Proceedings of the Iowa Academy of Science

Volume 62 | Annual Issue

Article 17

1955

Key to Seeds of Caesalpinioideae and Mimosoideae of North-Central States

Duane Isely Iowa State College

Copyright ©1955 Iowa Academy of Science, Inc. Follow this and additional works at: https://scholarworks.uni.edu/pias

Recommended Citation

Isely, Duane (1955) "Key to Seeds of Caesalpinioideae and Mimosoideae of North-Central States," *Proceedings of the Iowa Academy of Science, 62(1),* 146-149. Available at: https://scholarworks.uni.edu/pias/vol62/iss1/17

This Research is brought to you for free and open access by the Iowa Academy of Science at UNI ScholarWorks. It has been accepted for inclusion in Proceedings of the Iowa Academy of Science by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

Key to Seeds of Caesalpinioideae and Mimosoideae of North-Central States¹

By DUANE ISELY²

In connection with investigations of the legumes of the northcentral United States, seeds of the subject species were studied. This paper is concerned with the identification of seeds of the individual species; the seed characters of subfamilies herein treated are discussed in another report.

Superficial characters are employed in the keys, and dissection of the seeds is not required. Outline diagrams are presented to facilitate interpretation of shape and size. These are all drawn to the same scale except *Gymnocladus dioica* and *Gleditsia aquatica* which are one-half the size of the others.

Two terms require definition. Face line: A horseshoe shaped line on each lateral face of the seed, the open end, towards the base (hilum end). Face area: An obovate or enclosed area on each lateral face of the seed. This area is lighter colored than the remainder of the seed surface. These markings are appropriately illustrated in the diagrams.

1. Seeds with a face line or enclosed face area.

2. Seeds with a face line open at base.

(Mimosoideae)

- 3. Seeds 6.5 to 8 mm. long, produced by trees.
 - 4. Seeds twice as long as wide, elliptic-oblong, about 8 mm. in length, readily separated from pod.

Albizzia julibrissin Durazz.

4. Seed less than twice as long as wide, obovate, about 6 mm. long, individually enclosed within indehiscent, bony endocarp segments.

Prosopis juliflora (Swartz) DC.

- 3. Seeds 3-4.5 mm. long, produced by herbs.
 - 5. Seeds broadly oval to nearly circular, rather evenly biconvex.

Acacia angustissima (Mill.) Ktze.

- 5. Seeds various in shape, irregularly rhomboidal, obovate to oblong.
 - 6. Face line usually close to margin; seeds roughly obovate, nearly or quite as thick as wide.

Schrankia nuttallii (DC.) Standl.

6. Face line tending to be medial; seeds if obovate, distinctly thinner than wide.

7. Seeds oblong, more than twice as long as wide.

Desmanthus leptolobus T. & G.

7. Seeds irregularly obovate, less than twice as long as wide.

¹Journal paper No. J-2752, Project 1073, Iowa Agricultural Experiment Station, Ames, Iowa.

²Figures by Barbara Martin.

1955]

KEY TO LEGUME SEEDS

147

D. illinoensis (Michx) MacMill.

2. Seeds with a face area enclosed by a line.

(Cassia in Caesalpinioideae)

8. Face area narrowly oblong, several times as long as wide; seeds about as thick as wide.

Cassia tora L.

8. Face area obovate, usually less than twice as long as wide.

9. Seed tip appearing slightly hooked with hilum on inside of bend.

10. Seed strongly flattened, width approaching length.

C. hebecarpa Fern.

10. Seed not flattened, distinctly longer than wide.

C. marilandica L.

9. Seed tip straight, not hooked; seeds symmetrically obovate and moderately plump.

C. occidentalis L.

1. Seeds with neither a face line nor face area.

(Caesalpinioideae other than Cassia)

11. Seeds massive, 15-20 mm. across and approaching 10 mm. thick.

Gymnocladus dioica (L.) K. Koch.

11. Seeds much smaller than above.

- 12. Seeds black when mature; surface with shallow, circular pits, usually arranged in lines.
 - 13. Pits numerous, strongly impressed, arranged in more or less continuous, longitudinal lines. (Note—although this and the following species are relatively easy to distinguish, the quantitative distinctions are not susceptible to easy description; prior examination of known specimens is usually desirable).

Chamaecrista fasciculata (Michx.) Greene

13. Pits fewer, less distinct, in irregular or broken lines.

C. nictitans (L.) Moench.

12. Seeds brown or light-colored, not possessing superficial pits.

14. Seeds 8-12 mm. in diameter or long.

15. Seed strongly flattened, about as wide as long.

Gleditsia aquatica Marsh

15. Seed not strongly flattened, about twice as long as wide.

G. triacanthos L.

14. Seeds 3.5--5 mm. in diameter or long.

16. Seeds flat, about as wide as long.

Hoffmanseggia jamesii T. & G.



1955]

KEY TO LEGUME SEEDS

Seeds moderately compressed, obovate to elliptic, longer than wide. Seeds dull olive drab to brown; radicle tip the same color as remainder of seed.

H. densiflora Benth.

17. Seeds shiny brown; radicle tip conspicuous as a reddish-brown projection.

Cercis canadensis L.

Explanation of figures on page 148.

Fig. 1. Desmanthus leptolobus. Fig. 10. C. hebecarpa Fig. 2. D. illinoensis. Fig. 11. C. tora. Fig. 3. Schrankia nuttallii. Fig. 12. C. marilandica. Fig. 4. Albizzia julibrissin. Fig. 13. Gleditsia triancanthos. Fig. 5. Prosopis juliflora. Fig. 14. Cercis canadensis. Fig. 6. Acacia angustissima. Fig. 15. Hoffmanseggia densiflora. Fig. 7. Chamaecrista fasciculata. Fig. 16. H. jamesii. Fig. 8. C. nictitans. Fig. 17. Gymnocladus dioica. Fig. 9. Cassia occidentalis. Fig. 18. Gleditsia aquatica. All x3, except Gymnocladus dioica and Gleditsia aquatica x 11/2.

DEPARTMENT OF BOTANY

IOWA STATE COLLEGE Ames, IOWA 149