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AGRICULTURAL RESEARCH SERVICE
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AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

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Subject: Review of Herbarium Specimens and a Key to Species of
Tripterygium

To: R. E. Perdue, Jr., Chief
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Herbarium specimens representing 19 different collections of Tripterygium were located at the National Arboretum by Sandra Saufferer. These specimens were examined to evaluate interpretations of species in Tripterygium.

Loesener's key to three species he recognized is weighted primarily on vegetative characters, and I find these characters difficult to interpret. I have constructed a modified key to four species, but these four species also might be interpreted as two species and two varieties. In addition, I have sketched, from herbarium specimens, inflorescences and fruits to illustrate what I believe are the more diagnostic characters.

The sources of plant material for extract B-99943 has been determined as plants grown from cuttings that were introduced from southern China under the Plant Introduction number - 113544. I have examined the herbarium specimen that represents PI-113544 and determined this to be possibly either T. hypoglaucum (Levl.) Hutchins., or T. wilfordii Hook. f. Only flowering material was collected, and fruits are needed for positive identification.

Key to Species of Tripterygium

- A. Inflorescence thyrsoid, or, secondary rachis often 1.5-3 cm. long before branching dichotomously or trichotomously; peduncles, rachis and pedicels glabrous or with transparent, strigillose hairs (papillose-pubescent).
 - a. Inflorescence glabrous; samara truncate, rounded to slightly cordate at base T. doianum. Japan.
 - b. Inflorescence pubescent; samara deeply cordate or auriculate at base. T. regelii. Japan and Korea.

- B. Inflorescence of cymes that are axillary and in a terminal raceme, but not thyrseoid, or, secondary rachis often less than 1.5 cm. before branching and its divisions very short or rachis often unbranched; peduncles, rachis and pedicels completely covered with a rusty tomentum.
- c. Samara cordate at base, lobed or cut with a wide angle at apex; leaves with 6-9 lateral nerves, glabrous and glaucous or glaucescent, subcoriaceous in fruit. T. hypoglaucum. China and Burma.
- d. Samara truncate or rounded to slightly cordate at base and truncate to slightly emarginate at apex; leaves with 5-6 lateral nerves, not glaucous and sparsely strigulose along the lateral nerves and costa. T. wilfordii. Taiwan and north along the eastern mainland of China.

Tripterygium doianum Ohwi has been regarded as a variety of T. regelii Sprague & Takeda (T. regelii var. doianum (Ohwi) Masamune).

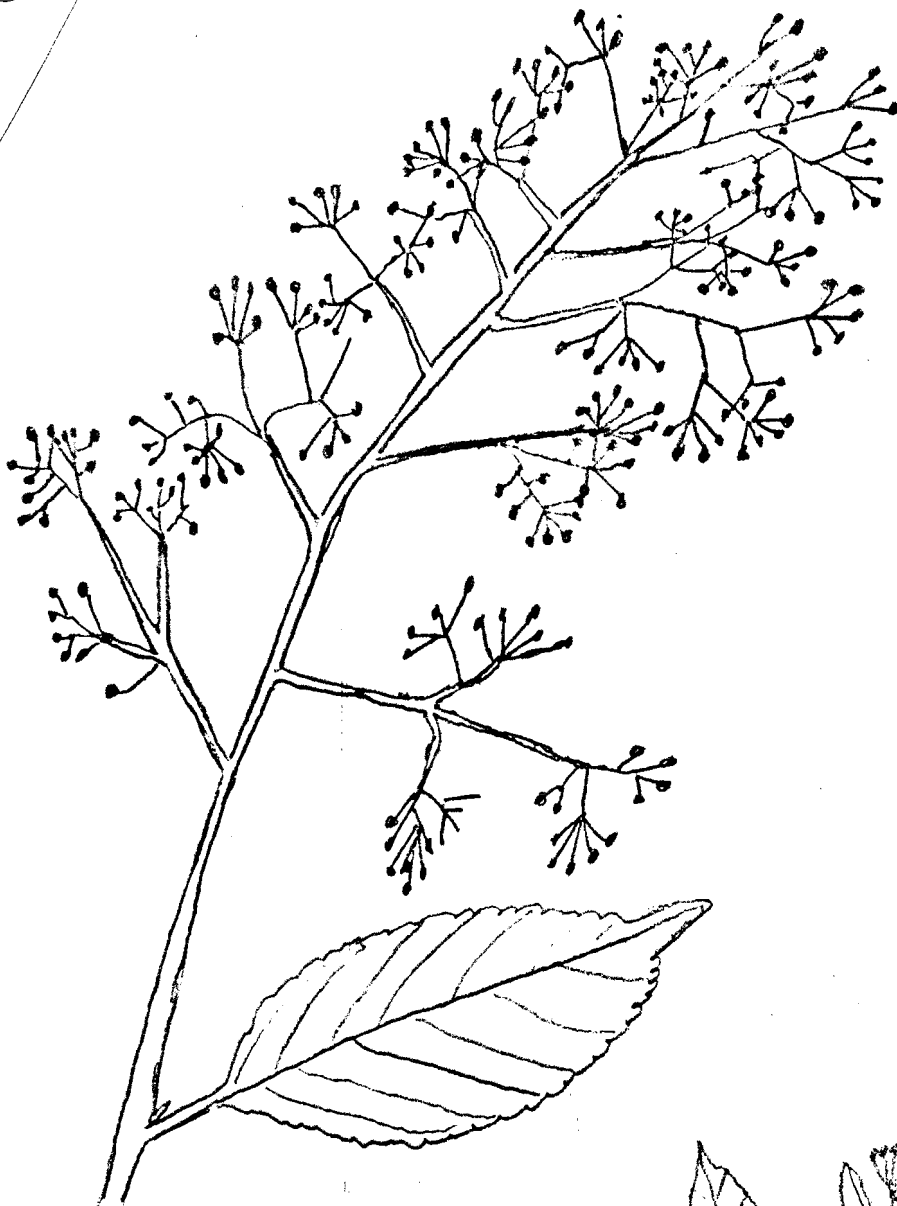
Plants that fit Loesener's description of T. hypoglaucum (Levl.) Hutchins. appear to have been described and named independently by several taxonomists between the period of 1911 and 1917. In 1911, Leville first described this species as a new species of Aspidopterys in the family Malpighiaceae (A. hypoglauca - Fedde Repert. 9, p. 458). In 1912 it was named as T. wilfordii var. exesum by Sprague and Takeda (Kew Bull. XXIV, 214-223), and in 1914 as a new species of Tripterygium by Loesener (T. forrestii - Roy. Bot. Gard. Ed. 36:1-5). J. Hutchinson revised the genus Aspidopterys in 1917 (Kew Bull. 91-103) in which he excluded A. hypoglauca and made the combination T. hypoglaucum. Loesener (1931) and Lin (1932) in their independent studies of the genus Tripterygium retained T. hypoglaucum as a species and cited T. wilfordii var. exesum, Aspidopterys hypoglauca and T. forrestii as synonyms.

Without examining more herbarium specimens, especially in fruit, I cannot be certain as to the distinction between T. wilfordii and T. hypoglaucum.

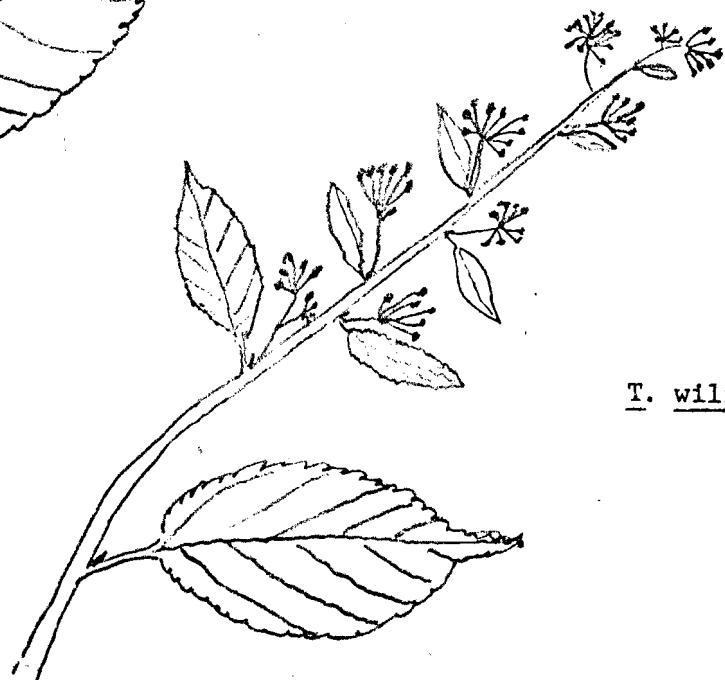
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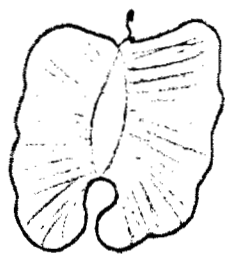
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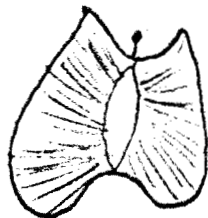
T. regelii



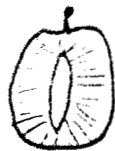
T. wilfordii



T. regelii



T. hypoglaucum



T. wilfordii