



Systematics and Geography of Plants **Guide for authors ***

Systematics and Geography of Plants is the home journal of the National Botanic Garden of Belgium (N.B.G.). Two issues normally appear each year. Original research papers, reviews, short notes and book reviews are published.

Scope

Systematics and Geography of Plants publishes work done by the staff of N.B.G. or on the collections conserved in the herbarium BR; other papers with emphasis comparable to N.B.G.'s research programme are also considered for publication. Relevant fields include plant systematics and evolution, phytogeography, and related disciplines (morphology, anatomy, wood anatomy, cytotaxonomy, palynology, floristics, vegetation studies). The journal covers all plant groups (including algae) and fungi. Geographical emphasis is on western Europe and tropical Africa. Authors are encouraged to deposit vouchers and nomenclatural types relative to submitted papers in N.B.G.'s herbarium (BR).

Submission

At first submission, three identical hard copies (text, tables and figures) should be sent. The accompanying letter should explicitly mention that the manuscript sent is not under consideration or published elsewhere, including on the Internet (except for publication of an abstract or restricted circulation of report or thesis). Original illustrations and electronic version should not be included at first submission, but will be requested by the editor after acceptance.

Submit to the Editor, Syst. Geogr. Pl., National Botanic Garden, Domein van Bouchout, B-1860 Meise, Belgium. To speed up the review process of a paper submitted as a hard copy, authors can electronically announce the submission sent, adding a text file with author(s), title and abstract to their message.

Electronic submission: Alternatively, electronic submittal is recommended by sending a message to sgp@br.fgov.be, attaching (1) a pdf file of the typescript including all illustrations and tables, and (2) a text file with author(s), title and abstract.

Copyright

Authors submitting a manuscript do so on the understanding that the copyright of accepted papers is assigned to N.B.G. Authors may personally use material in other works, without seeking permission and subject to normal acknowledgment of *Systematics and Geography of Plants*. Third parties wishing to reproduce text, tables or figures must seek permission from N.B.G. and inform authors of their use.

Reviewing policy

Papers are subject to peer review by members of the editorial board and/or external referees, designed to maintain a high standard of publication. Authors are, however, expected to have their papers well checked for content and correctness in presentation of text and illustrations. Manuscripts not conforming will be returned without reviewing.

Box 1.

***Typescript layout of title, authors, address, summaries, key words, abbreviations.
A second summary (in other language), key words and abbreviations are facultative.***

Running title:

J. Gielis, P. Goetghebeur & P. Debergh, Flowering in *Fargesia murieliae* (Bambusoideae)

**Physiological aspects and experimental reversion of flowering in *Fargesia murieliae*
(Poaceae, Bambusoideae)**

Johan Gielis ^a, Paul Goetghebeur ^b & Paul Debergh ^c

^a Oprins Plant, Sint-Lenaartsesteenweg 91, B - 2310 Rijkevorsel, Belgium
author for correspondence [Johan.Gielis@rug.ac.be]

^b Universiteit Gent, Vakgroep Biologie, Laboratorium Plantkunde, K.L. Ledeganckstraat 35, B - 9000 Gent, Belgium

^c Universiteit Gent, Vakgroep Plantaardige Productie, Laboratorium voor Tuinbouwplantenteelt, Coupure links 653, B - 9000 Gent, Belgium

Abstract. – From about 1993 to 1998, millions of plants of *Fargesia murieliae*, an ornamental bamboo, were flowering monocarpically in western Europe. All plants being ramets of a single genet, introduced in Europe about 80 years ago, the simultaneous flowering of all these ramets constitutes a single giant compound inflorescence. Flowering plants were subjected to different conditions of light intensity and temperature yielding different modes of development of flowering. Under low light intensity and high ambient temperatures (22-25°C), reversion of flowering is ultimately observed by development of vegetative shoots from basal buds of flowering culms.

Key words: woody bamboos, *Fargesia murieliae*, monocarpic flowering, reversion of flowering, oxidative stress, senescence, DNA endoreplication.

Abbreviations: CAT, catalase; fl., flowering; p.z., paracladial zone.

General presentation

Authors should consult a recent issue of the journal when preparing a typescript. Strict observation of format, structure and the following requirements will shorten publication time.

Typescript. Prepared with a font size 11 or 12 and line spacing 1.5 to 2.0 throughout. Keep your typescript as simple as possible. In particular, do not change font or font size, and do not use the paragraph formatting or hyphenation options of your word processor.

Number all pages consecutively and print on one side only. Use a left margin of 3.5 cm and a right margin of 2.5 cm. Note the typographical conventions of headings, table captions, illustration captions etc. in recent issues of the journal and in boxes 1-5 herewith. (Note that in these boxes the line spacing 1 and font 10 do not conform to typescript requirements!).

Italics are used for scientific names (generic and lower levels) and collectors (in the references, however, they are restricted to journal abbreviations); **bold** is used to indicate the structure of the paper and in the heading of the caption of a table. Underlining is used to stress a word in the text (to be used sparingly) or to indicate the major organs in a plant description in a taxonomic treatment.

It is preferred that longer enumerations are clarified in the text using (1), (a), (iii) or •, possibly in combination. The following should also be adhered to: spell out small numbers unless accompanied by a unit (“eleven plants each 2 m tall”); leave a space between a numeral and its unit; leave no space before a colon.

Title. Use a concise and informative title. Omit nomenclatural authorities from the title. Indicate a higher rank (family, order...) if the title includes generic or specific names.

Typescript presentation: see box 1.

Abstract. The abstract should be a concise statement of the scope of the work and the most important results. It should be written in the third person. It should be interesting and comprehensive without consultation of the rest of the paper. Enumerate the taxonomic novelties in the paper (list names or mention in abridged form if too many, e.g. “33 new species are described”).

Literature references should be avoided. If they are necessary, their bibliography should be given between brackets.

Typescript presentation: see box 1.

Key words. Optionally key words additional to words in the title may be given (see box 1).

Abbreviations. As another option, abbreviations used may be listed after the abstract (see box 1).

Introduction. The introduction (and the abstract) are very important. Many readers will read nothing else. Your introduction should give a clear and attractive presentation of the research topic and an exact statement of the purpose of the paper.

Structure. The text should normally be divided into major sections, e.g. Introduction, Material and methods, Results, Discussion, Acknowledgments, References. A clear and consistent hierarchy of minor headings should be planned (see box 2).

Some papers may contain an extensive taxonomic treatment. A numbering of the taxa in the treatment should be placed between brackets.

Footnotes. Footnotes should be avoided. In most cases their contents can be incorporated into the main text. If they are added, they should be numbered consecutively.

Box 2. Format example for structure.
How to indicate the structure of your typescript. Numbering is facultative.

3 Observations and discussion

3.1 Cortical vascular systems

3.1.1 Definition and structural stability. The use of thick transverse hand sections, cleared by salicylated chlorallactophenol, allows a quick reconstruction of complex vasculatures. In the case of *Michelia champaca* (fig. 1-1), two concentric sets of compound bundles are seen, an outer one of perianth strands fusing with median stamen strands, an inner set of lateral stamen traces fusing with lateral carpel strands. These two sets are here designated as cortical vascular systems.

3.1.2 Main CVS patterns and their functional value in pollination and fruit set (fig. 2). In accordance with the previous definition, no CVS occurs in some rare annonaceous genera such as *Anaxagorea* (Deroin 1988a) and *Ambavia*, which have retained many primitive characters both in carpel and pollen structure (Doyle & Le Thomas 1996), and even in their Gondwanan distribution. Nevertheless *Ambavia* exhibits an attempt toward a perianth CVS (Deroin & Le Thomas 1989), which is complete in the still archaic African genus *Meiocarpidium* (fig. 2-5).

References

In the text, put enumerations of references in chronological order. Use '&' to link names of two authors and '& al.' for more than two authors. Do not use a comma between author and date (see box 3). Page citations should be given in the text (format '1998: 365'), i.e. not in the reference list which should give a full citation of sources (citing first and last pages of articles).

The References section at the end of the paper gathers all references from the text, except those appearing only in the name citations of a taxonomic treatment. Authors are in bold and italics are restricted to journal abbreviations. Part numbers of volumes are given only if the parts of a journal volume are separately paginated. Check if all references in the text are listed at the end and vice versa. See box 3.

Whenever possible, **websites** should be cited the same way as other references, i.e. with author(s) and titles (see the Stevens 2001 example in box 3). Websites having no obvious title or author may be cited with the http address only in the text.

Box 3. References. <i>Typescript layout of references in the text, and formatting of references in the reference list at the end of the paper.</i>
Rizzini & Occhioni (1949) established ... Note that Kuhlmann (1925: 235) had already mentioned as corroborated by the lack of intraxylary phloem (see also Bremekamp 1966). Most authors (Emberger & al. 1960; Cronquist 1968; Dahlgren 1975, 1978) placed the genus ...
References Chase M.W., Duvall M.R., Hills H.G., Conran J.G., Cox A.V., Eguiarte L.E., Hartwell J., Fay M.F., Caddick L.R., Cameron K.M. & Hoot S. (1995) Molecular systematics of Liliaceae. In Rudall P.J., Cribb P.J., Cutler D.F. & Humphries C.J. (eds.) <i>Monocotyledons, systematics and evolution</i> : 109-137. Kew, Royal Botanic Gardens. Sen S. (1978) Evolution and affinity of the genera <i>Ruscus</i> and <i>Asparagus</i> . <i>J. Indian Bot. Soc.</i> 57 : 232-238. Sprague T.A. (1940) Taxonomic botany with special reference to the angiosperms. In Huxley J. (ed.), <i>The New Systematics</i> : 435-454. Oxford, Oxford Univ. Press. Stevens P.F. (2001 onwards). Angiosperm Phylogeny Website. Version 4, May 2003 [and more or less continuously updated since]. http://www.mobot.org/MOBOT/research/APweb/ . Consulted 3 September 2003. Watson L. & Dallwitz M.J. (1991) The families of angiosperms – automated descriptions, with interactive identification and information retrieval. <i>Austr. Syst. Bot.</i> 4 : 681-695. Weberling F. (1992) <i>Morphology of flowers and inflorescences</i> . Cambridge, Cambridge Univ. Press.

Illustrations and tables

It is recommended that observations, especially morphological and anatomical ones, should be supported by quality illustrations. Tabular material must be kept to a minimum. Refer to each figure and table in the text (as 'fig. 1,' 'fig. 3 & 4', 'fig. 36-45,' 'tab. 2') and number them with arabic numerals following the order in the text, without distinguishing figures, plates and maps. Mark the approximate position of figures and tables in the margin of the final version of the typescript. All illustrations and tables should be referred to in the text.

Full- or part-page **illustrations** are acceptable. Published size of illustrations and tables should not exceed 14 cm width and 18 cm height. In exceptional cases a single illustration may have 14 x 22 cm in published size, i.e. the full type area of the journal. Drawings and photographic plates should be assembled in the most economic way. Unnecessary areas should be cropped from photographs.

For **lettering** of figures, use Helvetica, Arial or another sans-serif font. Lettering and symbols should show good contrast with the illustration and appear clearly after reduction to the journal's type area (use a reducing photocopier to check sizes or patterns if you have doubts). Lettering of individual elements of figures should be in upper case, but abbreviations to indicate particular details in lower case. Magnifications should be indicated by means of scale bars (preferred), or final magnifications given in the captions.

Colour illustrations are accepted in a limited amount and only if no black and white equivalent is possible.

Tables and figures are not included in the text but given on separate sheets at the end of the paper.

Captions. Explain the meaning of the figures and tables in a caption which does not require consultation of the text. Scientific names in captions are not followed by authorities. The caption of a table should be divided into two parts, a concise descriptive headline and an explanatory part. Group all captions on a separate sheet at the end of the paper. See box 4.

Originals. Line drawings may be drawn in black ink on tracing paper or generated using graphics packages; grey-tints are accepted. Photographs, printed on glossy paper, should be of good contrast and absolutely sharp. Submit the originals with the final version of the typescript. Originals can also be submitted in electronic form.

Box 4. Captions. <i>Typescript layout of captions for tables and figures.</i>
<p>Table 3. Diagnostic wood anatomical characters of the genera studied. S, solitary; RM, radial multiples; +, present; -, absent; D, diffuse; DA, diffuse-in-aggregates; NB, narrow bands; WB, wide bands; CAP, prismatic crystals in chambered axial parenchyma; CRP, prismatic crystals in chambered ray parenchyma; ST, styloids; EC, elongate crystals; SB, silica bodies.</p>
<p><i>Figure 3. Comospermum yedoense, ovule anatomy (cleared ovules photographed using DIC): A, tenuinucellate ovule at megaspore mother cell (m) stage; B, entire ovule at young stage, with biseriate hairs developing from tips of outer integument; C, biseriate hairs developing from tips of outer integument; D, unfertilised ovule at 8-nucleate stage (h, hypostase); E, entire ovule at 8-nucleate stage, showing long biseriate hairs at micropylar end. From Steyermark 3789 (NY). Scale bars = 10 µm (A & B) or = 20 µm (C-E).</i></p>

Nomenclature and authorities

Nomenclature should respect the rules of the last issue of the *International Code of Botanical Nomenclature*. Follow the latest edition of *Index Herbariorum* for abbreviations of herbaria, and *Taxonomic literature* (ed. 2, Stafleu & Cowan) and its supplements for abbreviated book titles.

Authors of taxa should follow Brummitt & Powell, *Authors of Plant Names* (Kew, 1992). Author citations in running text should be avoided when possible, e.g. by referring to a standard work on the group dealt with, or by bringing together names with authorities in sections such as Materials or Taxonomic treatment.

For the mandatory Latin parts of the description of new taxa, Stearn's *Botanical Latin* is recommended as the standard. Full descriptions in the language of the article combined with a good

and full Latin diagnosis are preferred above full Latin descriptions. The diagnosis should preferably compare with more than one taxon. The nature of a taxonomic novelty should be indicated by an abbreviation in bold (**sp. nov.**, **comb. nov.**, ...).

In papers with taxonomic novelties, a list of the new names should be supplied on a separate sheet at the end of the typescript.

Taxonomic treatment

Keys. Bracketed keys are preferred. Indented keys are only accepted if not too long and certainly should not exceed a page.

Synonyms. To be given in chronological order, but homotypical names are brought together, their type being given at the end of a name series.

Types. Citation of types and lectotypification of all names (including synonyms) is encouraged.

Descriptions. Make sure that all your descriptions are consistent and write them in concise descriptive language, without using verbs.

Citation of specimens. Plan consistent and clear rules for your paper. If the distribution is illustrated by dot maps, a specimen should be cited for each dot on the map. Follow preferably divisions of major floras (e.g. *Flora of Tropical East Africa*) to group specimens within a country. For specimens from the *Flore d'Afrique centrale* area (Congo-Kinshasa, Rwanda & Burundi), group specimens within the phytogeographical districts used in Bamps' *Répertoire des lieux de récolte* (1982). Cite from north to south and from west to east, or follow a grid system, e.g. fig. 1. Cite collector initials only if necessary, i.e. to distinguish between collectors with the same family name.

If old geographical names from labels are used, they should be given in quotation marks and followed by the modern equivalent, e.g. 'Stanleyville' (Kisangani). Extensive copying of labels (e.g. including dates, plant descriptions, vegetation details) is done only if it makes sense in the context of the discussion and if the number of cited specimens is restricted.

Cited specimens should be seen; do not use an exclamation mark to confirm this, but use 'not seen' or 'n.v.' to indicate the contrary.

Figure 1. Prefixes and numbering system proposed by De Block [Opera Bot. Belg. 9: fig. 5 (1998)] as an extension of Edwards & Leistner's [Mitt. Bot. Staatssamml. München 10: 424-437 (1971)] degree reference system for southern Africa.

02°W	01°W	0	01°E	02°E
				02°N
NW0101	NW0100	NE0100	NE0101	
				01°N
NW 0001	NW 0000	NE 0000	NE 0001	
				0
SW 0001	SW 0000	SE 0000	SE 0001	
				01°S
SW 0101	SW 0100	SE 0100	SE 0101	
				02°S

Length of articles and style

Use concise and clear language. No absolute page limit is imposed. A page charge is normally not incurred but may be a necessity for the publication of longer papers. Note that the journal is accompanied with a monograph series (*Opera Botanica Belgica*) for publication of longer contributions.

Box 5. Format example for Taxonomic treatment. Typescript layout.

(4) *Pausinystalia johimbe* (K.Schum.) Pierre ex Beille, Act. Soc. Linn. Bordeaux 61: 130 (1906), Bull. Sci. Pharm. Paris 8: 72 & 201-205 (1905); Pellegrin, Mém. Soc. Linn. Normandie, N.S., sect. Botan. 1 (4): 7 (1938); De Wildeman, Ann Soc. Scient. Bruxelles 42: 176 (1922) & Pl. Bequaert. 2: 210 (1923); N. Hallé, Fl. Gabon 12: 68 (1966). – *Corynanthe johimbe* K.Schum., Notizbl. Bot. Garten Berlin 3: 94, 95 (1901); as '*C. johimba*', Dupouy & Beille, Bull. Sci. Pharm. Paris 8: 250 (1905). – *Pseudocinchona johimbe* (K.Schum.) A.Chev., Compt. Rend. Acad. Sci. Paris 182: 1402 (1926). – Type: Cameroon, Bipinde, *Zenker* 2883 (P neo-, not seen; designated by N. Hallé 1966 cited above; isoneo- BR, WAG).

Pausinystalia trillesii Pierre ex Dupouy & Beille, Bull. Sci. Pharm. Paris 8: 75 & 201 (1905). – Type: Congo(-Brazza), Ndjolle, *Trilles* 904 (P holo-, not seen). See note 1.

Pausinystalia zenkeri W.Brandt, Arch. Pharmazie 260: 67 (1922), **synon. nov.** – Type: Cameroon, Bipinde, Lokundje river, *Zenker* 4573 (B⁺ holo-, BR, WU iso-). See note 2.

Trees 9-30 m tall; vegetative and generative ramification ternate, rarely decussate. Leaves with petioles up to 0.5 cm long; blades 24-47 x 10-17.5 cm, glabrous, obovate, cuneate or rounded, sometimes angustate or cordate at the base, acumen less than 0.5 cm long; (8-)13-18 pairs of prominent secondary nerves and reticulate intersecondary nerves; domatia if present glabrous, intermediate between crypt- and pit-type. Inflorescences terminal or axillary, 10-21(-30) cm long and 9-15 cm wide; stipules at the base persistent. Flowers (4-)5-merous. Calyx outside densely hairy, inside with many long hairs. Corolla lobes each with a 8-20(-25) mm long linear appendage; bladder 1.4-2.4 x 1.8-2.6 mm, inside hairy and outside glabrous; basal cylindrical portion 0.4-0.8 mm long and 0.4-0.5 mm in diameter. Anthers 0.7-1.6 mm long. Style and stigma 1.6-1.8 mm long. Ovary strongly hairy, 1.2-1.6 x 1.1-1.5 mm. Capsule almost 100% septical and somewhat loculicidal, 1-1.5 x 0.6 cm. Seeds 8-12 x 1.8-2.5 mm. – Fig. 5 & 8.

Habitat. Rain forest (300 to 500 m).

Distribution. Endemic to the Lower Guinea Domain of the Guineo-Congolian Region; reported from Nigeria to Gabon (fig. 6).

Other specimens examined

Nigeria: Isaka (Zoo site), *E.J. Osain* 60608 (WAG); S Nigeria, without locality, *Kennedy* 1991, 2117 (BR).

Equatorial Guinea: Nkolentangan, *Tessmann* 271 (K).

Gabon: Lac Alombié, *unknown collector* 5540 (WAG); région de l'Estuaire Gabon, *Aubréville* 107 (BR); réserve de Zilé (env. de Lambariné), *D.N. Bois* 235 (BR); Oyem, *Le Testu* 9534 (BR) and other collections; Lastoursville and surroundings, *Le Testu* 8225 (BR) and other collections; Lopé reserve, chantier Soforga, *Reitsma & Reitsma* 2360 (WAG); Moucwala (Haut-Ogooué), *Le Testu* 8225 (BR, WAG); 30-40 km SE of Achouka, *Louis, Breteler & de Bruijn* 665 (WAG).

Notes. (1). The type of *P. trillesii* has not been spotted during our visit to P.

(2). The following minor differences do not allow to separate *P. zenkeri*: ...

Language

Papers are accepted in English (recommended) or in one of the three languages of Belgium (French, Dutch, German). English papers should be in British spelling.

For papers which are not in English, an English abstract beginning with English translation of title is mandatory. For these papers it is also recommended: (1) to provide an English translation of identification keys, following the key in the original language; (2) to provide English summaries of captions, following the caption in the original language.

Short communications

The guidelines above are primarily intended for preparing original papers and reviews. The typescript for a short communication should be in the following sequence: Title – Author and institute – [Abstract and or key words (optional)] – Text – References. Exceptionally a single illustration or table may be included.

Proofs

Proofs will be sent to the corresponding author. Alterations in this stage should be exceptional and are at the author's expense. Proofs are to be returned without delay.

Reprints and pdf files

Fifty free offprints will be sent to the corresponding author. Orders for extra reprints at cost may be made when returning the proofs. Authors can also request a pdf file of their paper.

Return of material

Manuscripts and illustrations are not normally returned to authors after publication. Figures will be returned to authors if they are each explicitly marked with a request such as 'Original – Return to xxxxxxxx after publication.'