



## First record of the genus *Limonium* (Plumbaginaceae) from the Malesian region

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The absence of the cosmopolitan genus *Limonium* Miller (1754: no pagination) (Plumbaginaceae) in the mega-diverse flora of the Malesian region (comprising Brunei Darussalam, Indonesia, Malaysia, Papua New Guinea, the Philippines, and Singapore; Merrill 1923, Ridley 1923, Steenis 1949, Backer & Bakhuizen van den Brink Jr. 1965, Balgooy 1993, Coode *et al.* 1996, Balgooy 2001, Conn *et al.* 2004, Chong *et al.* 2009, Pelsner *et al.* 2011) has intrigued taxonomists and biogeographers since Steenis (1949) noted this. During a field survey as part of the project on floristic and phylogenetic biogeography in the island chain of the Philippines, Taiwan, and southern Japan, we found a population of *Limonium* in the northern Philippines (Batan Islands) that represents the first record of the genus in the Malesian region. Batan Islands, comprising 10 small ( $\leq 83.1$  km<sup>2</sup>) oceanic islands, is the northernmost tip of the Malesian region, being ca. 190 km north of Luzon Island of the Philippines and ca. 140 km southeast of Taiwan Island. From the geological location, the present finding suggests that a more extensive survey in Batan Islands may add some more East Asian temperate genera to the flora of the Malesian region, although two enumerations of the early and mid 20th century provide us baseline knowledge of the flora of Batan Islands (Merrill 1908, Hatusima 1966).

*Limonium wrightii* (Hance) Kuntze (1891: 396)

Bas.: *Statice wrightii* Hance (1866: 236). **Holotype**:—JAPAN. Ryukyu Islands, *Wright s.n.* (BM!)

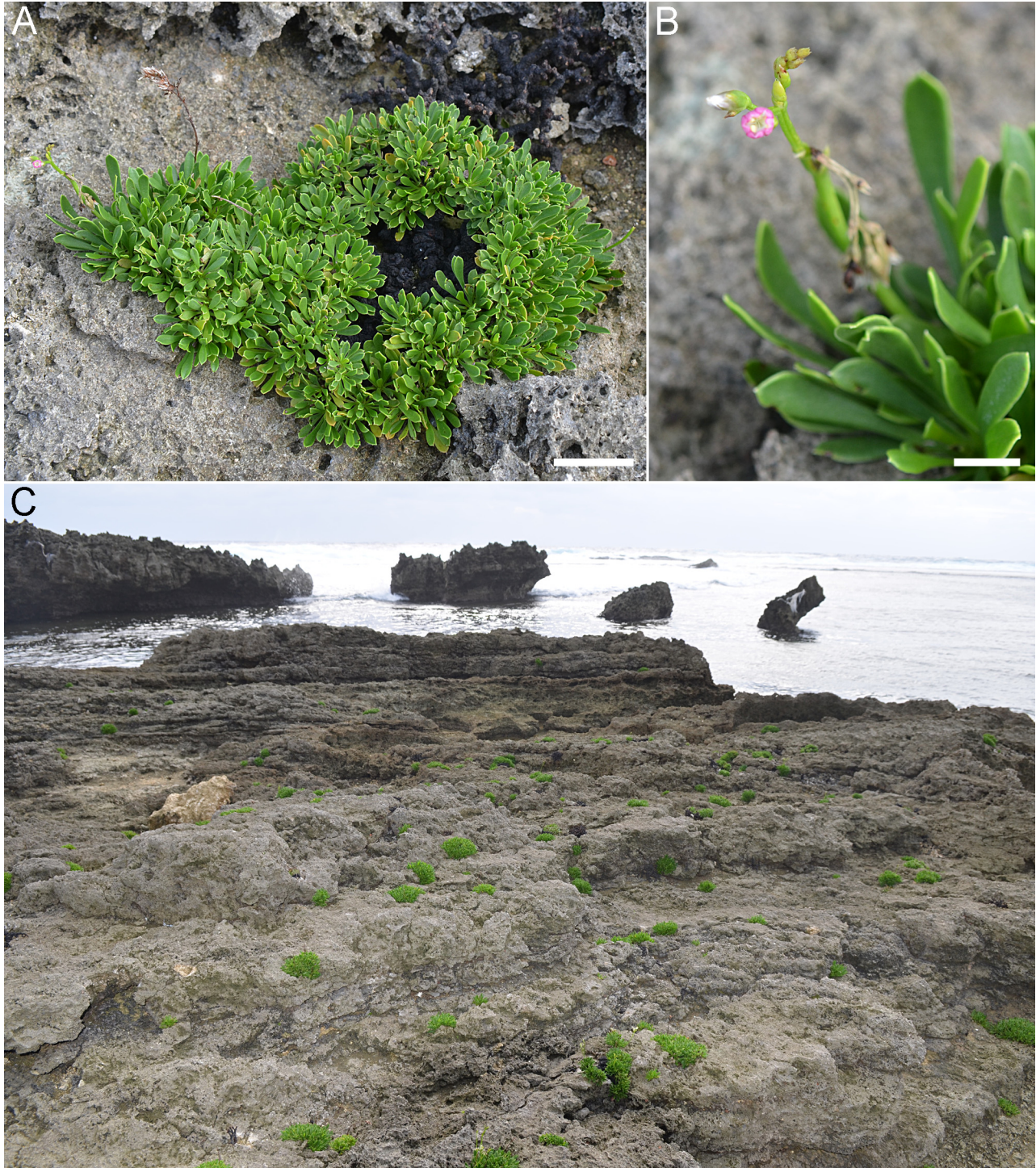
**Description**:—A shrublet with woody stems densely covered with dark brown rigid scales and leaves congested on upper part of stems (Fig. 1A). The species has flower color polymorphism among populations (pink, yellow, orange, ivory, and white; Matsumura *et al.* 2006) and the Philippines population had pink flowers (Fig. 1B). Based on these characters, *L. wrightii* is clearly distinguished from congeners in the East Asian Pacific rim, which are herbs having only basal leaves and yellow flowers (Peng & Kamelin 1996, Matsumura *et al.* 2006).

**Distribution and habitat**:—The species has been reported previously only from Japan (the Ryukyu Archipelago, Izu Islands, and Ogasawara Islands) and southern Taiwan (southern part of Taiwan Island, Penghu Islands, and Lutao and Lanyu islands) (Li 1998, Matsumura *et al.* 2006). The newly discovered population was in Sabtang Island of Batan Islands (the Philippines). The population grew on a raised coral reef terrace at seashore (Fig. 1C), which is the typical habitat of the species.

**Conservation status**:—*Limonium wrightii* is listed in the red lists of Japan and Taiwan as a Vulnerable (VU) and Critically endangered (CR) species, respectively (Ministry of the Environment, Japan 2012, Wang *et al.* 2012). In Sabtang Island, the population of several tens of square meters comprised a few hundred individuals. This is the only known population in the Philippines and isolated from conspecific populations in

Taiwan and Japan. Although Batanes Province is in its entirety a protected area (Sanga 2001), the very small population is prone to the effects of human activities or stochastic events within a very short time period. The species is here assessed as Vulnerable under Criterion D2 of IUCN (2010, 2012) for the Philippines.

**Specimina visa:**—THE PHILIPPINES. Batanes: Sabtang Island, Savidug Village, ca. 2 m, E121° 53' 25.45", N20° 18' 48.49", 19 December 2011, *Nakamura 11922* (HAST).



**FIGURE 1.** *Limonium wrightii* in Sabtang Island, Batanes, the Philippines. A. Habit. B. Flower. C. Habitat. Scale bars: 5 cm (A), and 1 cm (B).

## Acknowledgements

This study was supported in part by a postdoctoral fellowship from Academia Sinica to K.N. and a research grant from Academia Sinica to C.-I P.

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