URARIOPSIS REDUCED TO URARIA
(LEGUMINOSAE-PAPILIONOIDEAE)

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SUMMARY

The monotypic genus Urariopsis, based on Uraria cordifolia Wall., has been compared with several S.E. Asiatic species of Uraria. The species Uraria prunellaefolia, U. collettii, and U. barbata are considered to be most closely related to U. cordifolia. The pods of U. cordifolia and U. collettii consist of longitudinally flattened, peltate loments, those of U. prunellaefolia consist of laterally flattened, longitudinally arranged loments; in the other species the loments are laterally flattened and zig-zag folded. No correlating characters were found, and the differences in shape of the pods are not considered sufficient ground to distinguish groups on generic level. Notes on morphology, nomenclature, and geographic distribution are presented.

ACKNOWLEDGEMENTS

This study is an addition to the precursory treatment by van Meeuwen (1961), and was carried out to gain more detailed information of the generic boundaries of Uraria and Urariopsis for a second version of the key to the genera published by Geesink (1978). Thanks are due to Prof. Dr. C. Kalkman and Dr. W. Vink for their remarks on various points.

Besides the material present in the collections of the Rijksherbarium, type material of some species was borrowed from the Herbarium of the Royal Botanic Gardens, Kew. We feel indebted to Dr. R. M. Polhill who drew our attention to the nomenclatural confusion around Uraria latifolia, and we are thankful for his interest.

INTRODUCTION

Schindler (1916) described the monotypic genus Urariopsis, based upon Uraria cordifolia Wall., probably mainly because of the peculiar shape of the pod. This view has been followed by Gagnepain (1920), van Meeuwen (1961), and Backer & Bakhuisen van den Brink (1963). Craib (1928) listed the species under the name Uraria latifolia Prain, which is here considered a synonym of U. cordifolia Wall., and he referred under this species to Schindler's taxonomic view. Geesink (1978) did not include the genus Urariopsis in his key to the genera of S. E. Asiatic Leguminosae-Faboideae, pending the results of the present study.

THE POD IN URARIA

As far as we have observed, the bulk of the species in Uraria share a peculiar character of the pod, viz. the arrangement of the loments in a zig-zag pattern (fig. 1a). This arrangement occurs also in the closely related genus Christia. Three
species, however, have a different pod shape: 1) *U. prunellaefolia* has a straight pod (fig. 1c), of about the same shape as in several species of *Desmodium*, and this species may form a link with with the latter genus; 2) *U. colletti* and 3) *U. cordifolia* with the same deviating shape of pod. Here the loments are longitudinally flattened and connected centrally on the facing flat sides (like a pile of coins, which are connected by their central points, fig. 1b). In these two species the arrangement of the seeds is equal to the normal pattern in *Uraria*, the subsequent micropylar sides being alternately directed to left and right, and we consider the longitudinally compressed pod a variant of the usual zig-zag pattern. This peculiar shape of the pod is unique within the genus *Uraria*, but the taxonomic interpretation of such deviating features remains rather a matter of taste. If considered a sound base for distinction of genera, then *U. prunellaefolia* consequently deserves also different generic status, and *U. colletti* needs then to be included in *Urariopsis*. Schindler (1925) reduced the latter species to a variety of *U. cordifolia*, an opinion which we do not support.

METHODS AND DISCUSSION

The characters of *U. cordifolia* were compared with those of selected species which from descriptions showed at least some resemblance with *U. cordifolia*. A thorough study of all known species of *Uraria* was not performed. From these selected species herbarium material was analysed, and characters were tabulated. An abridged version of the table is depicted as table 1, containing selected characters which seemed promising for generic distinction or infrageneric subdivision. From the table it is apparent that with this selection of species and characters no subdivisions can be made on the basis of sets of correlating characters. The absence

Table 1. *Uraria cordifolia* compared with some selected species of *Uraria* on account of selected characters. Pod type 1: loments longitudinally flattened, peltately connected. Pod type 2: loments laterally flattened and longitudinally arranged. Pod type 3: loments laterally flattened and zig-zag folded.
<table>
<thead>
<tr>
<th>Species</th>
<th>Number of leaflets</th>
<th>Lamina shape</th>
<th>Number lateral nerves of leaflets</th>
<th>Hooked hairs on underside of leaflets</th>
<th>Inflorescence</th>
<th>Calyx, dorsal lobe</th>
<th>Calyx, lateral lobe</th>
<th>Calyx, ventral lobe</th>
<th>Number of ovules</th>
<th>Pod type</th>
</tr>
</thead>
<tbody>
<tr>
<td>U. cordifolia</td>
<td>1</td>
<td>broadly elliptic</td>
<td>8-9</td>
<td>0</td>
<td>raceme</td>
<td>narrowly triangular</td>
<td>narrowly triangular</td>
<td>narrowly triangular</td>
<td>3-4</td>
<td>1</td>
</tr>
<tr>
<td>U. colletti</td>
<td>1</td>
<td>elliptic acuminate</td>
<td>8-10</td>
<td>0</td>
<td>panicle</td>
<td>triangular</td>
<td>triangular</td>
<td>triangular</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>U. prunellaefolia</td>
<td>1</td>
<td>broadly elliptic</td>
<td>7-9</td>
<td>+</td>
<td>raceme</td>
<td>triangular</td>
<td>triangular</td>
<td>triangular</td>
<td>3-4</td>
<td>2</td>
</tr>
<tr>
<td>U. barbata</td>
<td>1(-3)</td>
<td>broadly elliptic</td>
<td>11-12</td>
<td>+</td>
<td>raceme</td>
<td>narrowly triangular</td>
<td>narrowly triangular</td>
<td>narrowly triangular</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>U. asculis</td>
<td>1</td>
<td>about orbicular</td>
<td>10-12</td>
<td>+</td>
<td>dense raceme</td>
<td>shortly triangular</td>
<td>triangular</td>
<td>linear</td>
<td>1</td>
<td>?</td>
</tr>
<tr>
<td>U. acuminata</td>
<td>(7-)9-11</td>
<td>narrowly elliptic</td>
<td>9-10</td>
<td>?</td>
<td>dense raceme</td>
<td>acuminate</td>
<td>acuminate</td>
<td>acuminate</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>U. candida</td>
<td>3-5</td>
<td>elliptic to oblong</td>
<td>7-11(-13)</td>
<td>+</td>
<td>dense raceme</td>
<td>triangular</td>
<td>narrowly triangular</td>
<td>triangular</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>U. crinita</td>
<td>5-7(-9)</td>
<td>narrowly elliptic</td>
<td>7-10</td>
<td>+</td>
<td>dense raceme</td>
<td>narrowly elliptic</td>
<td>narrowly triangular</td>
<td>narrowly triangular</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>U. lagopodoides</td>
<td>1-3</td>
<td>elliptic</td>
<td>6-7</td>
<td>+</td>
<td>dense raceme</td>
<td>?</td>
<td>linear</td>
<td>linear</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>U. macrostachya</td>
<td>6-9</td>
<td>elliptic to narrowly ovate</td>
<td>7-8</td>
<td>+</td>
<td>raceme</td>
<td>triangular</td>
<td>narrowly triangular</td>
<td>triangular</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>U. picta</td>
<td>3-7(-9)</td>
<td>linear</td>
<td>9-11</td>
<td>+</td>
<td>dense raceme</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>U. rufescens</td>
<td>3</td>
<td>elliptic to narrowly elliptic</td>
<td>9-16</td>
<td>0</td>
<td>panicle</td>
<td>narrowly triangular</td>
<td>narrowly triangular</td>
<td>narrowly triangular</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>
or presence of the hook-tipped hairs on the undersurface of the leaflets is not correlated with the number of leaflets or with the pod type.

The genera most closely related to Uraria are probably Dendrolobium (Desmodium sect. Dendrolobium) and Christia. Both genera share with Uraria a relatively simple inflorescence, a panicle or a terminal and/or axillary raceme. Dendrolobium has a straight pod (as U. prunellaefolia) with constrictions between each pair of seeds, but the loment is thick and corky (thin membranous in Uraria). In Dendrolobium the raceme is lax (usually dense in Uraria), the pedicels straight (in Uraria usually curved in fruit), and the calyx is not accrescent. Christia has a zig-zag folded pod (as in most species of Uraria). The raceme is terminal and lax, and the pedicels straight. The calyx is accrescent. Uraria differs thus only from Christia in the latter character.

In our opinion, foundation of genera exclusively upon one character is undesirable and leads to inflation of taxa. If somebody nevertheless feels inclined to do so, U. collettii needs to be included in Urariopsis and U. prunellaefolia deserves either generic status of its own, or inclusion in Dendrolobium could be considered, with the eventual disadvantage that Dendrolobium is extended with the typical inflorescence of Uraria. Then the basis of generic distinction becomes very weak.

Possibly phylogenetic weighting of characters can be of use in this complex group of genera, but then all genera of the Desmodieae need to be studied, which is beyond the scope of the present study. For the same reason we refrain from suggesting an infrageneric subdivision of Uraria, as a full monographic study of this genus and surrounding genera is needed for this purpose.

GEOGRAPHICAL DISTRIBUTION

Fig. 2. Distribution of Uraria cordifolia Wall. — • = localities from observed herbarium material; ○ = localities from reliable literature.
Uraria cordifolia occurs in Burma, Thailand, Laos, Cambodia, and Vietnam. (fig. 2). The species was also recorded from Madura by Backer & Bakh. f. (1963), but the material appeared to be wrongly identified. It belongs most probably to U. candida Backer, known from the Kangean Archipel and from Wetar. The material from Madura has unifoliolate leaves, whereas the material from Kangean Archipel and Wetar is 3–5-foliolate. The indument, inflorescence, and nervature are distinctly similar, and in our opinion the extension of the description of U. candida with unifoliolate leaves and of its geographical distribution does not essentially change its circumscription.

NOMENCLATURAL NOTE

Uraria cordifolia is described (and depicted) by Wallich (1830). The protologue, however, is heterogeneous. The syntypes, in the original description only indirectly referred to by their localities, are: Wall. Cat. 5679 A from Irrawaddi (called 'U. cordata' in the Catalogue), in fruit; 5679 B from Taong Dong, in flower; and 5679 C, cultivated material from the Botanical Gardens Calcutta derived from collection 5679 B.

In the Catalogue the latter 2 collections are listed under 'Uraria cordata var. barbata'. In the description Wallich (1830) doubted whether he should regard these collections as a variety or as a distinct species without mentioning the epithet 'barbata'. The Catalogue numbers are not referred to either, but we consider the mentioned localities indirect references to them. In this situation it is evident that 5679 A is the holotype of the species U. cordifolia.

Plate 37 in Wallich (1830) is a mixture of these two or three collections; the inflorescence is from 5679 B, and the separately inserted infructescence is from 5679 A. The vegetative part is not identifiable with certainty, but possibly from either 5679 B or C.

Prain (1897) described Uraria latifolia, based upon later collected material (King's Collector s.n., Fort Stedman, Burma, K!) and he noted that the plant resembles U. cordifolia very much, but that the inflorescences are different. He was unaware of the heterogeneity of the basis of Wallich's description and compared his newly described species only with Wall. Cat. 5679 B and C, which are indeed the most dominant parts of Wallich's plate. The type specimen is without doubt conspecific with Wall. Cat. 5679 A and consequently U. latifolia must be considered a heterotypic synonym of U. cordifolia Wall.

Lace (1915) described Uraria barbata based upon Wall. Cat. 5679 B and C, and clearly indicated the differences between this species and U. cordifolia. Wall. Cat. 5679 B is presently chosen as the lectotype. On variety-level no valid publication has been found by us.

REFERENCES


