Takasi YAMAZAKI*: **Notes on Lindernia, Vandellia, Torenia and their allied genera in Eastern Asia. (4)****

山崎 敬*: 東亜産アゼナ属，ウリクサ属，ハナウリクサ属とその類縁 (4)

Legazpia Blanco, Fl. Filip. ed. 2, 338 (1845) non vidi; Nov. Append. 148 (1880) pro syn. Toreniae; Merrill, Rew. Identific. Spec. Describ. Blanco's Fl. Filipin. 65 (1905)—*Torenia* sect. *Tridens* Bentham (1846: 409)—*Tuyamaea* Yamazaki in Journ. Jap. Bot. **30**: 171 (1955).

Legazpia polygonoides (Bentham) Yamazaki comb. nov.—*Torenia polygonoides* Bentham in Scroph. Ind. 39 (1835) non vidi; (1846: 409); Hooker (1884: 276); Schlechter in Engler Bot. Jahrb. **56**: 572 (1921); Merrill (1923: 437); Bonati (1927: 391); Pennell in Journ. Arnold Arb. **20**: 78 (1939), **24**: 255 (1934)—*Legazpia triptera* Blanco, Fl. Filip. ed. **2**: 338 (1845)—*Torenia cardiosepala* Bentham (1846: 409).

Distr. Burma, Malay, Indo-china, Borneo, Philippines, Micronesia and New-Guinea.

Hab. Micronesia, Palau, Ins. Baobeltaob, Ngelegal (T. Tuyama, 1 Sept. 1939), ibidem Ngat-pang (T. Tuyama, 18 Aug. 1939), ibidem Aimiriik (T. Tuyama, 15 Aug. 1939).

Legazpia mucronulata (Bentham) Yamazaki comb. nov.—*Torenia mucronulata* Bentham (1846: 409); Bonati (1927: 390).

Distr. Burma and Tonkin.

Torenia polygonoides is characterized with the calyx having three large semi-circular wings, while in other *Torenia*, the calyx has five narrow or linear wings. In the general species of *Torenia*, the calyx always consists of five lobes with five wings growing along their midveins (fig. XI-5), whereas in *Torenia polygonoides*, it consists of three lobes and three wings growing along the intermediate positions between two midveins (fig. XI-6), so in the former the wings correspond with the positions of the teeth of the lobes in the latter they are alternate with them. Moreover, *T. polygonoides* differs from others in having glabrous ovaries, small corollas slightly exceeding the calyces, upper corolla lips being rounded and minutely haired at the margine, and seeds having five longitudinal

* 東京大学理学部植物学教室. Botanical Institute, Faculty of Science, University of Tokyo.

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slender hollows which are septated into two or three parts with the thin membranes. By such remarkable differences it becomes possible to distinguish this species from other members as a representative of a different genus Legazpia. At present this genus consists of two species and is known from Micronesia to Burma.

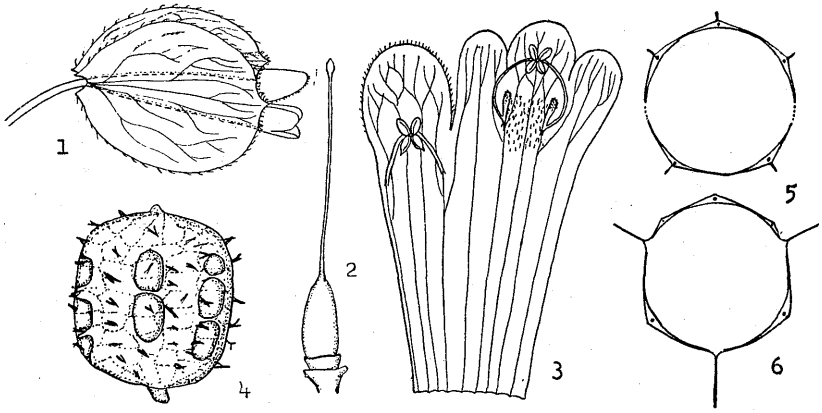

Fig. XI. *Legazpia polygonoides*. 1) Flower ×6. 2) Pistil ×9. 3) Corolla expanded ×9. 4) Seed ×8). 5 and 6) Calyx transversed, diagram. 5 *Torenia*, 6 *Legazpia*.

Torenia L. Gen. Pl. no. 673 (1754)—*Nortenia* Thou. Gen. Madasc. no. 27 (1809) non vidi; Chamisso et Schlechtendal in Linnaea **3**: 18 (1829).

A) Caulis erectus. Flores terminales racemosi. Calyx prominente alatus. Stamina antica exappendiculata. .....sect. *Elegantes*.

B) Calyx in fructu elliptico-fusiformis, alis 2–2.5 mm. latis .... *Torenia violacea violacea*.

B) Calyx in fructu oblongo-fusiformis, alis 1 mm. latis .... *Torenia violacea chinensis*.

A) Calyx anguste alatus vel striatus. Stamina 2 antica basi appendiculata. ... .Sect. *Nortenia*.

B) Planta glabrescens vel sparce pubescens.

C) Caulis erectus. Calyx basi rotundatus, alis non decurentibus..... ..... *Torenia cordifolia*.

C) Caulis repens vel diffusus. Calyx basi acutus, alis in pedicellum decurentibus.

D) Caulis diffusus adscendens. Corolla 18–22 mm. longa calyce sub 1.5 pro longior.

E) Folia ovata basi rotundata margine utrinque 6–9 serrata 12–25 mm.

longa 8–14 mm. lata, petiolis 3–7 mm. longis. Labia corollarum inferiorum inaequaliter trilobata, lobo medio majore, labiis superioribus parvis. ..... *Torenia kiusiana.*

E) Folia majora triangulariter ovata basi truncato-rotundata margine utrinque 8–11 serrata 20–30 mm. longa 12–18 mm. lata, petiolis 6–12 mm. longis. Labia corollarum inferiorum subaequaliter trilobata superiora subaequilonga .....*Torenia benthamiana.*

D) Caulis repens prostratus. Corolla calyce super duplo superans.

E) Folia crenato-serrata. Calyx oblongo-fusiformis alatus. Corolla 17–22 mm. longa, labio superiore majore inferiore subaequilongo. .... *Torenia vagans.*

E) Folia argute serrata. Calyx oblongo-campanulatus obsolete alatus vel striatus. Corolla 27–35 mm. longa, labio superiore parvo inferiore breviore..... *Torenia concolor.*

F) Folia ovata basi rotundata margine utrinque 7–10 argute serrata. Calyx anguste alatus. Appendix staminum acutatus..... ..... *T. concolor concolor.*

F) Folia triangulariter ovata basi truncata margine utrinque adpresse serrata. Calyx striatus exalatus. Appendix staminium filiformis obtusis.....*T. concolor formosana.*

B) Planta dense hirsuta. Calyx hirsutus vel pubescens exalatus.

C) Caulis erectus. Flores terminales racemosi. Calyx pubescens. Corolla lutea..... *Torenia flava.*

C) Caulis repens. Flores in axillis foliorum vel terminalibus ramorum umbellati. Calyx dense hirsutus. Corolla purpurea. ...*Torenia hirsuta.*

Sect. I. **Elegantes** sect. nov. Caulis erectus Inflorescentia terminales racemosa. Calyx prominente 5 alatus. Stamina antica exappendiculata. Typus *Torenia violacea.*

1) **Torenia violacea** (Azaola) Pennell in Journ. Arnold Arb. **24**: 255 (1943): H. L. Li (1950: 62)—*Mimulus violaceus* Azaola ex Blanco, Fl. Filip. ed. 2, 357 (1845)—*Torenia peduncularis* Bentham in Wall. Cat. no. 3956 (1831) nom. nud., Hooker (1884: 276), Henry (1896: 67)—*Torenia edentula* Griff. sensu Bentham (1846: 410), Bot. Mag. t. 4229 (1846), Paxt. Mag. **15**: 197 (1849)—*Torenia exappendiculata* Regel in Acta Hort. Peterop. **5**: 271 (1877), Gartenfl. t. 892 (1877).

Distr. from Central and Eastern Himalaya to Szechuan, Southern China,

Formosa, Indo-china, Philippines, Java and New. Guinea.

Hab. Formosa (Tapei, Sinchu, Taichung, Tainang). China, Prov. Kwangtung, Yam-na-shan 除那山 (W. T. Tang, no. 21452). Indo-china; Tongking, Chapa (Voukin, no. 2541). Siam, Doi-step (B. Hayata, 9 Oct. 1921).

var. **chinensis** Yamazaki var. nov.—*Torenia peduncularis* Bentham sensu Hemsley (1890: 188) pro parte; Diels, Fl. Cent. China, 567 (1900) pro parte; S. Matsuda, in Bot. Mag. Tokyo **25**: 93 (1911).

A typo, foliis triangulariter ovatis basi truncatis vel subcordatis, petiolis brevioribus subdense pilosis, calycis oblongo-fusiformibus alis in fructu 1 mm. latis differt.

Distr. Central China.

Hab. China, Prov. Hunan, Changyo 長楽 (K. Inami, no. 56, Typus in Herb. Univ. Tokyo); Prov. Kiangsi, Yungshiu 永修 (no. 10666).

Sect. II. **Nortenia** (Thou.) Bentham (1846: 409) sensu emend.

Caulis suberectus vel repens. Flores terminalles racemosi vel axilares solitarii vel umbellati. Calyx anguste alatus vel exalatus. Stamina 2 antica basi appendiculata.

2) **Torenia cordifolia** Roxbourgh, Pl. Corom. **2**: 52, t. 161 (1798) non. vidi; Fl. Ind. **3**: 95 (1832); Bentham in Bot. Mag. t. 3715 (1840) (1846: 409); Hooker (1884: 276); Franchet, Pl. David. 222 (1884); Hemsley (1890: 187); Bonati (1927: 395); Handel-Mazzetti (1936: 837).

Distr. Western Himalaya, Central and Northern India, Burma, Malay, Java, Indo-china and China (Szechuan and Kiangsi).

3) **Torenia kiusiana** Ohwi in Fedde Rep. Spec. Nov. Veget. **36**: 55 (1934): Hara, Enum. Sperm. Japon. **1**: 275 (1948).

Distr. Southern Kyusyu.

Hab. Prov. Osumi; Satamura, Takenoura 竹浦 (S. Tokunaga, 15 Aug. 1928—Typus in Herb. Univ. Kyoto), ibid. Izasiki 伊座敷 (H. Asuyama, 10 Aug. 1929), ibid. Katano 片野 (Y. Nakano, 27 Aug. 1910), Oonezime 大根占 (Z. Tashiro, 5 Sept. 1934), Konezime 小根占 (T. Nakazima, Aug. 1910), Ooaira 大姶良 (T. Hanzyo, 5 Sept. 1934); Ins. Tanegashima 種子島 (1910); Prov. Satuma; Yamakawa 山川 (T. Doi, 10 Jun. 1929).

4) **Torenia glabra** Osbeck, Dagbok Ostind. Resa, 210 (1757) non vidi; Merrill in Amer. J. Bot. **3**: 589 (1916)—*Torenia benthamiana* Hance in Ann. Sci. Nat. Ser. 4, **18**: 226 (1862); Maximowicz (1875: 442); Hemsley (1890: 187).

Distr. Southern China.

Hab. China, Prov. Kwangtung, Yang-shan 陽山 (T. M. Tsui, no. 689). Prov. Fuchien, Yen-pin 延平 (N. Yamazaki, Nov. 1909). Prov. Kiangsi, I-hwang 宜黃 (no. 10027).

5) **Torenia vagans** Roxburgh, Hort. Bengal. 95 (1814) non vidi; Fl. Indica **3**: 96 (1832); Maximowicz (1875: 442); Hemsley (1890: 189); Diels, Fl. Cent. China, 567 (1900); S. Matsuda in Bot. Mag. Tokyo **33**: 149 (1919); Handel-Mazzetti, 1936: 837)—*Torenia diffusa* D. Don, Prodr. Fl. Nepal. 86 (1825).

Distr. Central and Eastern Himalaya, Eastern India, Indo-china and China (Yunnan, Szechuan, Hupeh, Kiangsi and Kwangtung).

Hab. Szechuan, Mt. Omei 蛾眉山 (K. Yamatsuta, Jul. 1910).

6) **Torenia concolor** Lindley in Bot. Reg. t. 62 (1846); J. D. Hooker in Bot. Mag. t. 6797-A (1885); Hemsley (1890: 187); Bonati (1927: 393); Handel-Mazzetti (1936: 837)—*Torenia rubens* Bentham ex Maximowicz (1875: 442) pro parte.

Distr. Southern China and Indo-china.

Hab. Siam. Bangkok (B. Hayata, 24 Dec. 1921). China, Hongkong 香港 (B. Hayata, 12 Aug. 1917). Prov. Kwangsi, Wu-chou 梧州 (K. Kimura, 8 Aug. 1935).

var. **formosana** Yamazaki var. nov.—*Torenia concolor* Lindley sensu Maximowicz (1875: 442) pro parte: Hemsley (1890: 187) pro parte; Henry (1896: 67); Matsumura et Hayata (1906: 277) excl. syn.; H. L. Li, (1950: 62).

A typo, caulibus gracilibus, raminis prelumque ad axillas foliorum solitariis, foliis triangulariter ovatis basi truncatis, serris paucioribus adpressis mucronatis, calycibus striatis exalatis, appendicibus staminium filiformibus non acutis differt.

Distr. Formosa and Southern Ryukyu.

Hab. Formosa, Prov. Taipe, Kielung (T. Makino, 2 Nov. 1896—Typus in Herb. Univ. Tokyo); Prov. Sinchu, Taichung, Hualien-kang, Tainang and Kaohsiung: Ryukyu, Ins. Miyako.

7) **Torenia flava** Hamilton in Wall. Cat. no. 3957 (1828); Bentham (1846: 411); Maximowicz (1875: 442); Hance in Journ. Bot. 1878, 231; Hooker in Bot. Mag. t. 6700 (1883), (1884: 278); Hemsley (1890: 188); Bonati (1927: 405); Matsumura et Hayata (1906: 278); H. L. Li (1950: 63)—*Torenia fordii* Hooker sensu Matsumura et Hayata (1906: 278)—*Torenia hokutoensis* Hayata (1920: 80).

Distr. Eastern India, Burma, Malay, Sumatra, Indo-china, Southern China and Formosa.

Hab. China, Hainan, Wong-kam-shan 黃金山 (S. K. Lau, no. 605). Formosa (Tapei, Sinchu and Kaohsuing).

8) **Torenia hirsuta** Willdenow, Sp. Pl. **3**: 266 (1800); Bentham (1846: 410), in Bot. Mag. t. 5167 (1860); Dunn et Tutcher, Fl. Kwangt. Hongk. 189 (1911)—*Torenia asiatica* L. var. *hirsuta* (Benth.) Hooker (1884: 277)—*Torenia nantoensis* Hayata (1920: 81); H. L. Li (1950: 64).

Distr. Eastern India, Southern China and Formosa.

Hab. Formosa, Nan-tou 南投 (Y. Shimada, 16 Sept. 1917—Typus *Torenia nantoenses* in Herb. Univ. Tokyo); China, Prov. Kwangtung, Hainan, Cheng-mai 澄邁 (C. I. Lei, no. 871).

Species e genere exclusae.

Torenia arisanensis Sasaki in Trans. Nat. Hist. Soc. Formosa **21**: 222 (1931)= *Mimulus nepalensis* Bentham, H. L. Li (1950: 64).

Litterae

Bentham G. in De Candolle, Prodr. System. Natural. **10**: 409–411 (1846); Bonati G. in Lecomte, Fl. Générale Indo-Chine **4**: 387–406 (1927); **H**andel-Mazzetti H., Symbol. Sinicae **7-4**: 837 (1936); Hayata B., Icon. Pl. Formosan. **9**: 81 (1920); Hemsley W. B. et Forbes F. B., Ind. Fl. Sinensis **2**: 187–189 (1890); Henry A., List Pl. Formosa 67 (1896); Hooker J. D., Fl. Brit. India **4**: 275–278 (1884); **L**i H. L. in Quart. Journ. Taiwan Museum **3**: 62–64 (1950); **M**atsumura J. et Hayata B., Enum. Pl. Formosan. 277 (1906); Maximowicz C. J. in Bull. Acad. Imp. Sci. St.-Petersb. **20**: 442–443 (1875); Merrill E. D., Enum. Plillippine Fl. Pl. **3**: 436–437 (1923); Mori K. in Short Fl. Formosa 193 (1936).

ハナウリクサ属はインド・ビルマ・インドシナなど，熱帯アジアに種類が多く，台湾でもかなりの種類がみられるが，日本では九州南部にゲンジバナ (*Torenia kiusiana*, 一名コバナツルウリクサ), 琉球南部にツルウリクサ (*Torenia concolor formosana*) を生ずるのみである。ゲンジバナはかつてツルウリクサと同じものと考えられていたこともあつたが，それとは関係なく，華南にある *Torenia benthamiana* に近い種類である。この属のものは花が大きく，色がきれいなので栽培されるものが多い。日本にはハナウリクサ (*Torenia fournieri*) とコミゾホオズキ (*Torenia violacea*) が明治の末頃から栽培されている。ハナウリクサはインドシナ原産で最も普通に栽培され，赤・白・紫など花色も変化に富む。このうちムラサキハナウリクサ (*Torenia fournieri grandiflora*) と呼ばれるものは花が大きく，花びらの裂片は濃紫色で最も美しい。コミゾホオズキはヒマラヤから東南アジア・ニューギニアにわたつて広く分布しているものであり，ハナウリクサに比べると小形で，花も小さく少し貧弱なので現在は殆んど栽培されていないが，小石川植物園には野生化している。