

XXV. *On a New Genus of Liliaceæ from East Tropical Africa.*

By JOHN KIRK, M.D., F.L.S.

(Plate LII.)

Read May 5th, 1864.

Genus WALLERIA, Kirk, nov. gen.

Perigonium corollinum sex-partitum; laciniis æqualibus, patentibus; tubo brevissimo, libero. *Stamina* sex, æqualia; filamenta brevissima, compressa, glabra, tubo perigonii unita. *Antheræ* elongatæ, muticæ, basifixæ, biloculares, discretæ v. ad apices unitæ, basi exappendiculatæ, poro apertæ. *Ovarium* liberum v. quasi immersum, triloculare, ovulis plurimis in loculis biseriatis. *Stylus* filiformis, erectus. *Stigma* simplex.—Herbæ Africanæ, foliaceæ, foliis lineari-lanceolatis; floribus pedicellatis, axillaribus, solitariis; pedicellis unibracteatis.

WALLERIA NUTANS, Kirk, sp. nov. (Pl. LII. fig. I.)

Diag. character.—Leaves alternate, linear; flowers pendulous. Peduncles with a bract near the extremity next the flowers. Stamens united at the apex into a tube, opening by pores from partial dehiscence at the apex. Ovary quite free, on an expanded receptacle.

Herbaceous, 2 feet in height; stem rounded, with alternate linear leaves, the upper bearing solitary flowers in the axils at the end of long peduncles furnished with a small bract at the extremity. Flowers drooping. Perianth six-parted, having a short cup-shaped tube with rotate partly reflexed segments, the outer three mucronate, having seven veins, inner acuminate, with five veins. Stamens six, equal, all fertile. Filaments short, triangular, united to the cup of the perianth and with each other by a membrane, glabrous. Anthers connivent into a tube, united at the upper part, without any prolongation at the apex, and equal at base, linear-lanceolate, opening by partial dehiscence of the extremities. Ovary trilocular, included in the tube of the perianth, with several ovules in the centre of each cell, quite free from the perianth. Style filiform, projecting slightly beyond the staminal tube. Stigma simple, undivided.

Discovered in the Manganja Hills, at an altitude of 4000 feet above the sea, by Horace Waller, Esq.

WALLERIA MACKENZII, Kirk, sp. nov. (Pl. LII. fig. II.)

Diag. character.—Leaves lanceolate. Flowers erect, on axillary stalks bearing a bract at or below the middle. Stamens free; opening by a single terminal pore. Ovary slightly immersed in the receptacle. Herbaceous, 2 feet in height. Leaves alternate, lanceolate. Flowers on axillary stalks having a bract under the middle. Perianth six-parted, rotate; tube very short, in form of a cup. Segments of perianth in double series, the outer with from seven to nine veins, inner with five. Stamens six, equal, all fertile, quite free; filaments glabrous, arising from the tube, and united with each other by a membrane at base. Anthers opening by a terminal pore. Ovary trilocular, with several ovules in the angles of each, partly immersed in the extremity of the stalk.

Native of the Manganja Mountains, at the late Bishop Mackenzie's mission-station. Discovered by Horace Waller, Esq.

Both species were discovered growing side by side in the mountains of East tropical

Africa, by Mr. H. Waller, at an elevation of 4000 feet above the sea-level, not far from the mission-station of the late Bishop Mackenzie.

Neither root nor ripe fruit have been sent: the latter, judging from young specimens, promises to be a many-seeded capsule.

In the absence of these important parts, some doubt remains as to their position in the natural system, from the complicated affinities existing in the Liliaceæ. That they form part of the Conantherous group seems, however, almost certain, from the remarkable similarity of the perianth and stamens. The ovary, however, in being quite or almost free, presents a marked point of difference.

Having been kindly permitted to examine the very complete series of allied plants in the Hookerian Herbarium, I shall mention briefly the leading peculiarities of each genus.

This group differs from other Lilies in its semiadherent ovary and anthers, which are not versatile, opening by terminal pores. The amount of adhesion, however, varies, while in one of the genera we have anthers opening by longitudinal valves. The present genus, which it is proposed to add, has the ovary in one quite free, in the other slightly immersed, while the stamens are identical with those of *Conanthera* in attachment, shape, cohesion, and dehiscence.

At first it may seem anomalous that there are in Africa members of a group otherwise peculiar to South America; but it will be found that the Cape genus *Cyanella* must also be referred here, and take a position nearer to the typical genus than some others commonly admitted.

The characters of the group are most fully represented in *Conanthera* and *Cummingia*, which differ from each other in the perianth of the one being 6-parted, of the other campanulate; in these the stamens are united near the apex in the manner of *Solanum*. *Zephyra* has two stamens abortive, represented by curved filaments, while the fertile anthers are spurred at the base. *Cyanella*, a genus of Cape plants, has not only the habit of the group, but also the structure: its ovary is semiimmersed in the stalk; the stamens open at the apices, while the amount of irregularity is less than in *Zephyra*—one of the stamens being larger than the others, but all fertile.

In *Pasithea* the ovary is semiadherent; but the stamens open by longitudinal valves, offering a transition in this respect to the ordinary structure of the Anthericeæ.

The new genus connects these two groups in like manner: retaining the staminal arrangement of the Conanthereæ, it has the ovary of the Anthericeæ, which in one of the species shows a tendency to adhesion.

It is proposed to name the genus after its discoverer, Mr. Horace Waller, one of the few survivors of the ill-fated Central-African mission, to whom we are indebted for many additions to the flora of that region.

DIAGNOSTIC TABLE OF GENERA OF THE CONANTHEROUS LILIACEÆ.

- I. *Ovary semiadherent ; stamens unequal.*
1. *Zephyra*, Dav. Stamens 2 abortive ; anthers opening by a terminal pore, spurred at base.
 2. *Cyanella*, Linn. Stamens all fertile, one enlarged, pendulous.
- II. *Ovary semiadherent ; stamens equal.*
3. *Conanthera*, Ruiz & Pav. Perianth 6-parted ; anthers connate, opening by pores, ending in a single arista.
 4. *Cumingia*, Dav. Perianth campanulate ; anthers connate, opening by pores, ending in a double arista.
 5. *Pasithea*, Dav. Stamens free, opening by longitudinal valves the length of the anther.
- III. *Ovary free ; stamens equal.*
6. *Walleria*, Kirk. Stamens opening by pores, perianth 6-parted.

EXPLANATION OF THE PLATE.

PLATE LII.

Fig. I. *Walleria mutans*, nat. size.

1. Flower, magnified.
2. Inner surface of stamens.
3. Ovary.
4. Transverse section of ovary.

Fig. II. *Walleria Mackenzii*, nat. size.

1. Flower, magnified.
2. Stamens and ovary.
3. Apex of anther.
4. Transverse section of ovary.



I. *Walleria nutans*, Kirk.

II. *Walleria Mackenzii*, Kirk.

Vincent Brooks, Imp.

DF Kirk, del. W. Fitch, lith.