New or Noteworthy Plant Collection from Myanmar (6): Ranunculaceae of Mt. Victoria, Chin State, Myanmar

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In the course of a floristic study of Mt. Victoria, western Myanmar, 84 specimens of Ranunculaceae have thus far been collected. As a result of identifications, the enumeration of the family occurring in Mt. Victoria are presented here for material for the Flora of Myanmar. In total 17 taxa in the Ranunculaceae, belonging to the genera; Aconitum, Anemone, Delphinium, Clematis, Ranunculus and Thalictrum, were recorded from Mt. Victoria, and of these Aconitum jin-muratae Kadota & Nb. Tanaka, Clematis pseudopterantha Kadota & Nb. Tanaka and Thalictrum tamurae Kadota & Nb. Tanaka are described and illustrated as new to science. Anemone tomentosa and Delphinium caeruleum are newly recorded from Myanmar.


Key words: Myanmar, new record, new species, Ranunculaceae.

The Natma Taung (Mt. Victoria) National Park is located in the southwestern part of Myanmar, in the so-called “Chin Hills”. Mt. Victoria (21°12’N, 93°35’E, 3053 m) is the highest mountain in this range. To the north, the Chin Hills connect with a taller mountain range of which Mt. Hkhakabo Razi (5881 m) is the most famous peak. Mt. Victoria is regarded as an ecological refugium, offering a temperate climate that is absent from neighbouring regions. It is estimated that there are about 2500 vascular plant species in the Chin Hills (Mill 1995). Indeed, a number of endemic and relict species have been found in this area (Hutchinson 1917, Cowley 1982, Ikeda and Ohba 1995, Pimenov and Kljuykov 2004, Tanaka et al. 2010a, 2010b, Yukawa et al. 2010).

Six types of vegetation can be recognized in Mt. Victoria. They are; tropical deciduous dry forest, mixed evergreen broad-leaved forest, fire preclimax Pine savanna, temperate semi-evergreen forest and subalpine meadows (Kingdon-Ward 1958, Mill 1995).

Thus far a checklist of mosses in Mt. Victoria was published by Tanaka et al. (2003) that recognized 152 species from Mt. Victoria. Of these, 53 species were newly recorded from Myanmar (Tanaka et al. 2003). However critical floristic inventory research of flowering plants has never been carried out since British colonial
Field expeditions to Natma Taung (Mt. Victoria) National Park were conducted by a team from the Makino Botanical Garden and the Botanical Gardens of the University of Tokyo, in cooperation with the Forest Department, Union of Myanmar Ministry of Forestry, since 2002. This paper treats the Ranunculaceae of Natma Taung National Park mainly based on our specimens collected in the course of the inventory studies. In total 17 taxa in the Ranunculaceae, representing six genera; Aconitum, Anemone, Clematis, Delphinium, Ranunculus and Thalictrum were recognized. Of these Anemone tomentosa and Delphinium caeruleum are newly recorded from Myanmar, and three species, Aconitum jin-muratae, Clematis pseudopterantha and Thalictrum tamurae, are described as new to science. The key to the taxa occurring in Natma Taung National Park is provided.

Key to the genera in Ranunculaceae occurring in Natma Taung National Park
1. Flowers zygomorphic; fruits follicular
   2. Upper sepal not spurred; petals clawed ....................................................1. Aconitum
   2. Upper sepal spurred; petals not clawed ..................................................2. Delphinium
1. Flowers actinomorphic; fruits achenial
   3. Inflorescence with involucre
      3. Inflorescence without involucre
         4. Petals present ..........4. Ranunculus
         4. Petals absent
            5. Stem twisted ........5. Clematis
            5. Stem erect ..........6. Thalictrum

   Subgenus Aconitum

Type: Aconitum bullatifolium H. Lév. [= A. duclouxii H. Lév. (Kadota 2001)].

1.1. Aconitum jin-muratae Kadota & Nb. Tanaka, sp. nov. [Figs. 1–2]
   Affine Aconitum duclouxii H. Lév., sed laminiis nectariorum leviter inflatis brevioribus, calcaribus nectariorum incurvatis, bracteis foliaceis positis supra media pedicellorum, folliculis longioribus, foliis herbaceis, laciniae anguste lanceolatis differt.

   TYPE: MYANMAR. Chin State, along the roadside near the Chin Village Resort, the Natma Taung National Park, alt. 1750–2700 m, flowers deep blue-purple, 3 December 2002, J. Murata, N. Tanaka, T. Sugawara, T. Nemoto, Y. Iokawa, F. Shimozono, Hone Man, Ling Shing Maung & Cho Cho Win 025165 (MBK–holotype, Fig. 1; TI, TNS–isotype).

   An erect, subscapose, pseudo-annual, 40–90 cm tall. Tuber narrowly ellipsoidal, 2–3 cm long, 1–1.5 cm in diameter, blackish brown. Radical leaves persistent at anthesis; blades roundish reniform, 6–10 cm long, 8–16 cm wide, temate, herbaceous, shallowly cordate, glabrous on both sides, with veins slightly projecting on the abaxial side; lobes deeply divided to 1/2 from the base; laciniae narrowly lanceolate, acuminate, 2–3 mm wide; petioles 10–30 cm long, glabrous, vaginate at base. Inflorescence narrowly racemose in indeterminate condition, 8–30-flowered; bracts foliaceous, 1–6 cm long, 0.5–6 cm wide, diminishing in size from the base of the inflorescence. Flowers ca. 2.5 cm tall, deep purplish blue to blue, sparingly villose with smooth-surfaced patent hairs on the abaxial side. Helmets sickle-shaped navicular, ca. 15 mm long and wide; beaks relatively long, projecting forward; lateral sepals obliquely obovate, ca. 15 mm long in diameter, devoid of long, pollen-collecting hairs. Pedicels 1–4.5 cm long, ascending at an obtuse angle, villose with smooth-surfaced patent hairs, bi-bracteolate; bracteoles elliptic to trilobed and foliaceous, 1–2 cm long, 3–15 mm wide, situated above the middle of the pedicels. Nectaries glabrous;
blades oblique, 2 mm long, 1 mm wide, slightly inflated; spurs saccate, incurved to 180˚; labia 2 mm long, shallowly bilobed with reflexed apices; claws ca. 18 mm long, intensely incurved. Carpels 5, densely covered with smooth-surfaced ascending and/or subpatent hairs. Stamens glabrous, devoid of staminal teeth. Follicles 14–17 mm long; seeds obconical, laterally compressed, ca. 2 mm long, bi-winged, laterally lamellate.

Man & Cho Cho Win 024697 (MBK, TI, TNS).

Distribution: Myanmar (Mt. Victoria). Currently known only from the type locality.

Note: *Aconitum jin-muratae* is similar to *A. duclouxii* H. Lév. (Kadota 2001, Li and Kadota 2001) but is distinguished from the species by having slightly inflated, shorter nectary blade (2 mm long vs. 5 mm long), large (1 cm long or longer), foliaceous bracteoles situated above the middle of the pedicels, longer follicles (14–17 mm long vs. 10–15 mm long), herbaceous leaves and narrowly lanceolate laciniae.

Ser. *Bullatifolia* W. T. Wang is here treated as a distinct section within subgenus *Aconitum* of the genus *Aconitum* as already mentioned (Kadota 2001). Sect. *Bullatifolia* is characterized by having subscapose habit and the occurrence in montane forests (evergreen woods dominated by *Pinus roxburghii*, *P. yunnanensis*, *Quercus semecarpifolia*, etc.). The other species with such growth form as subscapose or scapose habit are exclusively found in alpine meadows of the Great Himalayas and Siberian high mountains (e.g., *Aconitum hookeri* (Brühl) Stapf and *A. violaceum* Jaquem. ex Stapf in Himalayan mountains, *A. biflorum* Fisch. ex DC. in the Altai mountains).


This species is commonly growing on sunny grassy slopes and along the roadside in semi-evergreen forest of Mt. Victoria between 2400 and 2700 m altitude.


Distribution: India, Bhutan, Nepal, and Myanmar.

Note: This species has thus far been recorded from India, Bhutan, Nepal, and China, and is newly recorded from Myanmar.


**Key to the species**

1. Leaf blade ternate .................... 1. *A. tomentosa*
1. Leaf blade 3-sect
2. Cyme umbellate, 1–5-flowered .................................................. 2. *A. demissa*
2. Cyme compound, 1–3- or many-flowered
3. Caudex branched, erect; cyme many-flowered ................. 3. *A. rivularis*
3. Caudex not branched; cyme 1–3-flowered
4. Pistils and achenes ellipsoid, compressed with distinct lateral veins ......................................... 4. *A. rupestris*
4. Pistils and achenes ovoid, not compressed without lateral veins ........................................ 5. *A. obtusiloba*


Distribution: Nepal to Bhutan, Tibet, Myanmar and China.

Note: This species is growing on meadow around the peak of Mt. Victoria, and recorded from Myanmar by Tanaka (2005) for the first time.


Distribution: Himalaya, south to Sri Lanka, Myanmar and China.

Note: This species is allied to the Sino-Japanese floristic region, and newly recorded from Myanmar this time. This is the southern limit of the distribution of this species.


Specimens examined: along the trail to the top of Mt. Victoria, 28 Feb. 2004, N. Kuroiwa & al. 030285 (MBK, TI); along the roadside, ca. 2300–2750 m alt., 4 June 2002, N. Tanaka & al. 023511 (MBK, TI); along the trail to the top of Mt. Victoria, ca. 2750–3050 m alt., 3 Dec. 2002, J. Murata & al. 024929 (MBK, TI).

Distribution: Kashmir to Bhutan, Tibet and Myanmar.

Note: This species dominates on alpine meadow of Mt. Victoria at 2800–3000 m alt. from December to February. Two types of flower color (blue and white) were recognized in this area.


Specimens examined: along the roadside between the Chin Village and the entrance to the trail to the top of Mt. Victoria, 7 Dec. 2002, J. Murata & al. 025188 (MBK, TI); along the roadside between Mindat and Mow Bi Township, ca. 2400–2500 m alt., 16 May 2004, N. Tanaka & al. 030668 (MBK, TI).

Distribution: Nepal to Bhutan, Tibet, Myanmar and China.

Note: Thus far this species has been known only from China. This is the first record from Myanmar. This is also the western and southern limit of the distribution of this species.


\textit{Anemone japonica} (Thunb.) Siebold & Zucc. var. tomentosa Maxim., Fl. Tangut.: 7 (1889).

Specimens examined: along the roadside between 56 miles point and Mt. Mow Bi, ca. 2400 m alt., 17 May 2004, N. Tanaka & al. 030668 (MBK, TI).

Distribution: Myanmar and China.

Note: Thus far this species has been known only from China. This is the first record from Myanmar. This is also the western and southern limit of the distribution of this species.


\textbf{Key to the species}

1. Plant diffuse, 3–15 cm tall; flowers 0.8–1 cm in diam. ...............................1. \textit{R. diffusus}

1. Plant erect, 30–40 cm tall; flowers 1.5–2 cm in diam. ...............................2. \textit{R. siamensis}


Specimens examined: along the roadside between Mindat and Mow Bi Township, 17 May 2004, N. Tanaka & al. 030830 (MBK, TI); Mt. Victoria, 2750–3050 m alt., 9 March 2002, J. Murata & al. 022024 (MBK, TI).

Distribution: Afghanistan, Pakistan, India, Bhutan, Myanmar, Nepal and China.


Specimens examined: along the roadside between Kampetlet and Ook Pho Village, the Natma Taung National Park, 2 Dec. 2002, Murata & al. 025436 (MBK, TI).

Distribution: India, Nepal, Myanmar, Thailand and Indochina.


Key to the species
1. Leaf blade ternate
   2. Cyme axillary, panic-like, 1—many-flowered; flowers 1 cm in diam.
      .............................................1. C. siamensis
   2. Cyme axillary, 2–4-flowers come out with leaves; flowers 1.5–10 cm
      ...............................................2. C. montana
1. Leaf blade pinnate
   3. Cyme more than 5-flowered
      ..................................................3. C. buchananiana
   3. Cyme 3–5-flowered
      4. Stems strongly angled; sepals abaxially winged...........4. C. pseudopterantha
      4. Stems grooved; sepals not abaxially winged...............5. C. gueriiflora


Distribution: India, Bhutan, Nepal, Myanmar, Thailand and southwestern China.

5.2. Clematis pseudopterantha Kadota & Nb. Tanaka, sp. nov. [Fig. 3]

Affinis Clemati pteranthae, sed foliis tritermatis, foliolis terminalibus brevioribus apice acuminatis, sepalis intus glabris, alis sepalorum angustatis differt.


A slender, herbaceous climber. Stem brownish green, prominently 4-angled, deeply sulcated, sparingly pilose with curved hairs. Leaves opposite, ternate, deltoid in outline, 10–20 cm long, chartaceous, sparingly sericeous on both sides; terminal leaflets narrowly ovate, 2–4.5 cm long, 1–2.5 cm wide, coarsely dentate to shallowly trilobed, acuminate at apex, cuneate to rounded at base; petioles 3–6 cm long, furrowed, almost glabrous. Flowers in November, ca. 1 cm in diameter, white outside and purplish inside, hermaphrodite, pendulous. Inflorescence paniculate cymose to simple cymose, 3–5-flowered or solitary, 3–10 cm long, axillary; pedicels 2–4.5 cm long, pilose with flexuous hairs, bi-bracteolate; bracteoles foliaceous, 1–1.5 cm long, ca. 5 mm wide, trilobed, situated at or above the middle of the pedicels. Sepals 4, ovate-oblong, ca. 1 cm long, 3–5 mm wide, blunt at apex, glabrous on both sides but densely tomentose along the margin, suberect and slightly recurved at apex, clearly winged on the abaxial side; wings 3, less than 0.5 mm wide. Stamens 10–11 mm long, slightly longer than the sepals; anthers intorse, less than 2 mm long, broadly linear; filaments 8–9 mm long, densely hirsute, slightly dilated; connectives shortly exerted. Immature achenes narrowly obovoidal, 1.5 mm long, densely hirsute with ascending hairs, dark brown; styles 8 mm long, grayish plumose.

Distribution: Myanmar (Mt. Victoria). Currently known only from the type locality.

Additional specimen examined: along the roadside,
Fig. 3. *Clematis pseudopterantha* Kadota & Nb. Tanaka. A. Part of stem with leaves and inflorescence. B. Flower. C. Stamen. D. Achene. E. Enlarged achene with plumose style. Scale bar represents 3 cm for A, 5 mm for B, 3 mm for C, E, and 1 cm for D. Drawn by M. Nakajima.

Note: This species agrees well with the diagnostic characters of ser. *Acutangulae* W. T. Wang [in Acta Phytotax. Sin. 31(3): 220 (1993), type: *Clematis acutangula* Hook. f. & Thoms.] of sect. *Viorna* (Rchb.) Prantl and should be treated as a member of the series. Among the species of this series, *C. pseudopterantha* is close to *C. pterantha* Dunn from Yunnan Prov., China, but is discriminated from the latter by 1) triternate (3-ternate) leaves, 2) shorter (2.5–4 cm long) terminal leaflets with acuminate apices, 3) sepals glabrous on the adaxial side, 4) narrower wings of the sepals, and 5) trilobed bracteoles positioned at the middle of pedicels. This species is also distinguished from *C. acutangula* described from Khasia Hills, India, by 1) flower color (white vs. brownish yellow; Hooker and Thomson 1872, W. T. Wang 1993), 2) leaf division (triternate vs. ternate to biternate or rarely simple), 3) leaflet shape (narrowly ovate vs. ovate), and 4) pubescence of sepals’ outer surface (glabrous vs. hirsute). Grierson and Long (1984) mentioned that the flower color of *C. acutangula* was ‘purple’. However, their description is contradictory to the diagnosis of the species as stated above. The description of Grierson and Long (1984) seems to be due to misunderstandings.

In BM, there is specimen which was collected by Kingdon-Ward from Mt. Victoria during his last trip to Burma in 1956, and it has been identified as *C. acutangula*, however, it coincides with this new species, *C. pseudopterantha*.


Distribution: India, Bhutan, Nepal, Myanmar, Thailand, Vietnam and China (Yunnan).

5.4. *Clematis montana* Buch.-Ham. ex DC., Syst. Nat. 1: 164 (1817).

var. *montana*

Specimens examined: along the roadside, Mt. Victoria, ca. 2750–3050 m alt., 6 June 2002, N. Tanaka & al. 023550 & 023553 (MBK, TI).

Note: Two varieties of *C. montana* were recognized. Var. *montana* has glabrous ovaries and achenes.


Specimens examined: along the trail to the top of Mt. Victoria, 2750 m–3050 m alt., 24 April 2003, J. Murata & al. 029126 (MBK, TI); along the trail to the peak, ca. 2900 m alt., 24 May 2004, N. Tanaka & al. 031170 (MBK, TI); along the roadside between Mindat and Mow Bi Township, ca. 2400–2600m alt., 93°47′E, 21°33′–34′N, 18 May 2004, N. Tanaka & al. 030733 (MBK, TI).

Note: Although *C. montana* has been recorded from Myanmar, this study revealed that *C. montana* var. *glabrescens* is distributed in the country. Var. *glabrescens* is distinguished from var. *montana* in having minutely pubescent ovaries and achenes.

Specimens examined: Lower to upper montane rain forest around Kampetlet, Natma Taung National Park, alt. 1810–1950 m, 23 April 2003, J. Murata & al. 029617 (MBK, TI).

Distribution: India, Bhutan, Nepal and Myanmar.

Note: This species has been recorded from Chin State (Kress et al. 2003), and this study confirmed this distribution record.


Key to the species

1. Plant glabrous; flowers yellow to white; achenes sessile

   

   1. T. foliolosum

   

2. Plant glandular pubescent; flowers pinkish purple; achenes with recurved stipe

   


T. dalingo Buch.-Ham. ex DC., Syst. Nat. 1: 175 (1817).


Distribution: India, Nepal, Myanmar, Thailand and China.

Note: This species is very common between 1500–1800 m altitude in Mt. Victoria.

6.2. Thalictrum tamurae Kadota & Nb. Tanaka, sp. nov.  [Fig. 4]

Affine Thalictro reniformi, sed achenis recurvatis, carpellis paucioribus, sepalis angustis ovato-ellipticis et staminibus brevioribus differt.


A perennial, glandular pubescent herb, 0.6–1.2 m tall. Rhizome unknown. Stem suberect, slender, 1–2 times branched or simple, densely glandular-hairy. Cauline leaves 3–4, tritermate to quinqueternate; blades yellowish green adaxially, glaucous abaxially, 3–10 cm long, 2–8 cm wide; terminal leaflets obovate to broadly ovate, 10–18 mm long, 5–14 mm wide, softly 3–5-lobed in the upper half to tricuspitate, herbaceous, almost glabrous adaxially, glandular-hairy abaxially, shortly cuspicate at apex, cuneate to rounded or shallowly cordate at base; midribs and lateral veins raised abaxially; petioles 1–2 cm long, densely glandular-hairy; petiolules 3–7 mm long, glandular-hairy; stipules 7–12 mm long, brown, membranaceous, vaginate; stipels absent. Inflorescences terminal or axillary, panicole-like racemose, 10–20 cm long, 3–10-flowered; bracts foliaceous, ternate to biteminate, sessile; bracteoles narrowly elliptic, 5–10 mm long, 1–2 mm wide, cuneate at apex; pedicels 1.5–4 cm long, glandular-hairy. Flowers August to November, 1.2–2 cm in diameter, pendulous. Sepals 4–7, narrowly ovate-elliptic, 7–12 mm long, 3–8 mm wide, pinkish purple. Stamens 10–20, 5–6 mm long; anthers narrowly ellipsoidal, 2–2.5 mm long, yellow; filaments filiform but slightly dilated at base, 3 mm long, pinkish purple; connectives 0.5 mm long, exerted from the anthers. Carpels 6–10, glandular-hairy, stipitate; stigmata narrowly triangular-oblong. Achenes 3–5 per flower; bodies ca. 5 mm long, obliquely narrowly obovoidal, recurved, compressed, glandular-hairy, with 3 prominent veins, stipitate; stipes 1–2 mm long, recurved; beaks (persistent styles) 2 mm long, straight, not hooked at apex.

Distribution: Myanmar (Mt. Victoria). Known only from the type locality.

Additional specimens examined: MYANMAR. Chin State: along the roadside at the forest edge, in semi-evergreen forest, sunny place, Natma Taung National Park, 2420 m alt., 21˚13´21˝N, 93˚58´43˝E, 12 Aug. 2008, K. Fujikawa, K. Kano, M. Matsumoto, S. Yasuda, Ling Shein Man & Hone Man 053405 (A, MBK, TNS, TI).

by larger, persistent sepals, narrowly ovate-lanceolate stigmata and glandular pubescence of plant bodies. Among the species of this series this new species is distinguished from *T. reniforme* Wall. by having 1) recurved achene bodies, 2) fewer carpels (6–10 vs. 15–20), 3) smaller, narrowly ovate-elliptic sepals (7–8 × 3–5 mm vs. 9–13 × 6–10 mm, broadly oblong) and 4) shorter stamens (5–6 mm vs. 8 mm) (Fu and Zhu 2001). Based on field examinations in the Himalayas *T. reniforme* usually had a robust habit and its stem frequently attained 2 m or longer (sometimes 3 m). Hence *T. tamurae* differs from *T. reniforme* also in plant size.

*Thalictrum diffusiflorum* C. Marquand & Airy Shaw is similar to *T. tamurae* in having a slender habit. However, *T. diffusiflorum* is different from *T. tamurae* by longer, circinate achene beaks (persistent styles at the fruiting time) and its flower color. Marquand (1928) described the flower color of *T. diffusiflorum* as ‘lilac’ while *T. tamurae* bears pinkish purple flowers. In horticulture *T. diffusiflorum* is well known as the most beautiful species with lilac flowers in the genus, however, *T. tamurae* is also considered to have an ornamental value.

In Mt. Victoria, *T. tamurae* is commonly found in open sunny grassy slopes and along the roadside between 2300–2500 m alt. On the other hand, *T. foliolosum* commonly occurs below 1600 m alt.

The specific epithet was named after the late Prof. Michio Tamura, a prominent systematic botanist specializing in phylogenetic classification of *Ranunculaceae*, who noticed that this plant was likely to be a new taxon when he saw the specimen in the herbarium of the Makino Botanical Garden.

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**References**


田中伸幸*a, 门田裕一*b, 邑田 仁c: ミャンマー植物についての新知见 (6): 西部ビクトリア山のキンポウゲ科植物

日華区系の西端としての南ヒマラヤの植物多様性の一連の調査研究で、ミャンマー西部チン州に位置するビクトリア山 (3053 m) の植物調査を行った結果、新分類群や新産種を含む 18 分類群のキンポウゲ科植物が記録されたので報告する。そのうち、トリカブト属、センニンソウ属、カラマツソウ属で未記載種と考えられる分類群が認識され、それぞれ Aconitum jin-muratae Kadota & Nb. Tanaka、Clematis pseudopterantha Kadota & Nb. Tanaka および Thalictrum tamurae Kadota & Nb. Tanaka として記載した。一方、Anemone tomentosa および Delphinium caeruleum はミャンマー新産である。また新種を含むビクトリア山で記録された 17 分類群の各属内に含む種の検索キーを与えた。

Aconitum jin-muratae は中国雲南省とミャンマーに分布する A. duclouxii H. Lév. に似る。しかし、本種は、葉が 3 回出葉の複葉となり、小葉はより小さく先端が尖り、萼片の向軸部が無毛、肋小苞が 3 裂し花弁の中央につく点で A. jin-muratae と区別できる。インド Khiasa Hills から記載された C. acutangula Hook. f. & Thomson は、花が黄褐色 (Hooker and Thomson 1872, W. T. Wang 1993) で、葉が普通 1 回 ~2 回出葉、萼片の向軸部が有毛であることで本種と異なる。ロンドン自然史科学博物館の標本室(BM)には、ビクトリア山より採集された C. acutangula と定めたキングドンウォードの採集標本(Kingdon-Ward 22858) が所蔵されるが、これは本種に帰せられる。

Thalictrum tamurae は小型で宿存性の萼片をもち、柱頭が狭三角状円形で下部が高く反曲し、植物体に腺毛が生える、カラマツソウ属 Violaceae 列の 1 種である。この中で形態的に最も似たヒマラヤ東部の T. reniforme Wall. とは、瘦果の果皮が反曲し、心皮の数がより少なくて、萼片がより小型で卵状楕円形となり、雄しべがより短い点で区別される。この両種は共に茎や花序に短い腺毛が生えるが、T. tamurae では葉はほとんど無毛となる。また、チベット東部のフジイロカラマツ T. diffusiflorum C. Marquand & Airy Shaw も本種に似て
いるが、本種は瘦果の嘴（宿存花柱）がより短くかつ先端が屈曲せず、花色が桃紫色であることから区別できる。*Thalictrum tamurae* も基準産地以外では知られていない。

*Anemone tomentosa* は現在までに中国からしか知られていなかったが、今回の調査研究でミャンマーの西部にも分布することが明らかとなった。これは本種の分布の南西限でもある。

*Delphinium caeruleum* はブータンからネパール、シキムにかけて分布が知られていた。今回の調査で明らかとなったミャンマーでの新産地は本種の分布の南限である。

ビクトリア山はミャンマーで最も南に位置する最高峰の山で、日華区系植物の避難地（レフュジア）となっていると考えられる。今回の研究で明らかになった新種群も、ビクトリア山とその周辺の標高の比較的高い地域に隔離的に分布する遺存種で、独自に種分化をした分類群と考えられる。ビクトリア山には、このように中国・ヒマラヤ地域の植物に類似するが異なる分類群が多数存在している可能性があり、今後のさらなる植物多様性の研究が期待される。

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