⁾

(Manuscript received 30 December, 2004; accepted 24 February, 2005)

ABSTRACT: *Cotoneaster dammeri* Schneid. is a new record to the flora of Taiwan. It was found at Mt. Hohuan of Taroko National Park, and in the Tatachia area of Yushan National Park, at elevations between 2,600 and 3,000 m. This species is similar to *C. morrisonensis* Hayata, an endemic species of Taiwan. However, they can be distinguished by size of leaves, number of styles and pyrenes, and length of peduncles.

KEY WORDS : *Cotoneaster dammeri*, *Cotoneaster*, Rosaceae, new record, Taiwan.

INTRODUCTION

The genus *Cotoneaster* Medik. (Rosaceae: Maloideae) consists of about 90 species and is widespread in temperate regions of Asia (except Japan), Europe and North Africa (Yü & Lu, 1974; Lu & Anthony, 2003). In former time, Hayata described three species in Taiwan, *i.e.* *C. konishii* in 1913, *C. morrisonensis* and *C. rokujodaisanensis* in 1915. Later, Masamune (1932) treated *C. rokujodaisanensis* as a synonym of *C. morrisonensis*. This opinion was accepted by some authors such as Kanehira (1936), Li (1963), Liu and Su (1977), Ohashi (1993), Lu and Anthony (2003). But Hsieh and Huang (1997) considered them as two distinct species, and enumerated four species of the genus in Taiwan including a new record *C. horizontalis* Dcne. Lai and Hsieh in 2001 and 2003 described two new record species to the flora of Taiwan, *i.e.* *C. subadpressus* and *C. apiculatus*. Moreover, Fryer and Hylmo describes a new species *C. hualiensis* from Taiwan in 2001. Recently, some specimens was collected by the junior author from Hohuanshan and Tatachia area. After the over all investigation on specimens in herbaria of Taiwan and with published literatures, a new record *C. dammeri* Schneid. is now proposed. Therefore, eight native species of *Cotoneaster* have now been recognized in Taiwan. *i.e.* *C. apiculatus*, *C. dammeri*, *C. horizontalis*, *C. hualiensis*, *C. konishii*, *C. morrisonensis*, *C. rokujodaisanensis*, and *C. subadpressus*.

TAXONOMIC TREATMENT

Cotoneaster dammeri Schneid. in Ill. Handb. Laubh. 1: 761. f. 429. h-k. 1906; Yü et Lu in Fl. Reip. Pop. Sin. 36: 157. 1974; Lu et Brach in Fl. China 9: 101. 2003.

矮生栒子 Figs. 1 & 2

1. Graduate Institute of Forestry and Natural Resources, National Chiayi University, 300 Syuefu Rd., Chiayi City 600, Taiwan.

2. Taiwan Endemic Species Research Institute, 1 Mingshen E. Rd., Chichi, Nantou 552, Taiwan.

3. Corresponding author. Tel: +886-5-271-7473; Email: s0910020@mail.ncyu.edu.tw



Fig. 1. *Cotoneaster dammeri* Schneid. 1: Habit. 2: Leaves. 3: Flower. 4: Dissected flower. 5: Petal. 6: Stamens. 7: Styles. 8: Pome. 9: Cross-section of pome. 10: Pyrene.



Fig. 2. Photogram of *Cotoneaster dammeri* Schneid. a: Habit of flowering. b: Habit of fruiting. c: Flower. d: Juvenile pome. e: Cross-section of a juvenile pome. (scale = mm).

Evergreen low shrubs, branches creeping; branchlets dark grayish brown to grayish, terete, initially yellowish appressed pilose, glabrous when old. Leaves thickly leathery, elliptic to oblong-elliptic or rounded, 1-3 cm long, 0.7-2.2 cm wide; apex obtuse, emarginated, or acute, base broadly cuneate to rounded; the upper surface glabrous; the lower surface slightly glaucous, initially appressed pilose, glabrate when old; veins 4-6 pairs, impressed on the upper surface; petiole 2-3 mm, initially yellowish appressed pilose, glabrous when old; stipules mostly caduceous, linear-lanceolate or lanceolate, puberulent. Inflorescence usually 1-flowered, rarely 2- or 3-flowered *ca.* 1 cm across; pedicels 5-12 mm long, pilose. Hypanthium campanulate, exterior puberulent; sepals triangular, apex acute, exterior and margin puberulent. Petals 5(-7), spreading, white, suborbicular or broadly ovate, 4-5 mm across, apex obtuse, base shortly clawed. Stamens (16-)20, white, glabrous, unequal in length; anthers purple. Ovary pilose apically; styles 5, rarely 4 or 6, free, glabrous, yellowish, nearly as long as stamens. Fruits subglobose, bright red, 6-7 mm across. Pyrenes 4 or 5. Flowering during May to August, with the fruit ripening from August to November.

Distribution: China (Gansu, Guizhou, Hubei, Sichuan, Xizang, Yunnan). Taiwan, in the northern and central parts of the island at the altitudes 2,600-3,000 m.

Specimens examined: Hualien: Hohuanshan, June 23, 2004, *K. C. Chang & K. S. Lai 1847* (CHIA = Herbarium, National Chiayi University); Chiayi: Tatachia, Oct. 21, 2004, *K. C. Chang et al. 2103* (CHIA).

Note: This species is a new record for the Flora of Taiwan. It was found at Mt. Hohuan of Taroko National Park, and in the Tatachia area of Yushan National Park, at elevations between 2,600 and 3,000 m. On a morphological basis, this species is similar to *C. morrisonensis* Hayata, the latter is endemic of Taiwan. In Taiwan, the genus both *C. morrisonensis* and *C. dammeri* have spreading white petals, the other species have upright red or pink petals. *C. morrisonensis* differs from *C. dammeri* by its smaller leaves (6-18 mm long, 3-10 mm wide), pedicels 2-6 mm long, styles 2-3 and pyrenes usually 2.

ACKNOWLEDGEMENTS

We thank the curators of the Herbaria TAI and TAIF for allowing us to study these types of *Cotoneaster*. We are grateful to Dr. C. F. Hsieh for reviewing this manuscript.

LITERATURE CITED

- Fryer, J. and B. Hylmo. 2001. Captivating Cotoneasters. *The New Plantsman* **8**: 227-238.
- Hayata, B. 1913. *Icones Plantarum Formosanarum Contributiones Ad Floram Formosanam* **3**: 100.
- Hayata, B. 1915. *Icones Plantarum Formosanarum Contributiones Ad Floram Formosanam* **5**: 62-64.
- Hsieh, T.-H. and T.-C. Huang. 1997. Notes on the flora of Taiwan (28) - The genus *Cotoneaster* Medik (Rosaceae). *Taiwania* **42**: 43-52.
- Kanehira, R. 1936. *Formosan Trees*. Dept. Forestry, Government Research Institute. Taipei, Taiwan. pp. 258-260.
- Lai, K.-S. and T.-H. Hsieh. 2001. *Cotoneaster subadpressus* Yü: A new record to the flora of Taiwan. *Endemic Species Research* **3**: 67-72.
- Lai, K.-S. and T.-H. Hsieh. 2003. *Cotoneaster apiculatus* Rehd. et Wils.: A new record to the flora of Taiwan. *Endemic Species Research* **5**: 45-48.
- Li, H.-L. 1963. *Woody Flora of Taiwan*. Livingston Publishing Company, Narberth, Pennsylvania, USA. pp. 270-272.
- Liu, T.-S. and H.-J. Su. 1977. Rosaceae. In: Li, H.-L. et al. (eds.). *Flora of Taiwan* **3**: 60-61. Epoch Publ. Co, Taipei, Taiwan.
- Lu, L.-D. and A. R. Brach. 2003. *Cotoneaster*. In: Lu, L.-D. et al. (eds.). *Flora of China* **9**: 85-108. Science Press, Beijing, China.
- Masamune, G. 1932. *Symbolae flora of Taiwan I*. *Journ. Trop. Agr. Form.* **4**: 192.
- Ohashi, H. 1993. Rosaceae. In: Huang, T.-C. et al. (eds.). *Flora of Taiwan* 2nd ed. **3**: 71-74. Editorial Committee, Dept. Bot., NTU, Taipei, Taiwan.
- Schneider, C. K. 1906. *Illustriertes Handbuch der Laubholzkunde (Cotoneaster)* **1**: 744-761.
- Yü, T.-T. and L.-T. Lu. 1974. *Cotoneaster*. In: Yü, T.-T. (ed.). *Flora Reipublicae Popularis Sinicae*. Science Press, Beijing. **36**: 107-178.

台灣產舖地蜈蚣屬(薔薇科)一新紀錄種 - 矮生栒子

呂福原⁽¹⁾、張坤城^(1,3)、賴國祥⁽²⁾

(收稿日期：2004 年 12 月 30 日；接受日期：2005 年 2 月 24 日)

摘 要

本文介紹台灣產舖地蜈蚣屬(薔薇科)一新紀錄種 - 矮生栒子(*Cotoneaster dammeri* Schneid.)。矮生栒子目前發現於太魯閣國家公園合歡山區及玉山國家公園塔塔加地區，海拔 2,600-3,000 m。在形態上本種與台灣的特有種玉山舖地蜈蚣(*C. morrisonensis* Hayata) 近似，但可從兩種之葉型大小、花柱與果核的數量及花梗的長度區分之。

關鍵詞：矮生栒子、舖地蜈蚣屬、薔薇科、新紀錄種、台灣。

1. 國立嘉義大學林業暨自然資源研究所，嘉義市 600 鹿寮里學府路 300 號。
2. 行政院農業委員會特有生物研究保育中心，南投縣 552 集集鎮民生東路 1 號。
3. 通訊作者。Tel: +886-5-271-7473; Email: s0910020@mail.ncyu.edu.tw