

basin cotton shrubs with seeds "close joined and verie much pressed together after the form of a man's kidnie." He says it was known to the barbarians by the name of *ameniou*, a name which is still used in practically the same form by the Tupi tribes of Brazil. L'Obel,⁴ in 1576, endeavored to improve on the pictures of the Levant cotton published some years earlier by Fuchsius and by Matthiolus, by adding a figure of a cluster of seven seeds arranged in a kidney-shaped mass. He must have become familiar with the seed arrangement in Brazilian kidney cotton through material brought to Europe by traders or explorers, and thought that this was true of all cottons.

The earliest accurate description and illustration of kidney cotton seems to be that given in 1675 by Giacomo Zanoni,⁵ who calls it "Bambagia arborea di Pernambuco." His figure is reproduced on the opposite page. This cotton, undoubtedly a native of Brazil and Guiana originally, was soon spread over the tropical regions of the world by the early Portuguese navigators, and became thoroughly established in Africa, India, Siam, the Philippines, and many other countries. Sir Hans Sloane tells in 1696 of kidney cotton having been brought to Jamaica from Brazil by James Lancaster after the defeat of Pernambuco in 1594.

Julius Philip Benjamin von Rohr carried on in the island of St. Croix, between 1786 and 1790, a most extensive series of cotton experiments, an account of which he published in 1791 and 1793 under the title "Anmerkungen über den Cattunbau zum nuzen der Daenischen Westindischen Colonien." He grew and examined as many kinds of cotton as he could obtain by travel in the West Indies and South America, and by the help of friends in other parts of the world. He made notes on the character and behavior of these cottons, recorded their yields, and carried out extensive breeding experiments and fertilizer tests. Rohr describes under the names Guiana cotton, Brazil cotton, and Porto Rico cotton, three types in

⁴ L'OBEL, MATTHIAS DE. *Plant. seu Stirp. Hist.*, 370. 1576.

⁵ ZANONI, GIACOMO. *Istoria Botanica*, 40-44. Pl. 16. 1675.



Fig. 1.—The earliest illustration of a plant of kidney cotton. From Giacomo Zanoni, *Istoria Botanica*, pl. 16. 1675.

which the seeds adhere together. The following are descriptions, condensed from Rohr, of three types of cotton which have their seeds adhering together in clusters:⁶

"*Guiana cotton*, the seed very black and rough like fine chagrin, those of each lock adhere together in the form of a long, narrow pyramid. The kind most prized in Europe on account of its whiteness, strength and length. Known in Europe as Cayenne, Surinam, Demerara, Berbice and Essequibo. Planted all over Guiana. This is the kind seen and described by all writers and travelers in this region. It does not do so well in the West Indies. Yields two harvests yearly. In Martinique called *coton á pierre*, in Jamaica, kidney cotton, also link cotton. Grows 10 to 12 feet wide if the ground is good. Nine to eleven seeds in each lock.

"*Brazil cotton*, the seed black and rough like those of Guiana cotton. The seed of each lock adhere together in the form of a short, broad pyramid. Only found in Brazil, imported into St. Croix by Dr. Peter Duncan. Seven and not over nine seeds in each lock. I have often found the seeds of the Guiana cotton in commerce, but never those of the Brazilian. After growing the Brazilian cotton in St. Croix, I saw no evidence of its changing into the Guiana kind.

"*Porto Rico cotton*, the seed in each lock adhere together in the form of a long, narrow pyramid, and are entirely covered with 'filz.' I have known this kind for a long time. Very much like the Guiana cotton in growth, size, shape of the tree and all its parts. It only bears with me once a year. For the planter the only distinguishing character is the entirely fuzzy seed. The wool is as hard to take off as that of the Guiana cotton."

The eccentric American botanist C. S. Rafinesque, in his "*Sylva Telluriana*," published in 1838, proposed Latin binomial names for the cottons described by Rohr.⁷ For the Guiana and Brazil cottons he proposed the name *Gossypium guyanense* and distinguished them as varieties *verum* and *braziliensis*. For Rohr's Porto Rico cotton he proposed *Gossypium rohrianum*.

F. R. de Tussac, a French colonist who settled in the Island of Santo Domingo, and eventually lost his fortune there, published in 1808 to 1827 his "*Flore des Antilles*." In this work, devoted mainly to the botany and agriculture of the islands of Santo Domingo (Hayti), Martinique and Guadeloupe, the

⁶ ROHR, JULIUS PHILIP BENJAMIN VON. *Anmerkungen über den Cattunbau zum nuzen der Daenischen Westindischen Colonien*. 1: 38-39, 45, 72-80, 120-121. 1791.

⁷ RAFINESQUE, C. S. *Sylva Telluriana* 16, 19. 1838.

author describes one indigenous and four introduced species of cotton. Of one of the latter he speaks as follows:

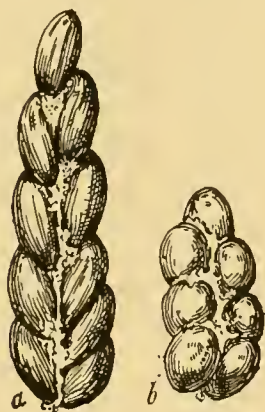


Fig. 2.—Seed clusters of two varieties of kidney cotton which were distinguished by Rohr (1791) and named by Rafinesque (1838).

- a. The Guiana variety: *Gossypium guyanense verum* Raf.
 b. The Brazilian variety: *G. guyanense brasiliense* Raf.

Original drawing from photograph of seeds planted in Arizona, 1908.

“The culture of another species, which differs but little from the preceding, has been adopted by some colonists, it is called the Stone cotton, *Cotonnier pierre* (*Gossypium lapideum* Tussac), or cotton of Cayenne. In this species the seeds are strongly united together and form a little block which is easily separated from the wool. This is composed of very long and very strong filaments, and on this account it gains in weight what it loses in fineness.”⁸

From the settlements of the Portuguese in India, and the activities of the East India Company in bringing seed from South America for planting on the coast of Coromandel and in Bengal before 1780, kidney cotton became thoroughly established in India, as shown by specimens in European herbaria collected by Dr. Hove as early as 1787. It thus attracted the attention of W. Roxburgh, who, in his “*Hortus Bengalensis*” of 1814, catalogs a species of *Gossypium* as *G. acuminatum*, but gives no description.⁹ In Roxburgh’s “*Flora Indica*,” however, which appeared in 1832, he gives enough description to show that he intends this name for kidney cotton, the specific name “*acuminatum*”

being chosen because of the “much pointed” capsules.¹⁰ Roxburgh believed this cotton to be uncultivated and a native of northwestern India.

John Vaupell, an Englishman who traveled throughout Guzerat in western India in 1838, published¹¹ two years later an account of the cottons of that region, and mentions having found several

⁸ TUSSAC, F. R. DE. *Flore des Antilles* 2: 67. 1818.

⁹ ROXBURGH, W. *Hortus Bengalensis* 51. 1814.

¹⁰ ROXBURGH, W. *Flora Indica* 3: 186. 1832.

¹¹ VAUPELL, JOHN. *Cottons of Guzerat*, Trans. Agric. Hort. Soc. Bombay. 1840.

unusual cotton plants growing in a temple yard at Sidhpoor. He planted seeds of these near Bombay, and obtained plants which he described as a new species under the name *Gossypium imbricatum*, from the imbricate arrangement of the seeds. In the meantime, however, John Graham, the superintendent of the botanical gardens of the Agri-Horticultural Society of Western India, in Bombay, published "A Catalogue of the Plants Growing in Bombay and its Vicinity," in which he described¹² under the name *Gossypium vaupellii* the cotton brought from Sidhpoor in Guzerat by Vaupell.

Two or three years before the names proposed by Graham and by Vaupell for this type of cotton were published, there appeared the "Flora of Jamaica" by James Macfadyen, founded largely on the work of Sir Hans Sloane. Under the name *Gossypium brasiliense*, Macfadyen gives a much better description of the kidney cotton than those appearing in earlier works, and says that "In the time of Sloane as well as in that of Edwards it was known by the name of Brazilian cotton."¹³

Since 1814 the following names have been published as applying solely to kidney cotton:

- Gossypium lapideum*** Tussac, Fl. Antill. 2: 67. 1818.
Gossypium acuminatum Roxb. Hort. Beng. 51, nomen nudum. 1814;
 Fl. Ind. 3: 186. 1832.
Gossypium arboreum Vell. Fl. Flum. 7: pl. 49. 1827. Not L. 1753.
Gossypium brasiliense MacFad., Fl. Jam. 1: 72. 1837.
Gossypium perenne Blanco, Fl. Filip., ed. 1, 537. 1837.
Gossypium guyanense Raf. Sylva Tell. 16. 1838.
Gossypium vaupellii Graham, Cat. Plants Bombay and Vicinity,
 15. 1839.
Gossypium imbricatum Vaupell, Trans. Agric. Hort. Soc. Bombay.
 1840.
Gossypium conglomeratum Wiesner, Die Rohstoffe des Pflanzf., ed.
 2, 2: 236. 1903.

Of these, Tussac's name, although antedated by that of Roxburgh, is the first name which was associated with a description sufficiently clear to identify the species intended.

¹² GRAHAM, JOHN. *A Catalogue of the Plants Growing in Bombay and Its Vicinity* 15. 1839.

¹³ MACFADYEN, JAMES. *Flora of Jamaica* 1: 72. 1837.

Until such time as the Guiana and Brazilian forms shall be considered as constituting two distinct species, the scientific name of kidney cotton should be *Gossypium lapideum* Tussac.

PETROGRAPHY.—*Platinum in meteoric irons: a correction.*

Through a misreading of Dr. Mingaye's notes it was stated in the issue of this JOURNAL for June 4 last,¹ with reference to the Yenberrie iron: "This is the first reported case of platinum in an Australian meteorite." As a matter of fact platinum has become one of the well-recognized constituents of meteorites and has been detected by Dr. Mingaye himself in those of Bar-rata, Cowra, Delgate, Gilgoin, Molong, and Mount Dyr-ring.

GEO. P. MERRILL.

¹ This JOURNAL, 10: 315. 1920. Note a to Table I.