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Miscellaneous notes on the flora of Tropical East Africa including description of new taxa, 35-37¹

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RÉSUMÉ

La présente contribution est la onzième d'une série consacrée à la flore de l'Afrique tropicale orientale, que l'auteur se propose de continuer.

Une description complétée est donnée pour le *Dracaena ellenbeckiana* dont l'identité est précisée. Le *D. rhabdophylla*, une espèce voisine, reste imparfaitement connue pour l'instant. Des précisions sont fournies sur l'*Euphorbia rubella*.

ZUSAMMENFASSUNG

Dies ist der elfte Abschnitt einer Folge von Beiträgen zur Kenntnis der Flora der tropisch Ostafrika, welche fortgesetzt werden soll.

Die Beschreibung von *Dracaena ellenbeckiana* wird vervollständigt und ihre Identität genau umschrieben. Unsere Kenntnis einer nahe verwandten Art, *D. rhabdophylla*, bleibt vorderhand unvollständig. Neue Beiträge zur Kenntnis von *Euphorbia rubella* bilden den Beschluss.

SUMMARY

This contribution is the eleventh of a series devoted to the flora of Tropical East Africa, which the author aims to continue.

A more complete description is given for *Dracaena ellenbeckiana* and its identity is made clearer. *D. rhabdophylla*, a neighbouring species, remains, as yet, imperfectly known. Further indications are given concerning *Euphorbia rubella*.

35. *The identity and distribution of Dracaena ellenbeckiana Engler*

The Kedong Valley in Kenya, a portion of the Great East African Rift, is named after a locally common xerophytic *Dracaena*, the Kedong plant "Ol kedong" of the Masai who use its stems for making quivers for their arrows. It was generally

¹ Cf. Candollea 17 : 25, 53, 71; 18 : 9, 335; 19 : 145; 20 : 13; 21 : 3, 365; 22 : 39.

looked upon as an undescribed species restricted to the Kenya Highlands and to Western Uganda, but an investigation made recently by the present writer shows it to be identical with *Dracaena ellenbeckiana* Engl., discovered by Dr. Ellenbeck in the Galla Highlands of Ethiopia as early as 1900. Its very brief description, published in Engl. Bot. Jahrb. 32 : 95. 1903, pointed to their similarity, but for confirmation of their identity a comparison of the Kenya-and Uganda gatherings with Ellenbeck's type specimen was essential.

It is fortunate that the type escaped the holocaust of World War II which destroyed the greater part of the Berlin-Dahlem Herbarium, and I am greatly indebted to Professor Dr. Th. Eckart, its present Director, for its loan.

I am equally grateful to Mr. J. P. M. Brenan, M. A., B. Sc., F. L. S., Keeper of the Kew Herbarium, for the loan of numerous herbarium sheets and spirit specimens from Kenya and Uganda, together with some habitat photographs, as well as for permission to publish the excellent Plate prepared by Mrs. Olive Milne-Redhead from Kenya material.

With the aid of such ample documentation I was enabled to confirm conclusively the identity of the Kenya and Uganda plants with *D. ellenbeckiana* which can now be exhaustively described:

Stems fibrous to subwoody, cylindrical, 3-6 m high, 4-8 cm diam., simple or dichotomously branched on older growths, often forming many-stemmed clumps. *Bark* grey, smooth, covered with hardly prominent leaf-scars 8-10 mm high to 40 mm wide. *Leaves* produced along young shoots, caducous except at the apex where they form a densely congested tuft; leaf-base amplexicaul, crescent-shaped, 3-4 cm wide, narrowing to an ensiform straight blade 35 to 55 cm long, 1-2.2 cm wide, coriaceous, glabrous, greyish green, margin entire, veins longitudinally parallel, numerous (90 app.). *Inflorescence* produced as a solitary, terminal, erect panicle 20-42 cm long, with simple, horizontally spreading secondary branchlets to 15 cm long, closely beset with fascicles of 2-7 flowers on pedicels 3-5 mm long, subtended by scarious, ovate-lanceolate, acute bracts 2-3 mm long. *Perigon* 10 mm long, tube very short, segments 6, linear-oblong, obtuse, connate 1-2 mm at the base, 10 mm long, 1.8-2 mm wide. *Stamens*: filament strap-shaped, tapering at the apex, longitudinally channelled, adnate to the base 2 mm of its total length of 6.5 mm, 0.8 mm wide; anther-cells 1.5 mm long, 0.8 mm wide, orange-yellow. *Ovary* lageniform, longitudinally ribbed; style cylindrical, 3 mm long, 0.5 mm thick, stigma capitate. *Fruit* drupaceous, 1-3-locular, subspherical or obtusely 3-lobed, 4-10 mm long and in diameter, turning from green over red to dark purple. *Seed* spherical, 4-5 mm diam., ivory-white.

Frutex saepe fasciculos formans (an e speciminibus aggregatis vel e caudice unico incertus est). *Truncus* fibrosus vel sublignosus, cylindricus, 3-6 m altus, diam. 4-8 cm latus, simplex vel apud vetera specimina superiorem trunci partem versus rarius dichotome furcatus; cortex griseus, laevis, foliorum cicatricibus fere haud prominentibus (tamen conspicuis), 8-10 mm crassis, 40 mm latis impressus. *Folia* terminaliter verticis modo congesta; inferiora caduca (truncis sic denudatis, juvenilibus exceptis), coriacea, glabra, ensiformia, 35-55 cm longa, 10-22 mm lata, amplexicaulia, basi breviter in lunulam dilatata, apicem versus angustata, acuta,

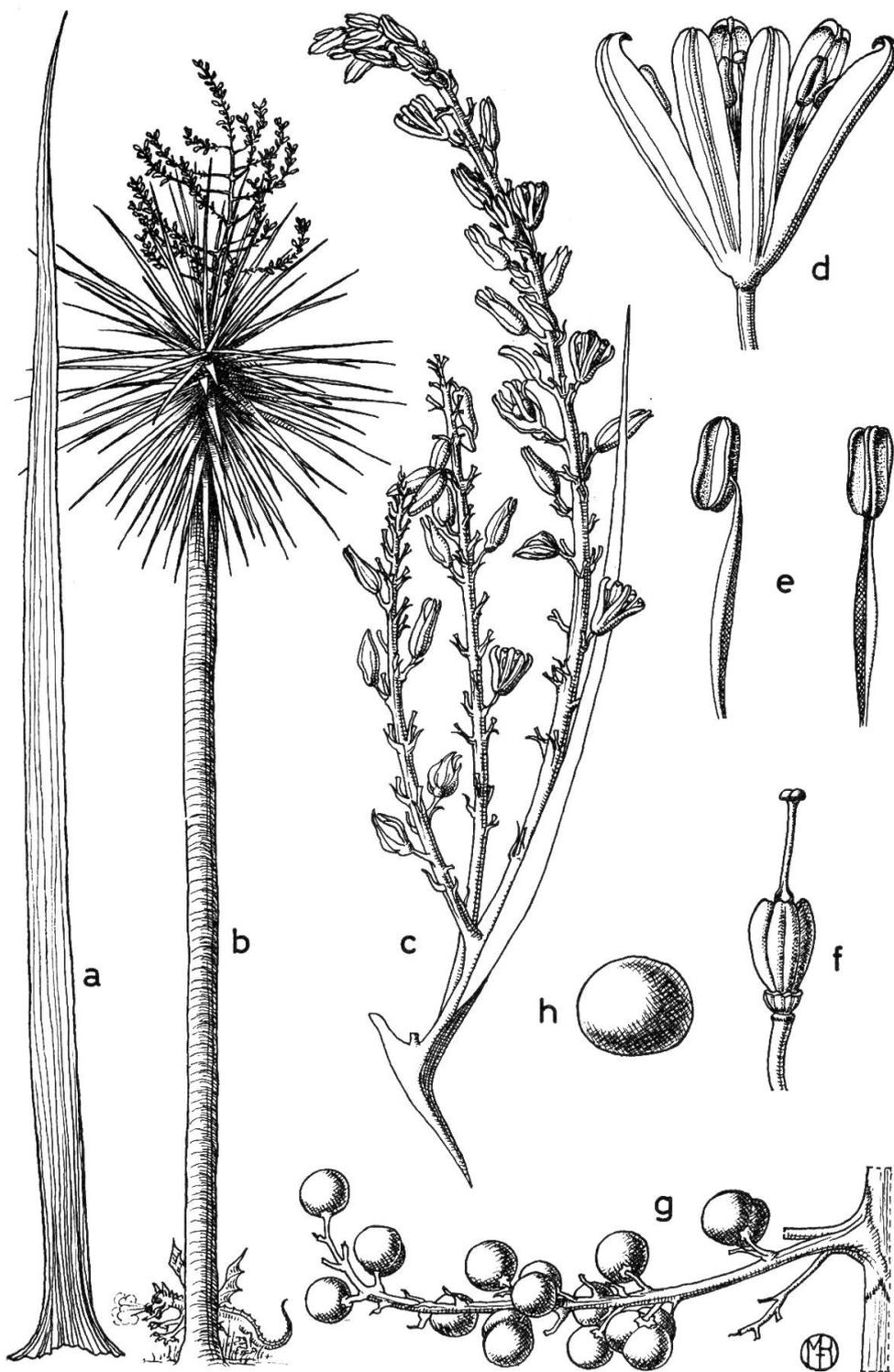


FIG. 1. — *Dracaena ellenbeckiana* Engler

a: whole plant; b: leaf; c: inflorescence; d: flower; e: stamens; f: pistil; g: fruit; h: seed
For measurements see description (Drawing by Mrs. Olive Milne-Redhead, with kind permission of the Kew Herbarium).



FIG. 2. — *Dracaena ellenbeckiana* Engler, Kedong Valley (Photo by C. Hemming, with kind permission of the Kew Herbarium).

marginē integra, nervis parallelis numerosis. *Inflorescentia* terminalis, paniculata, 20-40 cm longa; ramuli patentes, numerosi, 3-15 cm longi, 2-7 florum fasciculis arcte instructi; pedicelli 3-5 mm longi, bracteola scariosa, ovato-lanceolata, acuta, quam pedicello paulo brevior subteni. *Perigonum* 10 mm longum, laciniis 6, lineari-oblongis, obtusis, 10 mm longis, in basi per 1-2 mm connatis, pallide viridiflavus. *Stamina* filamenta ligulata, apicem versus angustata, canaliculata, 6.5 mm longa, 0.8 mm in basi lato, basin versus per 2 mm laciniis adnato; antherae 1.5 mm longae, 0.8 mm latae, aurantiae. *Ovarium* lageniforme, longitudinaliter costatum; stylus cylindricus, 3 mm longus, 0.5 mm crassus, stigmatibus capitato. *Fructus* drupaceus, 1-3 locularis, subsphaericus vel obtuse 3 lobatus, 4-10 mm longus et latus, juvenilis viridis, deinde ruber et in maturitate atripurpureus. *Semen* sphaericum, 4-5 mm diam. latum, eburneum.

DISTRIBUTION

ETHIOPIA: Harar Prov., Galla Highland between Luku and Sheik Husein. "Buschgehölz der Täler", 7°46'N, 40°55'E, *Ellenbeck* 1232, June 1900 (holo B): see map ref. 1. Galla Sidama Prov., Asile, South-East of Hummu Mt., open bush country, 4°50'N, 36°45'E, 1000 m appr., *Corradi* 4586-4588, July 1939 (FI) : 2. KENYA: Rift Valley Prov., Kedong Escarpment, on rocky ground amongst scrub, 1°12'S, 36°38'E, 1860 m, *E. R. Napier* 474, 27.10.1930 (K, EA); *ibid.* *Bally* B1649 (CM 8412) 6.11.1938 (K, EA); *ibid.* *P. E. Glover* 3424, 25.1.1963 (all: K, EA) : 11. Mt. Margaret Estate, bottom of escarpment, on rocky, steep slopes, 1°00'N, 36°36'E, 1800 m, *Bally* B1086, June 1940 : 10. Suswa crater, western edge of central moat, precipitous slopes, 1°09'N, 36°20'E, *Glover & Samuel* 3390, 7.10.1962 (K, EA) : 8. Narok District, top of Siyabei George, in tickets on eroded soil, 1°21'S, 36°20'E, 1840 m, *Glover & Samuel* 3216, 15.7.1962 (K, EA) : 9. Longonot Estate, Naivasha, 0°54'S, 36°30'E, 1800 m appr., *Kerfoot* 3594, 3.1.1962 : 7. Samburu Distr., betw. Maralal and Wamba, basement complex slopes in scrub, 0°47'N, 37°00'E, 1520 m, *Bally* 12032, 9.2.1959 : 6. Northern Frontier Prov., Burroli Mountain near Salole, scrub on precipitous slopes, 3°34'N, 38°38'E, 1130 m, *J. B. Gillett* 13781, 9.9.1952 : 3. Mt. Kachagolou or Kedieng, on East slope of Kalapata Hill, between Nabalal and Kodi, open scrubby savanna on very steep hillside, 2°19'N, 35°03'E, 2000 m, *Langdale-Brown* 95, 8.1. 1959 : 5. Turkana, Muranisigar Mountains, 3°05'N, 35°00'E appr., 1400 m appr., *Newbould* 7300, 1966 : 4. UGANDA: Karamoja, Kamion, on escarpment, 3°43'N, 34°12'E, 130 m, *A. S. Thomas* Th3254, 9.11.1939 : 12. North-East-Karamoja, no precise locality, 1530 m, *I. R. Dale* U432 (= *Dale* 469), June 1945.

VERNACULAR NAMES: "Ol kedongi" Masai; "Butu", "Meti" Boran; "Bilé" Galla; "Karakai", "Morongiton" Suk.

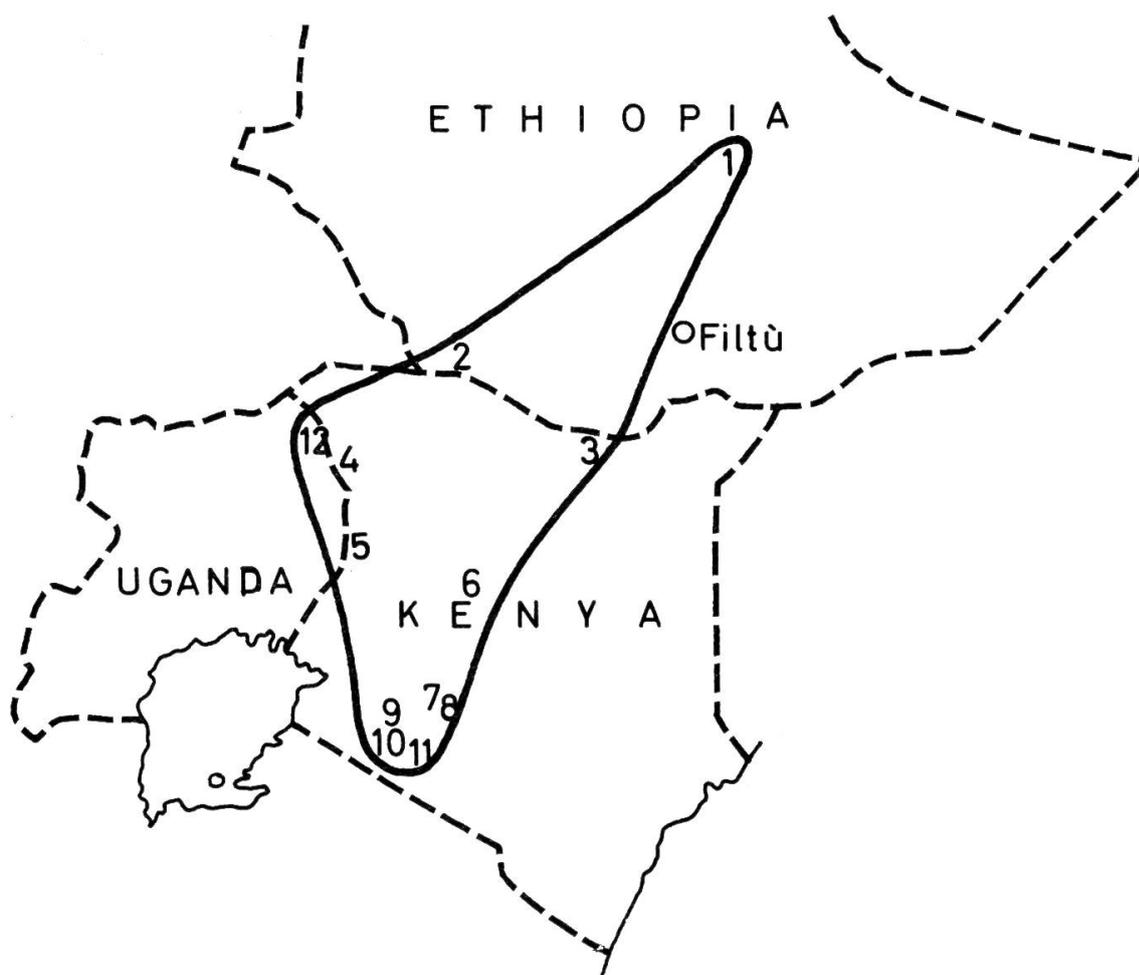
36. Note on *Dracaena rhabdophylla* Chiov.¹

In a posthumously published paper by Emilio Chiovenda this new species is shortly described, based on a sterile specimen collected in Filtù in Southern Ethiopia (*Corradi* 4585, 24.4.1939). The main characters which distinguish it from *D. ellen-*

¹ Webbia 8/1 : 12. 1952.

beckiana are the narrower (5 mm wide) and much longer (to 70 cm), more rigid leaves which are not glabrous but minutely scaberulous.

In Ann. Nat. Hist. Wien, 69, 51, 52 (1965) A. Gilli published an amended and amplified description of *D. rhabdophylla* on the assumption of its identity with a gathering from Burroli Mountain, Kenya, near the Ethiopian border (*Gillett 13781*, 4.9.1952). On the strength of the scant material—Gilli saw only two leaves and an inflorescence of Gillett's gathering—the amendment is hardly justifiable as the author himself admits.



MAP. 1. — The distribution of *Dracaena ellenbeckiana* Engler (1-12) and the locality of *D. rhabdophylla* Chiov. (0).

Gillett's ample material loaned to me from Kew shows glabrous leaves up to 19 mm wide and none more than 53 cm long. Its inflorescence agrees in every respect with that of *D. ellenbeckiana* and there is no doubt that Gillett's plant belongs to the latter species.

D. rhabdophylla Chiov. must thus remain an imperfectly known species until authentic flowering material of the plant described from Filtù becomes available.

37. Notes on *Euphorbia rubella*, Pax in Engl. Bot. Jahrb. 33 : 387. 1903

Euphorbia rubella, a dwarf, hysteranthous geophyte, was discovered on May 20th 1900 on Mt. Achim (Djur Agum) by Dr. Ellenbeck who accompanied Baron d'Erlanger's expedition through the Somali country into Ethiopia. Its cylindrical caudex reaches ground-level only with its apex and is thus a typical example of Boissier's Section *Rhizanthium*. The position of the adventitious rootlets indicate that the tuberous root is drawn downwards at the rate at which the caudex grows in length.

The 4-8 leaves are disposed in a horizontally spreading, prostrate rosette with vividly green, elliptic, petiolate blades, their underside being a rich dark carmine. In its habitat, the erect, pedunculate cymes are once, rarely twice, forked. The almost circular involuclral bracts are white, delicately flushed with pink, with a dark rose-coloured underside; the glands are of a nondescript brownish yellow, 6 in number, due to one of them being split in two.

The type specimen, deposited in the Herbarium of Berlin-Dahlem, perished in World War II, but the present writer collected the plant again in the type locality

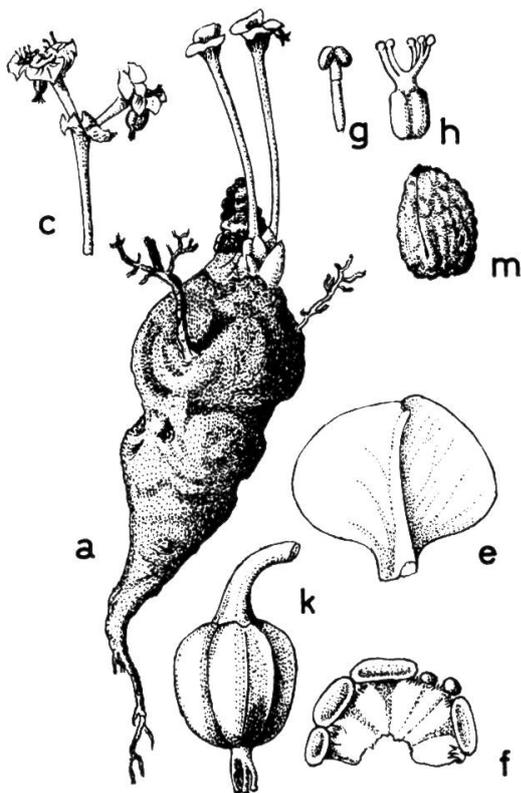


FIG. 3. — *Euphorbia rubella* Pax var. *rubella*, Ethiopia, Harar Prov., Mt. Achim (type locality) 2100 m, Bally 9900, 11.10.1954.

a: mature rooted plant; b: leaf; c: cyme; d: involucre with bracts; e: involuclral bract; f: involucre spread out to show glands and lobes; g: staminate flower; h: ovary and pistil; k: capsule; m: seed.

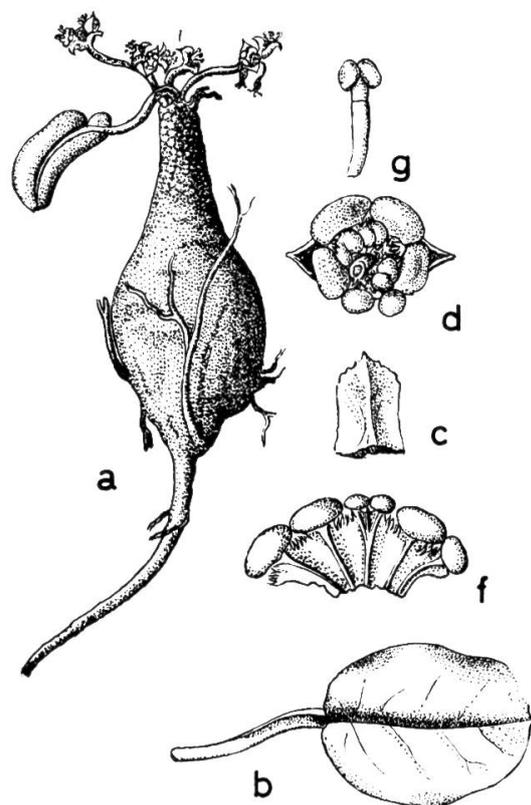


FIG. 4. — *Euphorbia rubella* Pax var. *exigua* Bally, Ethiopia, Galla Sidama, Mega Mountain, Gillett 14425 (type) 24.11.1952.

in Oct. 1954. From living plants, subsequently cultivated in Nairobi, he prepared coloured drawings which are rendered here in black and white, as the first published illustration of this species.

***Euphorbia rubella* Pax var. *brunellii* (Chiov.) Bally**

In Webbia 8 : 234. 1952 a description of *Euphorbia brunellii* Chiov. was published posthumously, based on a specimen collected by Vatova in the Galla-Sidama Province of Ethiopia. The plant was subsequently found in various other localities, not only in Ethiopia, but in Kenya and in Uganda, where the writer collected it on Tororo Hill and later study it was able to it in cultivation in Nairobi.

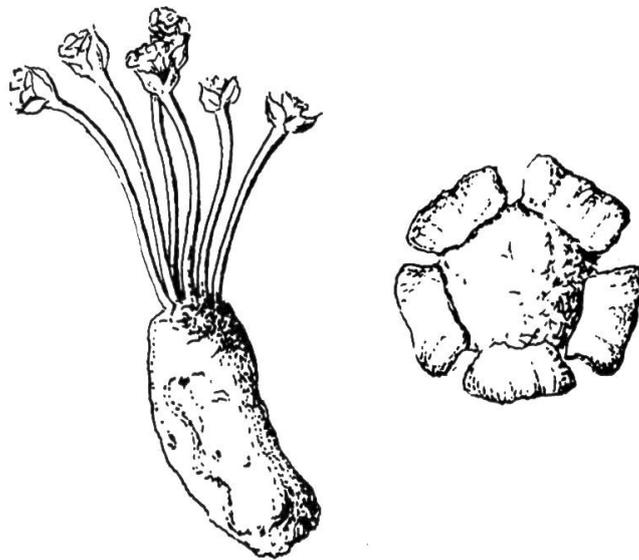


FIG. 5. — *Euphorbia* spec. aff. *rubella* Pax, from Nigeria.

It differs from var. *rubella* in minor characters only which do not justify its rank as a distinct species: the leaves, similar in shape and size, lack the dark red colour of the underside, the bracts are narrower and dull white to buff, while it shares with var. *rubella* the characteristic divided 5th involucre gland which brings their number up to six.

In cultivation, i.e. in conditions which differ from those of its natural habitat, the habit tends to become synanthous and the cymes can fork dichotomously up to seven times.

A similar but somewhat larger plant from the Sudan seems to belong here. The tuber of the solitary dried specimen in the Kew Herbarium is 45 mm long, 35 mm in diameter, the petioles are 25 mm long, the blade 52 mm long and 33 mm wide. The flowers are unknown. (Majok, Schweinf. 1929, 12.5.1869).

Another *Euphorbia* of much the same appearance as *E. rubella* occurs on the bare, flat-topped hills around Bauchi in Nigeria. The cymes are superficially alike,

but the involucre glands are the usual five in number and rectangular in shape, a character which makes its identity with *E. rubella* unlikely. Leaves have not been collected. (*H. V. Lely* P63, January 1929).



MAP. 2. — The known distribution of *Euphorbia rubella* Pax and of its variety *var. exigua* (Chiov.) Bally.

◆ *E. rubella* var. *rubella*; + *E. rubella* var. *exigua*; ● *E. ? rubella* (Schweinf. 1929).

The identity of these two last mentioned gatherings will remain uncertain until adequate material becomes available.

The Nigerian specimen is illustrated here to show that in extreme geophytism plants of dissimilar ancestry may converge to assume eventually an almost identical outward appearance.

