

VASCULAR BUNDLES IN Lotus L. SEEDS. III.  
(FABACEAE - FABOIDEAE)

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A B S T R A C T

This report is about seed vascular bundles of 14 species and 2 varieties of Lotus L., subgenus Edentolotus Callen, (Hosackia Benth and Syrmatium Vogel groups).

Microscopic observations were made on seed coats with the interior of hilar area exposed; about 290 seeds from 44 samples were examined.

The following characters have been obtained: there is a short pre-chalazal vascular bundle; there is not post-chalazal vascular bundle; some species showed the tracheid bar extended in contact with the pre-chalazal vascular bundle; the recurrent vascular bundles have been arranged in rudimentary and undeveloped.

Introduction

This communication is the third part of research on Lotus seed vascular bundles. The method used is the same to another two previously published studies (Arambarri, 1988-1989), so I will not describe it.

Abbreviations

|        |                            |
|--------|----------------------------|
| r.v.b. | recurrent vascular bundles |
| R      | r.v.b. rudimentary         |
| ND     | r.v.b. undeveloped         |

Material

It was obtained from W.J.Cody, Biosystematics Research Centre, Ottawa, Ontario, Canada; W.Grant, Genetics Lab. McDonald Campus of McGill University, Ste Anne de Bellevue, Quebec, Canada; J.Strother, University Herbarium, Department of Botany, Berkeley, CA; D.Meyer, Department of Food and Agriculture, Sacramento, CA; G.Levin, Herbarium San Diego Natural History Museum, CA; D.Sitha, Herbarium Santa Barbara

Botanic Garden, Mission Canyon Road, CA; C.Gunn, US National Seed Herbarium (BARC-East), Beltsville, MD; G.White, USDA Plant Introduction Program, Beltsville, MD; N.Morin, Herbarium Missouri Botanical Garden, St.Louis,MO; K.Thorne and S.Wilsh, Herbarium Monte L. Bean, Life Science Museum, Brigham Young University, Provo,UT; S.Richardson, National Museum of Natural History, Smithsonian Institution, Washington, D.C.

### Results

Table 1. Seed recurrent vascular bundles in Lotus subgenus Edentolotus. (Hosackia and Syrmatium groups).

| SPECIES  | r.v.b. |    |
|--|--------|----|
|  | R      | ND |
| <u>Lotus</u>   |        |    |
| <u>argophyllus</u> (Gray) Greene.....                |        | +  |
| <u>benthami</u> Greene.....                          |        | +  |
| <u>crassifolius</u> (Benth.) Greene.....             |        | +  |
| <u>chihuahuanus</u> (Wats.) Greene.....              |        | +  |
| <u>dendroideus</u> (Greene) Greene.....              |        | +  |
| <u>d.</u> var. <u>traskiae</u> (Noddin) Isely.....   | +      |    |
| <u>formosissimus</u> Greene.....                     |        | +  |
| <u>hamatus</u> Greene.....                           |        | +  |
| <u>heermannii</u> (Dur. & Hilg.) Greene.....         |        | +  |
| <u>h.</u> var. <u>orbicularis</u> (A.Gray) Isely.... |        | +  |
| <u>nevadensis</u> (Watson) Greene.....               |        | +  |
| <u>nuttallianus</u> Greene.....                      |        | +  |
| <u>oblongifolius</u> (Bentham) Greene.....           |        | +  |
| <u>pinnatus</u> Hooker.....                          | +      |    |
| <u>scoparius</u> (Nuttall) Ottley.....               | +      |    |
| <u>stipularis</u> (Bentham) Greene.....              | +      |    |

The other characters are the same I have found in the rest of species analyzed in previous works.

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