



MISSOURI
BOTANICAL
GARDEN

A New Species of *Ligusticum* L. (Apiaceae) from Yunnan Province, China

Author(s): Peng Hua and Wang Yin-zheng

Reviewed work(s):

Source: *Novon*, Vol. 8, No. 1 (Spring, 1998), pp. 50-52

Published by: [Missouri Botanical Garden Press](#)

Stable URL: <http://www.jstor.org/stable/3391892>

Accessed: 19/12/2011 03:33

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at

<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Missouri Botanical Garden Press is collaborating with JSTOR to digitize, preserve and extend access to *Novon*.

<http://www.jstor.org>

A New Species of *Ligusticum* L. (Apiaceae) from Yunnan Province, China

PENG Hua and WANG Yin-zheng

Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, Yunnan 650204, China

ABSTRACT. A new species of the genus *Ligusticum* L., *L. pseudodaucooides* H. Peng & Yin Z. Wang, is described and illustrated. It was collected from the summit of the Wuliangshan Range in Jingdong County, south central Yunnan Province, China. Its affinity to *L. daucooides* is discussed, and habitat data are given.

The senior author has been conducting intensive fieldwork in the Wuliangshan Range since 1993. On the basis of this work and that by others, a checklist of the flora of Wuliangshan is being compiled following the systematic arrangement of Wu (1984). The checklist (Peng, unpublished) includes 2571 species in 1030 genera, and several novelties have been discovered. Among them is the species described herein.

Ligusticum consists of about 60 species, of which 22 have been reported from China (Chang, 1985). The new species occupies the southernmost geographical limits for the genus in China and grows on the peaks of Mt. Beiwawashan and Mt. Maotou; the latter is the highest point in the Wuliangshan Range.

***Ligusticum pseudodaucooides* H. Peng & Yin Z.**

Wang, sp. nov. TYPE: China. Yunnan: Jingdong Yi Nationality Autonomous County, heath on top of Mt. Maotou, Wuliangshan Range, 24°13'–11"N, 100°39'–46"E, 3306 m, 19 Nov. 1996, H. Peng 2579 (holotype, KUN). Figure 1.

Herba perennis. 25–45 cm alta. Folia basalia et inferna longe petiolata, petiolis 8–12 cm longis, basi in vaginas dilatatis; laminis ambitu oblongo-ovatis, 5–15 cm longis, 3–5 cm latis, 3–4-pinnatis, 5–6-jugis, segmentis ultimis linearibus, 2–14 mm longis, 0.5–1 mm latis. Umbella composita 2–3 cm diam., umbella fructifera ad 6 cm diam.; involucri phylla 1–2, linearia, 1.5–2.5 cm longa, pubescentia, non persistentia post fructus maturitatem; radii 10–21, scabri inaequilongi, 1.5–4 cm longi; involucellorum phylla 6–10, 1–1.6 cm longa, in dimidio superiore trinacriformia vel lobis ultimis bifidis, cadentibus in statu fructificanti. Calycis dentes lineares, ca. 1.5 mm longi; petala oblonga, purpurea, apicibus anguste inflexa. Mericarpi suborbicularia, 5–6 mm longa, 4–4.5 mm lata, a dorso valde compressa, jugis dorsalibus leviter protrudentibus, jugis lateralibus in alas angustiores projectis,

alis 0.5–0.8 mm latis; vittae ad valleculeas dorsales 1, ad valleculeas laterales 1, ad commissuram 4.

Perennial herbs, 25–45 cm tall. Root cylindric, up to 30 cm long, with the collar 5–10 cm long, 1 cm diam., densely covered with fibrous remains of leaf sheaths. Basal and lower cauline leaves with petioles 8–12 cm long, base dilated, sheathing; leaf blades oblong-ovate, 5–15 cm long, 3–5 cm wide, 3- or 4-pinnate, with 5 or 6 pairs, ultimate segments linear, 2–14 mm long, 0.5–1 mm wide; cauline leaves few, often with dilated sheathing petioles, blades gradually becoming simple. Umbels compound, 2–3 cm diam., up to 6 cm diam. in fruit; bracts 1–2, linear, 1.5–2.5 cm long, hairy, falling after fruit maturity; rays 10–21, scabrous, unequal in length, 1.5–4 cm long; bracteoles 6–10, 1–1.6 cm long, 3-lobed, trinacriform in the distal part or with a bifid terminal lobe. Calyx teeth 5, linear, ca. 1.5 mm long. Petals oblong, purplish, apex narrowly inflexed. Fruit elliptic or suborbicular, 5–6 mm long, 4–4.5 mm wide, strongly compressed dorsiventrally; dorsal ribs minutely protruding; lateral ribs more projected into narrow wings; lateral wings 0.5–0.8 mm wide. Vittae solitary in dorsal and lateral furrows, 4 on the commissure. Endosperm curved on commissure surface.

Ligusticum pseudodaucooides most closely resembles *L. daucooides* (Franchet) Franchet, a species that grows in northern Yunnan, southern Xizang (Tibet), and western Sichuan (Pu, 1993). However, it differs from the latter in often having trinacriform bracteoles, elliptic to suborbicular fruits 5–6 mm long and 4–4.5 mm wide, solitary vittae in the lateral furrow and 4 on the commissure, 5-toothed calyx, and oblong purplish petals. In contrast, *L. daucooides* has 1- or 2-pinnate bracteoles, oblong fruits 6–8 mm long and 3–4 mm wide, 1–3 vittae in each furrow and 4–6 on the commissure, 2- or 3-toothed calyx, and obovate white or abaxially purplish petals. The new species probably evolved from widely ranging geographically (eurychoric) related species in adaptation to high altitudes (3100 m or higher) and perhaps represents a vicariant element both in terms of geography and relationship.

The generic limits of *Ligusticum* vary according

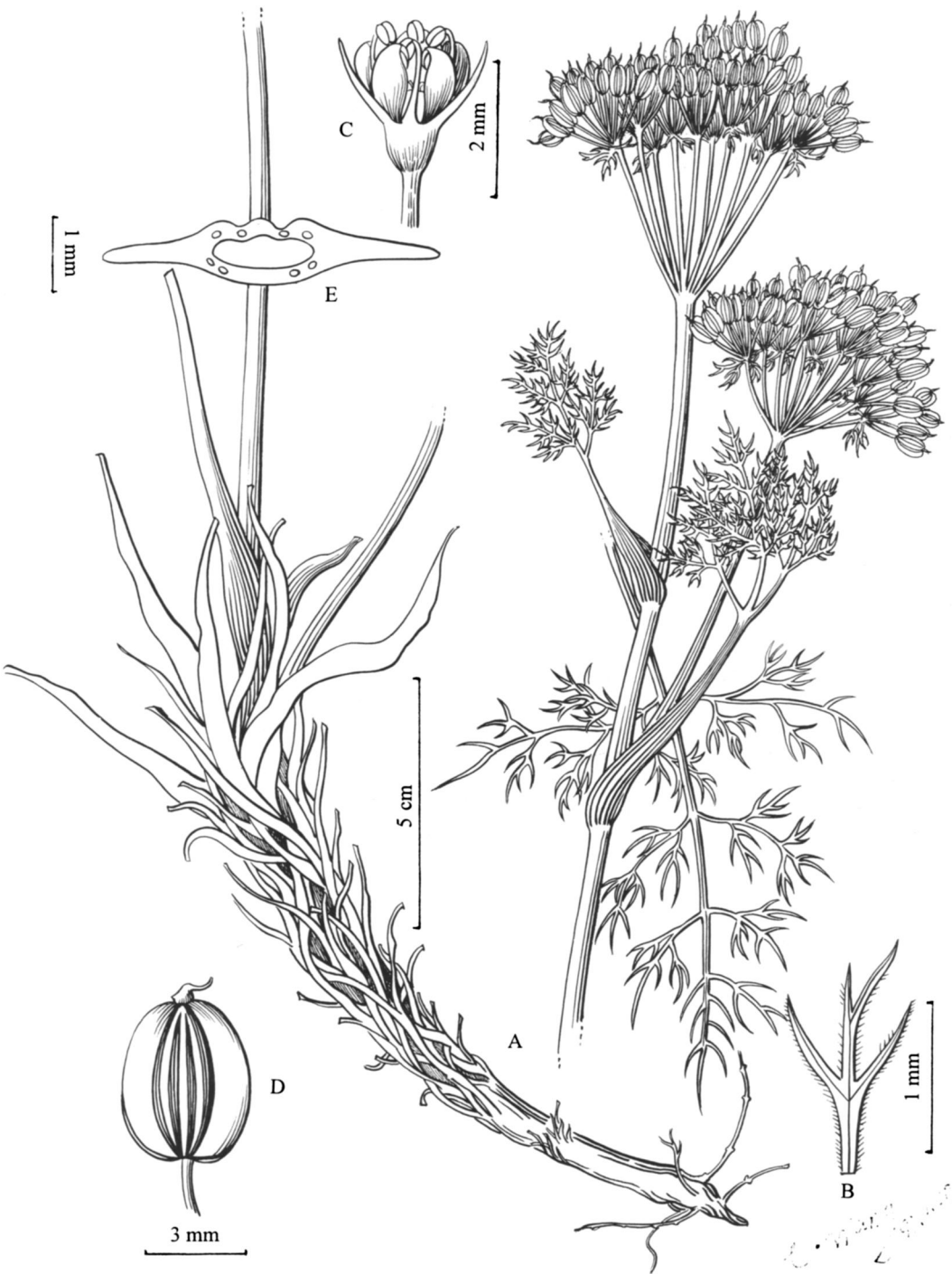


Figure 1. *Ligusticum pseudodaucooides* H. Peng & Y. Z. Wang. —A. Habit with detail of fruit. —B. Bracteole. —C. Flower. —D. Fruit. —E. Cross section of mericarp showing the oil canals and endosperm.

to the authors. Of the 22 species recognized by Chang (1985), seven were treated as *Ligusticopsis* by Leute (1969), who retained *L. daucooides* in *Ligusticum*. In our opinion, *L. pseudodaucooides* is a perfectly good member of the genus regardless of how it is circumscribed.

Ligusticum pseudodaucooides is highly restricted to Jingdong County, an area where the Yi people form the majority of the population. The Yi people use the roots of this species in making chicken stew, which postpartum women drink as a tonic to build up health. They call it "tu san qi," which means "local *Panax notoginseng*."

Ligusticum pseudodaucooides grows in heath communities at 3100 m and higher. Such areas are under snow cover for three months and are considered subalpine. They are dominated by *Rhododendron siderophyllum* Franchet, *Vaccinium delavayi* Franchet, *V. chamaebuxus* C. Y. Wu, *Gaultheria forrestii* Diels, *G. cardiosepala* Handel-Mazzetti, and *Enkianthus deflexus* (Griffith) Schneider. This new species appears to be a sparse element of such scrub habitats dominated by members of the Ericaceae and previously studied at some depth (Anonymous, 1960).

Paratype. CHINA. **Yunnan:** Jingdong, Yi Nationality Autonomous County, heath on the top of Mt. Beiwawashan,

near Mt. Maotou, 3150 m, 10 Nov. 1993. *H. Peng* 2206 (KUN).

Acknowledgments. We are grateful to Wu Zheng-yi for his guidance and for his critical review of the manuscript. We thank Hu Yang and Ihsan Al-Shehbaz for correcting the English, L. Wang for drawing the figure, Zhang Xing-wei, the director of the Department of Natural Reserve of the Wuliangshan Range, for supporting the expedition to Mt. Maotou, and Wang Qiang, Xiao De-bing, and Yuan De-cai for helping in the field work. This article is the result of part of a major project on the biodiversity in the Yunnan Mekong River Basin, supported financially by Academia Sinica.

Literature Cited

- Anonymous. 1960. The vegetation of Ching-Tung, Wu-Liang Shan Nature Conservation Station. A survey of plant communities of the Nature Conservation Station in the Tropical and Subtropical Regions of Yunnan Province, China. *J. Yunnan Univ. (Nat. Sci.)* 1960(1): 97–154.
- Chang, H. T. 1985. *Ligusticum*. In: Shan Ren-hwa & Sheh Meng-lan (editors). *Fl. Reipubl. Popularis Sin.* 55(2): 234–257.
- Leute, G. H. 1969. Untersuchungen ueber den Verwandtschaftskreis der Gattung *Ligusticum* L. (Umbelliferae): I Teil. *Ann. Naturhist. Mus. Wien* 73: 55–98.
- Pu, F. T. 1993. Umbelliferae. Pp. 1276–1355 in W. T. Wang (editor). *Vascular Plants of the Hengduan Mountains*. Science Press, Beijing.
- Wu, C. Y. 1984. *Index Florae Yunnanensis*. Vols. 1 and 2. The People's Publishing House, Yunnan.