Syneilesis akagii (Asteraceae), a New Species from Kyushu, Southern Japan

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A new species of Syneilesis (Asteraceae), S. akagii Kadota & Mas. Saito, is described from Kyushu, southern Japan. Syneilesis akagii is close to S. palmata (Thunb.) Maxim. but is distinguished from the latter in having grayish to pale purplish brown, longer involucres, glaucous undersurface of leaves with rising veinlets, longer corollae and longer achenes. Female florets are reported in the genus for the first time.

Key words: Female floret, hermaphrodite floret, Kyushu, Japan, Miyazaki Prefecture, new species, Syneilesis akagii, Syneilesis palmata.

During the sprouting stage the plant body of Syneilesis palmata (Thunb.) Maxim. (Asteraceae) is densely covered with long hairs, later the long hairs fall out and it becomes almost glabrous (Kitamura 1934, 1981, Kitamura et al. 1957, Koyama 1969, 1995, Masamune 1974; Fig. 1, right). In May 2012 one of the authors (M. S.) found some Syneilesis plants which had glabrous stems even in the juvenile stage (Fig. 1, left) in the northern part of Miyazaki Prefecture, Kyushu, southern Japan. Following this, field studies were done in Miyazaki Prefecture and its neighboring region with the help of Mr. Y. Akagi. As a result it was clarified that the Syneilesis plants are significantly different from S. palmata chiefly in the floral characters and that they represent a new species. The new species is described here as Syneilesis akagii.

Taxonomic treatment
Syneilesis akagii Kadota & Mas. Saito, sp. nov. [Figs. 1–3]

Syneilesis akagii is distinguished from S. palmata (Thunb.) Maxim. in having grayish to pale purplish brown, longer involucres, glaucous undersurface of leaves with rising veinlets, longer corollae and longer achenes.

Type: JAPAN. Kyushu. Miyazaki Pref., Higashi-Usuki-gun, Morotsuka-son, Liboshidōji, under scattered woods on calcareous slope, alt. 850 m, 15 July 2012, Masami Saito s.n. (TNS01182265–holotype; Fig. 2).

A perennial herb, 70–100 cm tall. Rhizome 1–2 cm long, ca. 3 mm in diameter, horizontal, with long, thread-like roots. Stem erect, leafy, when juvenile long-sericeous later glabrous, ribbed. Leaves cauline, 2–3. Lower cauline leaf roundish, 26–36 cm in diameter, deep green on the adaxial side, glaucous on the abaxial side, palmately, deeply 7–9-lobed, almost glabrous on both sides, peltate; lobes narrowly obovate to obovate, 13–17 cm long, 4.5–12 cm
wide, serrate, medially bilobed and sometimes additionally divided into two segments, with rising veinlets on the abaxial side; petiole 5–16 cm long, glabrous. Middle or upper cauline leaf roundish, 15–22 cm in diameter, glabrous, peltate, with petiole 1–5 cm long. Flowers June to July, 17–18 mm long, several to many in a loose raceme to panicle; peduncles 8–11 mm long, with 2–3 narrowly lanceolate scaly bracts 1–2 mm long. Florets 12–13 per head, pale yellow, hermaphrodite or sometimes female in the central parts; anthers brown, 5 mm long, with tails ca. 1 mm long. Involucres cylindrical, 10–15 mm in diameter, grayish brown, glabrous; phyllaries 5, in a whorl, narrowly obovate or lanceolate. Corollae 10 mm long; throats 8 mm long; tubes 2 mm long. Pappi 8–10 mm long, sordid to reddish gray, scabrid. Achenes broadly linear, 6–7 mm long, glabrous.


Miyazaki Pref., Nobeoka-shi, Kitagawa-cho, Hosomi-dani, under Cryptomeria japonica plantation on non-calcareous slope, alt. 130 m, 18 June 2012, M. Saito s.n. (TNS 1168493–1168500, 1182247–1182249), Nishi-Usoke-gun, Iwato-son, Mt. Dô-dake, 23 Aug. 1915, Z. Tashiro s.n. (TNS 24946); Hinokage-cho, Mt. Tansuke-dake, under Cryptomeria japonica plantation on non-calcareous slope, alt. 690 m, 11 July 2012, M. Saito s.n. (TNS 1182269–1182276); Takachiho-cho, Mt. Ôhiradake, under Cryptomeria japonica plantation on calcareous slope, alt. 620 m, 11 July 2012, M. Saito s.n. (TNS 1182253–1182259); Takachiho-cho, Mt. Morotsuka-yama, alt. 1110 m, under scattered woods in a calcareous area, 26 July 2012, Y. Akagi s.n. (TNS 1167460–1167463), Higashi-Usoke-gun, Morotsuka-son, Liboshidôji, under scattered woods on calcareous slope, alt. 850 m, 15 July 2012, M. Saito s.n. (TNS 1182261–1182264, 1182266–1182267, Herb. Miyazaki Prefectural Museum of Nature and History); Morotsuka-son, Mt. Kuro-dake, under scattered woods on calcareous slope, alt. 1340 m, 3 June 2012, M. Saito s.n. (TNS 1182250–1182252); Shiiba-son, Matsuki forest road, under scattered woods on calcareous slope, alt. 1050 m, 21 July 2012, Y. Akagi, N. Inoue & M. Saito s.n. (TNS 1182257–1182260).

Kumamoto Pref., Yatsushiro-shi, Idzumi-machi, Nigô, alt. 900 m, on calcareous scree, 6 July 2013, M. Saito s.n. (TNS).

Distribution: Miyazaki, Ôita and Kumamoto Pref., Kyushu, Japan (Fig. 4). Endemic to Japan.

Japanese name: Hyûga-yaburegasa (nov.).
Fig. 2. Type of *Syneilesis akagii* Kadota & Mas. Saito (JAPAN. Kyushu. Miyazaki Pref., Higashi-Usuki-gun, Morotsuka-son, Iboshidōji, alt. 850 m, 15 July 2012, M. Saito s.n., TNS01182265, holotype).
The florets of *S. akagii* were predominantly hermaphrodite (Fig. 7, right). However, female florets were additionally observed in the central parts of heads (Fig. 7, left). The female florets were completely devoid of anthers. The presence of female florets in the genus *Syneilesis* has hitherto not been reported (Kitamura 1934, 1981, Kitamura et al. 1957, Koyama 1969, 1995, Masamune 1974, Chen 1999).

The flowering period of *S. akagii* begins in the midst of June and ends in late July. On the other hand, *S. palmata* continues to flower even in late October. Hence the flowering time of *S. akagii* is earlier than that of *S. palmata*.

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new species.

Literature cited


門田裕一・斎藤政英：九州産ヤブレガサ属（キク科）の1新種、ヒユウガヤブレガサ

キク科ヤブレガサ属の九州産1新種ヒユウガヤブレガサ Syneilesis akagii Kadota & Mas. Saitoを記載した。
ヒユウガヤブレガサはヤブレガサ S. palmata (Thunb.) Maxim. に近いが、①総苞が灰褐色～淡紫褐色を帯び、
長さ15–16 mm とより大型で、②葉の下面が緑白色で
細脈が隆起してよく目立ち、③花冠がより長く、④瘦果
がより大型である点で区別される。花期も6月～7月で、
ヤブレガサよりも早い傾向がある。また、頭花には両性
小花の他に雌性小花の存在が初めて認められた。雌性小
花は頭花の中心部にあり、葯が完全に退化していた。
ヒユウガヤブレガサは宮崎県と大分県南部、熊本県中
部に分布し、石灰岩地に多いが非石灰岩地にも生育して
いた。

種形容語（種小名）は宮崎県のフロラ解明（とくにシ
ダ植物と石灰岩植物）に貢献された赤木 康氏への献名
である。

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