

## A Proposal for the Amendment of Article 53.3 Ex. 9 (ICBN, Vienna Code, 2006)

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**ABSTRACT:** There are 167 taxa listed in the Flora of Taiwan, 2nd edition, with epithets of [formosa] and its derivatives, and [formosensis] in the different taxonomic ranks which literaturaly designate the island of Taiwan. Namely these are 2 formosae, 103 formosana, 42 formosanum, 11 formosanus, 1 formosense and 8 formosensis. In order to avoid confusion in using the epithets of formosae, formosana, formosanum, formosanus, formosense and formosensis for Formosan (Taiwan) plants under the same genus, we propose to amend Art. 53.3 Ex. 9 with addition of a phrase [formosae, formosana, formosanum, formosanus, formosense and formosensis for native and endemic plants on Taiwan only] to the end of the sentence of Article 53.3 Ex. 9 of International Code of Botanical Nomenclature (ICBN, Vienna Code, 2006).

**KEY WORDS:** nomenclature, epithets formosa and derivatives, amend, ICBN, Art. 53.3 Ex. 9.

### INTRODUCTION

The word [Formosa] is well known as a geographical name for Taiwan Island by westerners for a long time since [Formosa] was used by a Portuguese explorer. [Formosa] is an adjective meaning “beautiful” in Latin, and [formosensis] is a geographical word for the Island of Taiwan in Latin. Hence, they are two words with different meaning. The epithet [formosa] or its derivatives used as a name for native or endemic plants of Taiwan (Bufford et al., 2003, Appendix 1) literally designate the Island of Taiwan by Taiwanese and Japanese taxonomists and by most western botanists, e.g., *Poa formosae* Ohwi. However, the epithet [formosa] or its derivatives used in naming plants outside of Taiwan indicate the word “beautiful” by western taxonomists, e.g., *Lespedeza thunbergii* (DC.) Nakai subsp. *formosa* (Vogel) H. Ohashi. In Article 53.3 Example 9 of the International Code of Botanical Nomenclature states “Epithets so similar that they are likely to be confused if combined under the same generic or specific name: chinensis and sinensis; ceylanica and zelanica; napaulensis, nepalensis, and nipalensis; polyanthemos and

polyanthemus; macrostachys and macrostachyus; heteropus and heteropodus; poikilantha and poikilanthes; pteroides and pteroideus; trinervis and trinervius; macrocarpon and macrocarpum; trachycaulm and trachycaulon” (McNeill et al., 2006). In order to avoid the possible confusion regarding epithet [formosa] in Taiwan’s plants, the survey of taxa applied with [formosa] and its derivatives were undertaken, and we proposed to amend the Article 53.3 Ex. 9 of international code (Vienna Code, 2006) of botanical nomenclature.

### MATERIALS AND METHODS

A checklist (Appendix 1) with epithet [formosa] and its derivatives including formosae, formosana, formosanum, formosanus, formosense, formosensis was compiled by checking the following two literatures: Flora of Taiwan 2nd ed. (Bufford et al., 2003) and International Plant Names Index (2004), which includes the data sources of Index Kewensis, Gray Card Index and Australian Plant Name Index: By searching the internet website: <http://www.ipni.org>.

### RESULTS AND DISCUSSION

Totally there are 2 formosae, 103 formosana, 42 formosanum, 11 formosanus, 1 formosense and 8 formosensis listed in the Flora of Taiwan, 2nd edition (Tables 1 & 2). All these words designate the Island

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Table 1. Number of different epithets in different generic and infrageneric ranks and in different classes (Boufford et al., 2003).

class taxa	Pteridophytes	Gymnosperms	Dicots	Monocots	Total no.
species	11	3	83	36	133
subspecies	0	0	6	1	7
variety	1	4	17	4	26
forms	0	0	1	0	1
Total no.	12	7	107	41	167

Table 2. Number of different epithets in different classes (Boufford et al., 2003).

class epithet	Pteridophytes	Gymnosperms	Dicots	Monocots	Total no.
formosae	1	0	0	1	2
formosana	5	6	70	22	103
formosanum	6	0	25	11	42
formosanus	0	0	5	6	11
formosense	0	0	1	0	1
formosensis	0	1	6	1	8
Total no.	12	7	107	41	167

of Taiwan. Among the list, *Elaeagnus formosana* Nakai published in 1916 and *Elaeagnus formosensis* Hatusima published in 1952 could be confused since they are all derived from [formosa] designating the Island of Taiwan.

In order to avoid confusion in the application of the epithets, including formosae, formosana, formosanum, formosanus, formosense and formosensis, for Formosan (Taiwan) plants under the same genus, we propose to amend the Article 53.3 Examples 9 as follows: "Epithets so similar that they are likely to be confused if combined under the same generic or specific name: chinensis and sinensis; ceylanica and zelanica; napaulensis, nepalensis, and nipalensis; polyanthemos and polyanthemus; macrostachys and macrostachyus; heteropus and heteropodus; poikilantha and poikilanthes; pteroides and pteroideus; trinervis and trinervius; macrocarpon and macrocarpum; trachycaulum and trachycaulon; formosae, formosana, formosanum, formosanus, formosense and formosensis for native and endemic plants of Taiwan only".

The concise statement of this article will be submitted to *Taxon* as a formal proposal for consideration by the Nomenclature Section of the XVIII International Botanical Congress in Melborne, Australia in August, 2011.

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Appendix 1. A list of Taiwan's vascular plants with epithets related to [Formosa] and its derivatives compiled from the Flora of Taiwan, 2nd edition (Boufford et al., 2003). **Boldface** as accepted names and *italic* as synonyms.

## I. PTERIDOPHYTA

**Adiantum formosanum** Tagawa  
**Antrophyum formosanum** Hieron.  
**Asplenium formosae** H. Christ  
*Botrychium formosanum* Tagawa sensu C. M. Kuo  
**Diplazium formosanum** Rosenst.  
**Dryopteris formosana** (H. Christ) C. Chr.  
**Loxogramme formosana** Nakai  
**Plagiogyria formosana** Nakai  
**Polypodium formosanum** Baker  
**Polystichum formosanum** Rosenst.  
**Pteris formosana** Baker  
*Woodwardia orientalis* Sw. var. **formosana** Rosenst.

## II. GYMNOPTERIS

**Amentotaxus formosana** Li  
**Calocedrus macrolepis** Kurz var. **formosana** (Florin) Cheng & Fu  
**Chamaecyparis formosensis** Matsum.  
**Chamaecyparis obtusa** Siebold & Zucc. var. **formosana** (Hayata) Rehder  
**Juniperus formosana** Hayata  
**Keteleeria davidi** (Franchet) Beissner var. **formosana** Hayata  
*Tsuga chinensis* (Franch.) Pritz. ex Diels var. **formosana** (Hayata) Li & H. Keng

## III. DICOTYLEDONS

**Acer buergerianum** Miq. var. **formosanum** (Hayata) Sasaki  
**Aconitum fukutomei** Hayata var. **formosanum** (Tamura) T. Y. A. Yang & T. C. Huang  
**Adenia formosana** Hayata  
**Adinandra formosana** Hayata var. **obtusissima** (Hayata) H. Keng  
**Aglaia formosana** Hayata  
**Alnus formosana** (Burkill ex Forbes & Hemsl.) Makino  
**Angelica dahurica** (Fisch.) Benth. & Hook. var. **formosana** (Boiss.) K. Y. Yen et al.  
**Arabis formosana** (Masam. ex S. F. Huang) T. S. Liu & S. S. Ying  
**Argyreia formosana** Ishigami ex Yamaz.  
**Aster formosanus** Hayata  
**Astronia formosana** Kaneh  
**Begonia formosana** (Hayata) Masam.  
**Begonia formosana** (Hayata) Masam. f. **albomaculata** T. S. Liu & M. J. Lai  
**Berchemia formosana** C. K. Schneid.  
**Boehmeria formosana** Hayata  
**Callicarpa formosana** Rolfe  
**Callicarpa formosana** Rolfe var. **glabrata** T. T. Chen, S. M. Chaw & Yuen P. Yang  
**Callicarpa formosana** Rolfe var. **longifolia** Suzuki  
**Camellia sinensis** (L.) Kuntze f. **formosensis** Kitam.  
**Capparis sikkimensis** Kurz subsp. **formosana** (Hemsl.) Jacobs  
**Cardiandra formosana** Hayata  
**Castanopsis formosana** (Skan) Hayata  
**Celtis formosana** Hayata  
**Cerastium formosanum** Ohwi  
**Chenopodium formosanum** Koidz.  
**Chrysosplenium lanuginosum** Hook. f. & Thomson var. **formosanum** (Hayata) H. Hara  
**Clematis formosana** Kuntze  
**Cnidium monnierii** (L.) Gusson var. **formosanum** (Yabe) Kitag.  
**Cochlearia formosana** Hayata  
**Comanthophace formosana** Ohwi  
**Crateva adansonii** DC. subsp. **formosensis** Jacobs  
**Cuscuta japonica** Choisy var. **formosana** (Hayata) Yunck.  
**Cynanchum formosanum** (Maxim.) Hemsl. ex Forbes & Hemsl.  
**Dischidia formosana** Maxim.  
**Elaeagnus formosana** Nakai  
*Elaeagnus formosensis* Hatus sensu T. C. Huang  
**Entada purgaetha** DC. var. **formosana** (Kaneh.) F. C. Ho  
**Euchresta formosana** (Hayata) Ohwi  
**Euphorbia formosana** Hayata

- Excoecaria formosana** (Hayata) Hayata  
**Farfugium japonicum** (L.) Kitam. var. **formosanum** (Hayata) Kitam  
**Ficus formosana** Maxim.  
**Ficus formosana** Maxim. f. **shimadae** Hayata  
**Galium formosense** Ohwi  
**Gentiana davidii** Franch. var. **formosana** (Hayata) T. N. Ho  
**Glycine max** (L.) Merr. subsp. **formosana** (Hosok.) Tateishi & H. Ohashi  
**Gynura divaricata** (L.) DC. subsp. **formosana** (Kitam.) F. G. Davies  
**Hedera rhombea** (Miq.) Bean var. **formosana** (Nakai) H. L. Li  
**Helicia formosana** Hemsl  
**Heliotropium formosanum** I. M. Johnst.  
**Helwingia japonica** (Thunb.) Dietr. subsp. **formosana** (Kaneh. & Sasaki) H. Hara & S. Kuros.  
**Hypericum formosanum** Maxim.  
**Ilex formosana** Maxim.  
**Lasianthus formosensis** Matsum.  
**Lepidagathis formosensis** C. B. Clarke ex Hayata  
**Liquidambar formosana** Hance  
**Mallotus paniculatus** (Lam.) Müll. Arg. var. **formosanus** (Hayata) Hurus.  
**Marsdenia formosana** Masam.  
**Medinilla formosana** Hayata  
**Michelia compressa** (Maxim.) Sargent var. **formosana** Kaneh.  
**Mitella formosana** (Hayata) Masam.  
**Nemosenecio formosanus** (Kitam.) B. Nord.  
**Notoseris formosana** (Kitam.) C. Shih  
**Ormosia formosana** Kaneh.  
**Oxalis acetosella** L. subsp. **griffithii** (Edgew. & Hook. f.) H. Hara var. **formosana** S. F. Huang & T. C. Huang  
**Pachycentria formosana** Hayata  
**Palaquium formosanum** Hayata  
**Paraphlomis formosana** (Hayata) T. H. Hsieh & T. C. Huang  
**Pasmania formosana** (Skan ex Forbes & Hemsl.) Schottky  
**Patrinia formosana** Kitam.  
**Peucedanum formosanum** Hayata  
**Phoebe formosana** (Hayata) Hayata  
**Pogostemon formosanus** Oliv.  
**Reevesia formosana** Sprague  
**Rhamnus formosana** Matsum.  
**Rhododendron formosanum** Hemsl.  
**Rhynchotechum formosanum** Hatus.  
**Ribes formosanum** Hayata  
**Rubus formosensis** Kuntze  
**Salvia formosana** (Murata) Yamaz.  
**Salvia formosana** (Murata) Yamaz. var. **matsudae** (Kudo) T. C. Huang & J. T. Wu  
**Salvia nipponica** Miq. var. **formosana** (Hayata) Kudo  
**Sedum formosanum** N. E. Br.  
**Sinopanax formosana** (Hayata) H. L. Li  
**Sloanea formosana** H. L. Li  
**Spiraea formosana** Hayata  
**Stellera formosana** (Hayata) H. L. Li  
**Strobilanthes formosanus** S. Moore  
**Styrax formosana** Matsum.  
**Styrax formosana** Matsum. var. **hayataiana** (Perkins) H. L. Li  
**Symplocos formosana** Brand  
**Syzygium formosanum** (Hayata) Mori  
**Taraxacum formosanum** Kitam.  
**Tetragastris formosanum** (Hemsl.) Gagnep.  
**Theligonum formosanum** (Ohwi) Ohwi & T. S. Liu  
**Trachelospermum formosanum** Y. C. Liu & C. H. Ou  
**Trigonotis formosana** Hayata  
**Trigonotis formosana** Hayata var. **elevatovenosa** (Hayata) S. D. Shen & J. C. Wang,  
**Turpinia formosana** Nakai  
**Vaccinium wrightii** A. Gray var. **formosanum** (Hayata) H. L. Li  
**Veronicastrum formosanum** (Masam.) Yamaz.  
**Viburnum formosanum** Hayata  
**Viburnum plicatum** Thunb. var. **formosanum** Y. C. Liu & C. H. Ou  
**Viola formosana** Hayata  
**Viola formosana** Hayata var. **stenopetala** (Hayata) J. C. Wang, T. C. Huang & T. Hashim.  
**Wendlandia formosana** Cowan  
**Youngia japonica** (L.) DC. subsp. **formosana** (Hayata) Kitam.

**IIIB. MONOCOTYLEDONS**

- Agropyron formosanum** Honda  
**Agrostis infirma** Buse var. **formosana** (Hack.) Veldkamp  
**Aletris formosana** Hayata  
**Alpinia formosana** K. Schum.  
**Anoectochilus formosanus** Hayata  
**Anthoxanthum horsfieldii** (Kunth ex Benn.) Mez var. **formosanum** (Honda) Veldkamp  
**Appendicula formosana** Hayata  
**Arisaema formosanum** (Hayata) Hayata  
**Arundo formosana** Hack.  
**Bletilla formosana** (Hayata) Schltr.  
**Bletilla formosana** (Hayata) Schltr. f. **kotoensis** (Hayata) T. P. Lin; Yang et al.  
**Calamus formosanus** Becc.  
**Carex formosensis** H. Lév. & Vaniot  
**Colocasia formosana** Hayata  
**Collabium formosanum** Hayata  
**Cymbidium formosanum** Hayata sensu Yuen P. Yang et al.  
**Cypripedium formosanum** Hayata  
**Eccolopus formosanus** (Rendle) A. Camus  
**Epipremnum formosanum** Hayata  
**Erianthus formosanus** Stapf  
**Festuca formosana** Honda  
**Gastrochilus formosanus** (Hayata) Hayata  
**Iris formosana** Ohwi  
**Leptaspis formosana** C. C. Hsu  
**Lilium formosanum** Wallace  
**Liparis formosana** Rchb. f.  
**Musa basjoo** Siebold var. **formosana** (Warb.) S. S. Ying  
**Poa formosae** Ohwi  
**Peristylus formosanus** (Schltr.) T. P. Lin  
**Phreatia formosana** Rolfe  
**Platanthera mandarinorum** Rchb. f. subsp. **formosana** T. P. Lin & K. Inoue  
**Pleione formosana** Hayata sensu Yuen P. Yang & al.  
**Thrixspermum formosanum** (Hayata) Schltr.  
**Tricyrtis formosana** Baker  
**Tricyrtis formosana** Baker var. **grandiflora** S. S. Ying  
**Tricyrtis formosana** Baker var. **lasiocarpa** (Matsum.) Masam.  
**Tricyrtis formosana** Baker var. **ovatifolia** (S. S. Ying) S. S. Ying  
**Tricyrtis formosana** Baker var. **stolonifera** (Matsum.) Masam.  
**Trisetum spicatum** (L.) Rich. var. **formosanum** (Honda) Ohwi  
**Veratrum formosanum** Loes.  
**Xyris formosana** Hayata

## 提議修改維也納版國際命名法規 53.3 條款例證 9

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### 摘要

[Formosa] 有「美麗的」以及「專指臺灣島」兩個意思。臺灣植物誌第二版所收錄之學名中，含有 [formosa]、[formosa] 之拉丁文衍生字、以及 [formosensis] 等字眼者共有 167 個，其含意均專指臺灣島。此包括 2 個 [formosae]、103 個 [formosana]、42 個 [formosanum]、11 個 [formosanus]、1 個 [formosense] 以及 8 個 [formosensis]。為了避免台灣產之同屬植物，以 [formosa] 及其拉丁衍生字為尾名 (epithet) 使用於不同種或種下分類群，而造成的混淆，我們提議將下述字句：[formosae, formosana, formosanum, formosanus, formosense and formosensis for native and endemic plants on Taiwan only] 加入維也納版國際命名法規 (2006 年) 53.3 條款例證 9 之文句後段。

關鍵詞：命名、尾名、[Formosa] 及衍生字、國際命名法規、53.3 條款、例證 9。

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