

A Drift-seed (*Ipomoea tuberosa*, L.).

BY

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With Plate XXIV.
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IN most books treating of *Ipomoea tuberosa* it is recorded as a native of tropical Asia, Africa, and America ; but Mr. C. B. Clarke¹ has separated the Old-World plant under the name of *I. kentrocaulos*, characterised by having a much smaller capsule without the greatly thickened pedicel ; smaller elliptic-oblong sepals ; and smaller, almost glabrous, seeds. Whether these characters are constant the specimens are insufficient to determine satisfactorily ; but typical *I. tuberosa* with thickened pedicels, very broad lignified sepals, large capsule, and hairy seeds, as figured here in Plate XXIV, was early cultivated in English hothouses², and in India, Hongkong, Mauritius, South Africa, and other warm countries inhabited by English people. In foliage and flowers there are no obvious differences in the dried state.

Although this is termed here a drift-seed, it is not so in the sense of several of its congeners, which are common sea-shore

¹ Hooker's *Flora of British India*, iv. p. 213.

² See *Transactions of the Horticultural Society of London*, i. p. 184, plate 11, and the *Botanical Register*, plate 768.

plants in the tropics, and frequently spring up from seeds that have floated hither and thither on the sea, and finally been cast ashore to fulfil their destiny. Indeed, it is not essentially a shore-plant, but rather a climber of lofty trees; yet its seeds are not uncommonly met with in the drift of the Caribbean Sea, and they are sometimes carried far up into the north Atlantic by the Mexican Gulf stream. This is one of the points of interest attaching to it to be discussed here; another is the dimorphic or trimorphic development of the seeds. The latter phenomenon may be described first. Normally there are four seeds closely appressed and forming together a spheroid, each seed having two vertical facets and a convex back. Sometimes only two or three seeds are developed, and they are correspondingly different in shape; and not unfrequently only one is formed. When the latter is the case, the one seed assumes the size and nearly the shape of the four seeds combined, differing in being more depressed. It is also slightly furrowed at right angles into four quarters, resembling the four seeds; and the basal hilum is very large and oblong in outline. The furrows probably correspond to the septa of the ovary, which disappear at an early stage of the development of the seed or seeds. Instances of the abortion of some of the ovules and similar adaptations of the developed seed or seeds to the size and shape of the seed-vessel are probably not uncommon; and, as Mr. C. B. Clarke reminds me, some of the Commelinaceae exhibit this peculiarity to an equally remarkable degree with *Ipomoea tuberosa*.

As already stated, some of the species of *Ipomoea* are among the commonest of seaside plants in the tropics, and from actual observation it is known that their seeds will bear long immersion in salt water, or rather float on it, without losing their germinating power. Further, it has been ascertained that the seeds often germinate after being cast ashore. *Ipomoea pes-caprae* is a notable example, being found on sandy shores, including the most remote islets, throughout the warmer zone. Their seeds are well adapted for long journeys by water, having a dense, almost crustaceous testa, which protects the

highly developed, green embryo, and have a hollow centre, which gives them buoyancy.

I am not aware of the existence of any record of the self-colonisation of *Ipomoea tuberosa*, nor of its being carried by ocean currents to the shores of Europe; but Lieut.-Col. H. W. Feilden sent a seed of it to Kew last year with the following extract from his 'Journal of twenty years ago.'—
'This seed is probably from the West Indies, and drifted by Gulf Stream to the Hebrides, and has, or used to have, a peculiar virtue attached to it by the inhabitants of the Long Island. The Gaelic name signifies Mary's Bean, and of course refers to the Blessed Mother. The belief was, and I daresay still lingers amongst the Celtic Roman Catholic people of the Long Island, that this seed clenched in the hand of a woman labouring with child would ensure easy delivery. I got this seed from a woman in the island of North Uist, and she said it had been in the possession of her mother and her grandmother.'

It would be interesting to know whether this is one of several or many instances of this seed being thrown up on the Hebrides. One would not expect it to possess a Gaelic name, and have the reputation for the virtue ascribed to it, from a solitary example.

EXPLANATION OF FIGURES IN PLATE XXIV.

Illustrating Mr. Hemsley's paper on *Ipomoea tuberosa*.

Fig. 1. A ripe capsule subtended by the enlarged somewhat lignified sepals.

Fig. 2. A cluster of four seeds seen from above.

Fig. 3. " " below.

Fig. 4. A single seed.

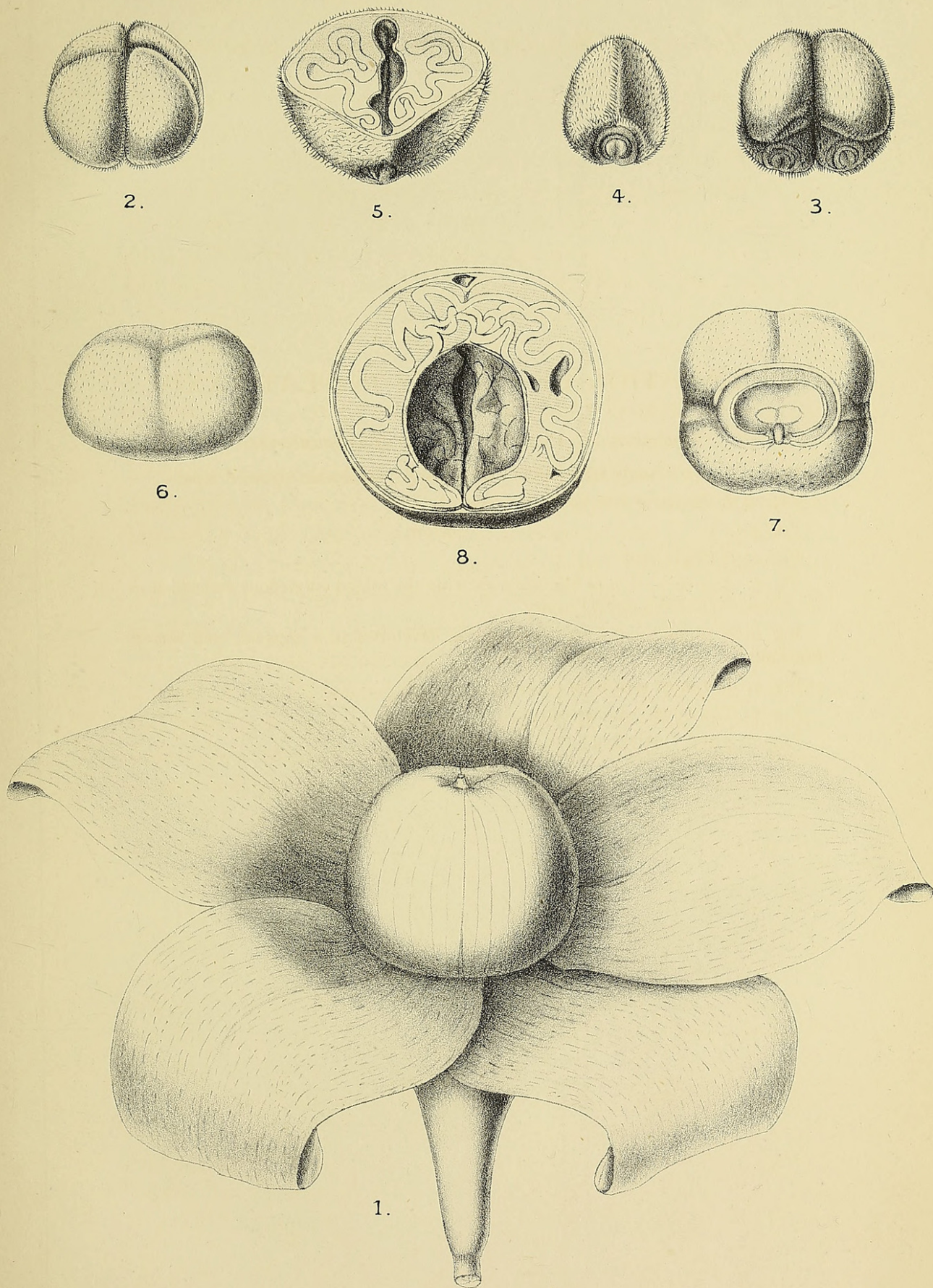
Fig. 5. A cross-section of the same showing the folded cotyledons embedded in the albumen, and the central cavity.

Fig. 6. A single seed, where only one is developed in a capsule, seen almost horizontally.

Fig. 7. The same seen from below.

Fig. 8. The same in cross-section.

Figures 5 and 8 enlarged ; the rest natural size.



M. Smith del.

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HEMSLEY. — ON *IPOMOEA TUBEROSA*.



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