

Notes on Acacia Species in Southern Africa: II

by

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ABSTRACT

Some information concerning miscellaneous *Acacia* species is presented. The typification of *A. galpinii* Burt Davy is discussed, attention is drawn to an unusual specimen of *A. giraffae* Willd. and to the seedling development of *A. haematoxylon* Willd., and the identity of *A. inermis* Marl. is discussed. The continued confusion over the identity of *A. heteracantha* Burch. is considered and the misapplication of this name in the literature is traced. The location of type specimens of *A. spirocarpoides* Engl. and of *A. maras* Engl. is recorded.

ACACIA GALPINII Burt Davy

Burt Davy in Kew Bull. 1922: 326 (1922) based his description of *A. galpinii* on Galpin 483M which was collected in the Waterberg district of the Transvaal on 19th Sept. 1920. The date of collection of the type specimen is important as Galpin returned to the type locality, or probably to the original tree, in later years and collected further specimens which he also numbered 483 M. In addition to the specimens of 483 M collected on 19th Sept. 1920 specimens of 483 M collected on the following dates have been examined: 21st Sept. 1923 (PRE); 22nd March 1924 (PRE); 25th Sept. 1927 (BOL, SRGH); Dec. 1927 (SRGH); 10th April 1928 (BM, BOL, PRE, SRGH).

Galpin's continued use of the number 483M over a period of years has led to confusion in several herbaria. Only those specimens of 483 M collected on 19th Sept. 1920 can be regarded as forming part of the type collection. All of the specimens of 483 M collected subsequently were collected after *A. galpinii* was described and cannot therefore be regarded as type specimens even although they were probably collected from the type-tree.

In addition, it appears that Galpin, in at least one instance, gave two sets of numbers to some of his specimens for specimens in BM, BOL, PRE and SRGH collected on 10th April 1928 are numbered 483 M while specimens in K and NH collected on the same day are numbered 14009.

Acacia galpinii Burt Davy in Kew Bull. 1922: 326 (1922). Type: Transvaal, Waterberg district, banks of Bad-Zyn-loop River, Mosdene Estate, Naboomspruit, 19th Sept. 1920, Galpin 483 M (K, holo., BM, GRA, PRE, iso.).

Syn. *A. dulcis* sensu Henkel in Woody Plants of Natal and Zululand: 233 (1934).

ACACIA GIRAFFAE Willd.

The greyish velvety pods of *A. giraffae*, although varying somewhat in size and in shape, are very characteristic. During the examination of material of *A. giraffae*, attention was drawn to a specimen with atypical pods, namely, Strey 2292 from the Rehoboth district of South West Africa. The pods, although not quite mature, are very distinctly coiled and are only up to 2,2 cm wide which is much smaller than those of typical *A. giraffae* (see Fig. 1). However, the pods are not in any way similar to those found on plants regarded as hybrids between *A. giraffae* and *A. haematoxylon* Willd. (Ross in Bothalia 10: 359-362, 1971). A photograph of the plant from which Strey 2292 was collected reveals that all of the pods on the tree were of a similar shape and size. Apart from the pods Strey 2292 is otherwise indistinguishable from specimens of typical *A. giraffae*. The pods of *A. erioloba* E. Mey.,

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which is a synonym of *A. giraffae*, were described as "semilunate". These are probably similar to those of typical *A. giraffae* but unfortunately I have not succeeded in tracing the type specimen of *A. erioloba*.

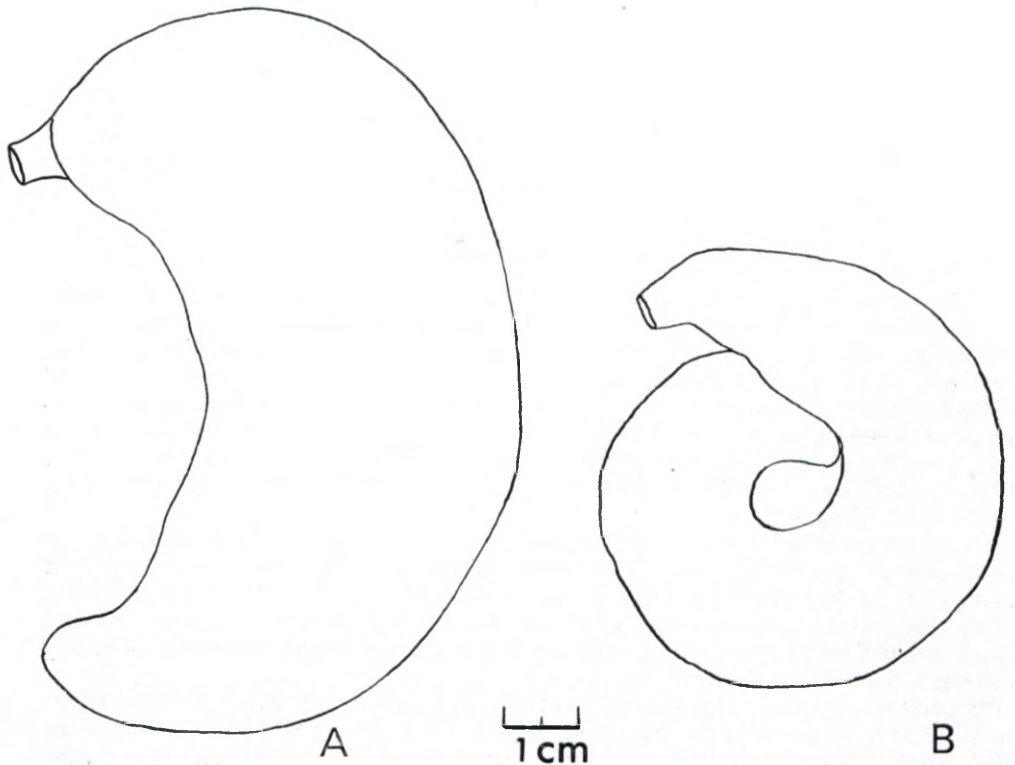


FIG. 1.—A, the outline of a "typical" pod of *Acacia giraffae* (Meeuse 10143); B, the outline of a pod from *Strey* 2292.

ACACIA HAEMATOXYLON Willd.

A. haematoxylon is easily distinguished from all other *Acacia* species in southern Africa by its fine greyish foliage, the leaflets being very tightly compressed laterally so that the leaves appear superficially simply pinnate. Some years ago seeds collected in the Kalahari were germinated in Durban and the seedlings were watched. The leaves produced during the first three years were distinctly bipinnate and quite unlike those found on more mature plants. The leaflets on these juvenile leaves were quite discrete and were up to 3 mm long and 1,3 mm wide in contrast to the small laterally compressed leaflets up to 0,8 mm long and 0,4 mm wide found on adult leaves. The single surviving plant of *A. haematoxylon* in Durban has grown very slowly and is only 0,6 m high after five years.

ACACIA INERMIS Marl.

Marloth based the name *A. inermis* on his specimen number 1317 which he collected near Otjimbingwe in Hereroland in May 1886. *A. inermis* is a *nomen nudum* for although the name appears on the specimen, *Marloth* 1317, Marloth never validly published this name. This is explained in a paper read by Marloth on 26th Oct. 1887

and subsequently published in *Trans. S. Afr. Phil. Soc.* 5: 267–274 (1889). Marloth (l.c.: 269) wrote: “. . . I have to mention another new species from Damaraland, which I had named *inermis*, on account of its having no spines or prickles whatever, but the name of which has been changed by Professor Engler to that of *A. marlothii*.” Engler’s description of *A. marlothii* appeared in *Bot. Jahrb.* 10: 19 (1888). A further reference to *A. inermis* may be found in a paper by Wordsworth, Hutchinson, F. Bolus and L. Bolus in *Ann. Bol. Herb.* 3: 21 (1920). Examination of *Marloth* 1317, the type of *A. marlothii*, revealed that the species is an *Albizia* and that it must be regarded as a synonym of *Albizia anthelmintica* (A. Rich.) Brongn.

ACACIA TORTILIS (Forsk.) Hayne subsp. HETERACANTHA (Burch.) Brenan

Brenan in *Kew Bull.* 1957: 88 (1957) regarded *A. heteracantha* Burch. and *A. litakunensis* Burch. as synonymous with each other and referred both to *A. tortilis* subsp. *heteracantha*. However, the status and identity of *A. heteracantha* and *A. litakunensis* remained a matter of controversy. In response to a request Brenan re-investigated the matter and his findings were published in *Kew Bull.* 13: 409–411 (1959). Despite Brenan’s full and convincing explanation some workers remain unconvinced and maintain that the use of the epithet “*heteracantha*” is unfortunate in view of the past confusion and uncertainty over its identity. Evidence is now led in support of Brenan’s conclusions and the confusion over the name *A. heteracantha*, and the subsequent misapplication of this name, will be traced in the literature.

The confusion over the identity of *A. heteracantha* rests on Burchell’s description of the pods as “*Legumen lineare*” in his type description in his *Travels in the interior of Southern Africa* I: 389 (1822). The type specimen of *A. heteracantha* (Burchell 1710 in K) is a sterile twig (see Plate I) and was collected at Springslangfontein between Griquatown and the Orange River. This type specimen has very small leaves with rhachides up to 8 mm long, rhachillae up to 8 mm long, leaflets 1–2 mm long and the straight stipular spines are very slender being only 1,5 mm in diameter at the base. The type specimen agrees well with Burchell’s description of *A. heteracantha* except for the words “*legumen lineare*”.

As *A. luederitzii* Engl. and *A. hebeclada* DC. (syn. *A. stolonifera* Burch.) also grow in the northern Cape Province, it is fortunate that this sterile type specimen of *A. heteracantha* can be positively identified. Like *A. heteracantha*, *A. luederitzii* and, less frequently, *A. hebeclada* often have a mixture of short recurved and long straight stipular spines and sterile specimens of *A. luederitzii* and *A. hebeclada* sometimes superficially resemble those of *A. heteracantha*. However, *A. luederitzii* has linear legumes. Burchell’s description of *A. heteracantha*, particularly when the comment “*legumen lineare*” is considered, actually fits plants in the *A. luederitzii* complex more accurately. Consequently it is quite understandable why some workers, especially those who never saw the type specimen of *A. heteracantha*, applied the name *A. heteracantha* to plants in the *A. luederitzii* complex.

Sterile material of *A. heteracantha* can be distinguished from material of *A. luederitzii* and *A. hebeclada* without much difficulty. Indeed, it is usually much simpler to distinguish sterile specimens of *A. heteracantha* from *A. luederitzii* or from *A. hebeclada* than it is to distinguish sterile specimens of *A. luederitzii* and *A. hebeclada* from one another. Material of *A. heteracantha* from the northern Cape differs from *A. luederitzii* and *A. hebeclada* (corresponding dimensions of these two species respectively are given in brackets after those of *A. heteracantha*) from the same locality in having smaller leaves with rhachides 0,2–1,8 (1–3,4; 1,5–4,2) cm long, rhachillae 0,3–1,4 (0,8–2,8; 0,8–2,8) cm long and leaflets 1–2,5 × 0,6–1 (2–4,5 × 0,5–1,5; 2,2–5,3 × 0,9–1,5) mm. The short recurved and long straight spines of *A. heteracantha* are more slender than those of *A. luederitzii* and *A. hebeclada*, the straight spines of the two latter species being usually 2–3 mm in diameter basally.



PLATE 1.—Burchell 1710, the type specimen of *Acacia heteracantha* (x 1). (By permission of the Director, Royal Botanic Gardens, Kew).

These characters when considered collectively enable *A. heteracantha* to be distinguished. There is a difference in the growth form of the three species and Burchell particularly commented on his *A. heteracantha* having a "thick clear simple stem (frequently crooked) and may be distinguished by its growth form half a mile off".

Brenan (1959) mentions that there is evidence in Burchell's MS "Catalogus Geographicus Plantarum Africae Australis Extratropicae" at Kew that the comment about the pod of *A. heteracantha* was not written at the same time as Burchell described the type-tree. Brenan states: "There is in fact nothing in the catalogus except the added phrase (*Legumen Acaciae capensis*) to indicate that the type-tree was in fruit, and it seems probable that the phrases "*Legumen Acaciae capensis*" in the catalogus and "*Legumen lineare*" in the Travels were not derived from the type-tree of *A. heteracantha*".

Burchell collected his type specimen of *A. heteracantha* on 25th October 1811 and this date of collection is very important. In Southern Africa *A. tortilis* usually starts flowering in November or in December and pods are found from January onwards until August at the latest. Examination of all available specimens from the northern Cape and from Botswana has not revealed a single specimen with pods that was collected as late as October and only one specimen with pods collected in August. It seems, therefore, extremely unlikely that Burchell would have found pods on the tree or on the ground (the pods are relished by game and are usually eaten soon after falling) when he collected his type specimen as there is no record of a fruiting specimen collected as late as October. This supports Brenan's contention that the description of the pods was not written at the same time as Burchell described the type-tree.

Dr. L. E. Codd has suggested that after Burchell collected the sterile type specimen of *A. heteracantha* on 25th October 1811 he may have later encountered a plant exhibiting a mixture of short recurved spines and long straight spines with straight pods (a member of the *A. luederitzii* complex) and that Burchell may have mistaken this plant for his *A. heteracantha*. This could explain why Burchell added the comment "*legumen lineare*" to his type description. However, if this did happen Burchell apparently never collected a specimen for there is no fruiting specimen of a member of the *A. luederitzii* complex in his collection now.

There is evidence that Burchell was uncertain of the identity of the taxon he named *A. heteracantha* because he later collected sterile specimens, 2397 and 2402, of another species under the name *A. heteracantha*. However neither of these specimens was cited with the type description of *A. heteracantha*. Unfortunately Burchell 2397 and 2402 cannot be identified with absolute certainty; they are either *A. hebeclada* or *A. luederitzii*. Burt Davy in his Fl. Transv. 2: 340 (1932) cites these specimens under *A. hebeclada* but I feel that they resemble *A. luederitzii* more closely. It may be argued that, if the specimens are *A. hebeclada*, Burchell should have recognized them as such for *A. hebeclada* was based on his specimen number 2267 and his own *A. stolonifera* (a synonym of *A. hebeclada*) on Burchell 2138. Burchell 2397 was collected from a shrub 1,2 m high and 2402 from a shrub 1,5 m high.

In support of the view that Burchell was uncertain of the identity of the taxon he named *A. heteracantha* it has also been pointed out that Burchell later described *A. litakunensis* which is now regarded as a synonym of *A. heteracantha*. Now Burchell 2205, the type specimen of *A. litakunensis*, is a sheet consisting of three sets of specimens collected in 1818, 1819 and 1820, representing stages in growth of the young plants grown by Burchell from seeds of *A. litakunensis*. Burchell collected the seeds from Takun (Litakun) between 24–29th July 1812. No specimen of the original tree of *A. litakunensis* seems to have been preserved by Burchell. In his type description in his Travels 2: 452 (1824), the pods are described correctly. It is difficult to believe that Burchell would have described *A. litakunensis* as a new species had he ever seen the similar spirally twisted pods of *A. heteracantha*. Obviously Burchell believed that *A. heteracantha* and *A. litakunensis* were distinct species. It must be recalled that the

type of *A. heteracantha* is a sterile shoot which displays both short recurved and long straight spines and, apparently, Burchell never saw the spirally twisted pods. On the other hand the armature in the type description of *A. litakunensis* is recorded as "Spinae stipulares geminae breves recurvae". Burchell's type-tree of *A. litakunensis* apparently had only short recurved spines. This is quite possible as not all specimens of *A. tortilis* display a mixture of short recurved and long straight spines. Despite the similarity in growth form of *A. heteracantha* and *A. litakunensis* Burchell obviously saw no reason to believe that his two species, one exhibiting a mixture of short recurved and long straight spines (in itself an unusual feature) and the other exhibiting short recurved spines only but with curiously twisted pods, were one and the same species.

Burchell's comment "Legumen lineare" at the end of his description of *A. heteracantha* was indeed unfortunate for it was this phrase which gave rise to the confusion and uncertainty over the identity of this species. This uncertainty in turn led to yet other species being described which has further complicated the synonymy. The uncertainty over the identity of *A. heteracantha* and subsequent misapplication of the name will now be traced.

Harvey in his key to the *Acacia* species in Fl. Cap. 2: 279 (1862) recorded the pod of *A. heteracantha* as linear and this is repeated under his description of the species on p. 280.

Engler in Bot. Jahrb. 10: 19 (1888) keyed out *A. heteracantha* under the species with linear pods. As Engler believed that *A. heteracantha* had linear pods he considered it necessary to describe *A. spirocarpoides* (l.c.: 23) and *A. maras* (l.c.: 24). He added under his description of *A. spirocarpoides* that this species differed from *A. heteracantha* in having spirally contorted pods. This is confirmed by Marloth in Trans. S. Afr. Phil. Soc. 5: 270 (1889): "There is, however, no specimen known which with safety can be referred to this name (*A. heteracantha*). I thought first that a species pretty common in Griqualand West should be considered to be Burchell's *A. heteracantha*, but the shape of its legumes differs so widely from B's description, that it has been necessary to give it another name (*A. spirocarpoides* Engler)". Engler maintained that *A. maras* differed from *A. spirocarpoides* in that the pods were constricted between the seeds.

Dinter in Deutsch-Südwest-Afrika Flora Forst-und land-wirtschaftliche Fragmente: 76 (1909) applied the name *A. heteracantha* to plants in the *A. luederitzii* Engl.—*A. reficiens* Wawra complex. This is clear from his description of the pods as 3–4 cm long and $\frac{3}{4}$ cm wide and by his use of the Herero name "Omungondo" for this taxon. All subsequent misapplications of the name *A. heteracantha* to plants in the *A. luederitzii*—*A. reficiens* complex appear to have originated here.

Glover in Ann. Bol. Herb. 1: 151 (1915) included *A. heteracantha* under "Imperfectly known and doubtful species". Glover noted: "Flowering branchlets of *A. spirocarpoides* Engl. seem to me to be identical with those of *A. heteracantha* Burch., but as Burchell's type has no fruit and as he in his notes describes the legume as "linear", I hesitate to unite these two species".

Engler in Die Pflanzenwelt Afrikas 3 (1): 355–357 (1915) discussed *A. litakunensis* and *A. heteracantha* and mentioned that he had not seen the type specimens of either of these species. He expressed doubt as to whether the plant referred to as *A. heteracantha* by Dinter was in fact *A. heteracantha*. Engler concluded that Dinter's plant could just as well be *A. uncinata* Engl. (which it was!). Dinter in his Index Fedde Rep. 15: 80 (1917) once more misapplied the name *A. heteracantha* to plants in the *A. luederitzii*—*A. reficiens* complex.

E. G. Baker in Leg. Trop. Afr.: 822 (1930) keyed out *A. heteracantha* under those species with annular or spirally contorted pods. Bak. f. was unable to separate *A. heteracantha* from *A. tortilis* except by that last report of taxonomists, the geographical discontinuity.

Pönnighaus in J. S. W. Afr. Sci. Soc. 6: 13 (1933) further perpetuated the misapplication of the name *A. heteracantha* for plants in the *A. luederitzii*—*A. reficiens* complex.

Walter and Volk in Grundlagen der Weidewirtschaft in Südwestafrika 211, t. 68B (1954) did likewise. The illustration t. 68B shows *A. heteracantha* quite distinctly as having a linear-oblong pod.

The identity of *A. heteracantha* was finally resolved by Brenan in Kew Bull. (1957, 1959). Brenan (1957) regarded *A. spirocarpoides* Engl. and *A. maras* Engl. as synonyms of *A. tortilis* subsp. *heteracantha*. In doing so Brenan mentioned that the type specimens of these two species were destroyed in the Berlin Herbarium and that he was therefore interpreting the two species from their descriptions.

While examining specimens on loan from the Albany Museum, Grahamstown an isosyntype of *A. spirocarpoides*, Marloth 839, was found. This confirmed that the species is correctly regarded as a synonym of *A. tortilis* subsp. *heteracantha*. Also in the Albany Museum collection is a specimen of Marloth 1260 which is the type number of *A. maras*. However, although the specimen carried the type number, there are certain discrepancies between the information published in the type description in Bot. Jahrb. X: 24 (1888) and the information written on the label. The information published is "Otjimbingue, alt. 900 m—Fructifera m. Junio 1886", while the information on the label is "ad ripas fluminis Kan, pr. Usakos, 860 m., Majo 1886". The date is slightly different as is the locality although admittedly the river Kan runs between Usakos and Otjimbingue. The specimen agrees well with the description of *A. maras* and although I felt somewhat hesitant initially about accepting this specimen as an isotype it seems safe to regard it as a probable isotype.