

A New Genus of Gramineae.

By

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Diandrochloa de Winter, genus nov. (Eragrosteae), affinis *Eragrosti ciliaris* (L.) R. Br. et al., sed ita differt, ligula membranacea, paelearum carinae leves vel scabrae, flores staminibus binis.

Spikelets laterally compressed, awnless, 2–14-flowered solitary, pedicelled, laterally placed in relation to the rhachis, not exceeding 3.5 mm. in length; rhachilla disarticulating between the florets and above the glumes, glabrous or scabrid, not produced beyond the uppermost floret. *Florets* hermaphrodite, falling entire with a segment of the rhachilla attached; callus very short, rather swollen, truncate, glabrous. *Glumes* persistent, unequal to subequal, membranous, often sub-hyaline, ovate to lanceolate, keeled, apex rounded or acute, one-nerved, nerve prominent and often green. *Lemmas* 0.5–1.5 mm. long, strongly keeled, often depressed between the keels, usually translucent or thinly coriaceous, pallid, greenish or flushed with purple, rounded, emarginate or acute or sometimes somewhat erose, lanceolate to broadly ovate-oblong when flattened, 3-nerved; nerves distinctly raised, very often dark green, glabrous or scabrid, midnerve percurrent, lateral nerves evanescent. *Palea* subequal to the lemma, membranous, broadly-oblong when flattened, 2-keeled nerves strongly developed in the lower part of the keels, evanescent upwards, smooth or scabrid, apex truncate or rounded or 3-lobed. *Lodicules* 2, truncate, tapering downwards. *Stamens* 2, anthers broadly oblong to rotund, 0.2–0.4 mm. long, anther thecae slightly divergent, attached more or less centrally. *Ovary* glabrous, styles terminal, free, stigma plumose. *Caryopsis* obovate-oblong to broadly spindle-shaped, brown, smooth and semitransparent when mature; hilum basal, punctiform; embryo $\frac{1}{4}$ to nearly $\frac{1}{2}$ the length of the grain, disc shaped, elliptic-oblong; starch grains simple.

Hygrophyllous caespitose annuals or perennials, culms rather soft, hollow, pallid, greenish or purplish, geniculate or erect, few to many-noded, branched or simple; basal sheaths rather loose, pallid-green or pinkish; leafblades linear, flat, occasionally flaccid, tapering to a setaceous point; panicles usually rigid, always much longer than broad, contracted and dense or much branched and divaricate, branches in pseudo-whorls on the strongly developed central axis.

Type species: *Diandrochloa namaquensis* (Nees) de Winter. Species about 7. Natives of the Americas, Australia, Asia and Africa.

It is surprising that this genus has not before been recognised as distinct. Possibly this is because it is represented in most countries by only one or two species. It was not even placed in a distinct section of its own within the genus *Eragrostis* but was always associated with species such as *E. tenella* and *E. ciliaris* which it resembles superficially. *E. tenella* and related species have ciliate ligules and the keels of the palea are fimbriate. These species should not therefore be confused with any of the species of *Diandrochloa*.

According to Dr. J. M. J. de Wet of the Division of Botany the chromosomes of *E. namaquensis* are smaller than those of the other species of *Eragrostis* which he has investigated. The basic number of 10 with the genome of 40 chromosomes is typical of *Eragrostis* and its allies.

The following species of *Eragrostis* should be transferred to the genus *Diandrochloa*: *E. glomerata* (Watt) Dewey (S. & N. America); *E. confertiflora* Black (Australia); *E. japonica* (Thunb.) Trin. (Asia); *E. diarrhena* Steud. (India); *E. diplachnoides* Steud. (Africa and Asia). The synonymy of most of the species listed above is very complicated and in some the status of the taxa is uncertain. For this reason I have refrained from making the combinations for species outside South Africa.

There are only two South African representatives of the genus *Diandrochloa* namely:—

(a) ***Diandrochloa namaquensis*** (Nees) de Winter, comb. nov. (*Eragrostis namaquensis* Nees).

(b) ***D. pusilla*** (Hack.) de Winter, comb. nov. (*Eragrostis pusilla* Hack.)

They can be distinguished as follows:—

Spikelets 1–1.5 mm. long, 2–4-flowered; lemmas .5–.6 mm. long; inflorescence branches with spikelets patently spreading when fully developed.... *D. pusilla*.

Spikelets 2–3 mm. long, 4–8-flowered; lemmas about 1.0 mm.; inflorescence branches somewhat contracted..... *D. namaquensis*.

1. ***D. namaquensis*** (Nees) de Winter

Eragrostis namaquensis Nees in *Linnaea* 12, 542 (1838) and *Fl. Afr. Austr.* 1.408 (1841); Chiov in *Ann. Inst. Bot. Roma* 8, 63 (1903), do. l.c. 363 (1908); do. in *Nuovo Giorn. Bot. Ital. n.s.* 19, 423 (1912); de Winter in *Grasses and Pastures S. Afr.* 182 (1955). *E. namaquensis* var. *robusta* Stapf. in *Fl. Cap.* 7, 630 (1900). *Catabrosa micrantha* Hochst. ex A. Rich. *Tent. Fl. Abyss.* 2, 426 (1851) in synonymy.

Annual or *subperennial*, caespitose, culms erect 15–130 cm. high, hollow, rather soft, glabrous, pallid or greenish, finely striate, 1–6-noded, simple or branched upwards, upper internode exceeding the others and usually long exerted; sheaths striate, lax and slipping from the culms, pallid or flushed with purple, especially towards the base; leafblades linear and tapering to a fine point, flat or somewhat rolled, 5–25 cm. long; up to 5 mm. broad, nerves fine, slightly raised, scabrid; ligule membranous, about 0.5 mm. long. Panicle tightly contracted and linear or open and lax, 10–60 cm. long, erect, branches solitary or approximate and in pseudowhorls, erect and appressed or obliquely spreading, repeatedly divided from the base, subdivisions subcapillary, glabrous or scabrid. *Spikelets* pedicelled, more or less crowded on the branchlets, elliptic to oblong-elliptic, obtuse, 2–3 mm. long, 4–8-flowered, purplish or greenish-brown, rachilla disarticulating above the glumes and between the florets, smooth, glabrous. *Florets* falling entire, hermaphrodite; callus glabrous, slightly obliquely truncate. *Glumes* unequal to subequal, broadly oblong, obtuse and emarginate, about 0.75 mm. long, 1-nerved, persistent. *Lemmas* broadly ovate-oblong when flattened, obtuse, emarginate, about 1.0 mm. long, strongly keeled, 3-nerved, slightly depressed between the nerves, nerves smooth. *Palea* subequal to the lemma, falling with the lemma, keels smooth. *Lodicules* truncate, cuneate, very small. *Stamens* 2, anthers 0.3–0.4 mm. long, purple, broadly oblong. *Ovary* glabrous, styles free, stigmas plumose. *Grain* obovate-oblong; hilum basal, punctiform; embryo 2/5 of the length of the grain, rotund.

Very widely distributed in Africa, West Tropical Africa, British East Africa and South Tropical Africa. Also found in all the provinces of South Africa including S. West Africa.

This grass prefers moist localities and inhabits river banks and pools. Usually an annual, it is apparently sometimes a weak perennial. It varies tremendously in size, and can be from 15 cm. to over 130 cm. high. The shape of the inflorescence is also variable.

Holotype: Namaqualand, banks of Orange River, *Drege* 2569 (B; PRE, fragment).

CAPE PROVINCE.—Port St. Johns: Umzimvubu River, *Sidey* 567; Mt. Frere: *Acocks* 13565; Mafeking: *Brueckner* 367; Hay: Langebergen, *Acocks* 8531; fountain at Rietkloof, *Acocks* 8534.

NATAL.—Vryheid: White Umfolosi, *Curson* 148; mountain top, sides of stream, Hlobane, *Johnstone* 423; Hlabisa: Hluhluwe, river banks, *Ward* 2581.

TRANSVAAL.—Potchefstroom: Vaal River, Nooitgedacht, *Louw* 1702; Pretoria: Petronella, *Acocks* 11713; 19 m. N.E. of Premier Mine, *Codd* 2764; Rustenburg: Elandskraal, *de Winter* 232 B; Ermelo: Morgenson, *Rose Innes* s.n.; Nylstroom: Warmbad, *Schweickerdt* 1786; Potgietersrust: Mosdene, *Galpin* M. 539; Barberton: *Bolus* 9794; Kruger National Park: Numbi, v. d. *Schyff* 2657; Shangani, v. d. *Schyff*, 2820; Punda Maria, *Codd* 5363; Soutpansberg: Tshokoma, *Obermeyer* s.n. Tvl. Mus. No. 31657.

SWAZILAND.—Mbabane: Mbeluzi Falls, near stream, *Compton* 25086.

Bechuanaland.—Makarikari Basin: Nata River, *Van Son*, Tvl. Mus. No. 28614.

SOUTH WEST AFRICA.—Tsoachaubsand Salem, *Dinter* 140; Otjiwarongo: Waterberg, *Vlok* 2240; Stream near Great Waterberg, *Rodin* 2568; Kaokoveld: banks of Kunene, *Story* 5859.

ANGOLA.—*Boss* s.n., Tvl. Mus. No. 36763.

SOUTHERN RHODESIA.—Odzani Valley, *Eyles* 1685; Zambesi River, *Hitchcock* 24190, 24345; Cleveland Dam, *Gilliland* 46; Sabi-Lundi Junction, *Wild* 3339.

NORTHERN RHODESIA.—Matonchi Farm, *Milne Redhead* 2758; Kashitu, *Stohr* 2845, 2844, 2834; River Mekeba, *Milne Redhead* 759; between Livingstone and Kaloma, *Pole Evans* 2797 (4); Broken Hill, *Rogers* 26093.

PORTUGUESE EAST AFRICA.—Tumbini slopes, *Hornby* 3372.

NYASALAND.—Mlanje, Palombe Plain, *Laurence* 376; Benga, Lake Nyasa, *Brass* 17497; Mperere Mission, Chankalamu Dambo, *Jackson* 242.

TANGANYIKA.—Ardai Plain, *Greenway* 7014; Ngudu, Mwanza, *Lewys Lloyd* 16; Lindi, Mikindani, *Schlieben* 6555.

BELGIAN CONGO.—Elizabethville, *Rogers* 26271; *Quarre* 4570, 5530.

ABYSSINIA.—Scholoda Mnt., *Schimper* 406 (fragment).

2. *D. pusilla* (Hack.) de Winter.

Eragrostis pusilla Hack. in Bull. Herb. Boiss. 4, app. 3, 27 (1896); de Winter in *Grasses and Pastures of South Africa*, 184 (1955).

Caespitose annual up to 30 cm. high, culms erect or slightly geniculate, 1–3 (usually 1)-noded, soft and compressible, pallid, finely striate, simple or branched; sheaths chartaceous, rather loose, pallid, greenish or brown, margins membranous; ligule a membranous rim; leafblades linear, thin, flat, tapering to a fine setaceous point, 4–13 cm. long and up to 0.5 mm. broad, primary nerves 5–7, nerves glabrous or scabrid. *Panicle* densely and divaricately branched, 8–15 cm. long, narrowly elliptic to narrowly oblong in outline, central axis strongly developed and rigid, branches clustered together in pseudowhorls especially lower down or solitary upwards, spreading obliquely or nearly at right angles, repeatedly and finely branched from the base upwards, divisions glabrous or sparsely scabrid. *Spikelets* awnless, more or less broadly oblong 1–1.5 mm. in length, 2–4-flowered, brownish to purplish, pedicelled, pedicels 0.5–1.5 mm.

long; rhachilla disarticulating above the glumes and between the florets, glabrous. *Florets* hermaphrodite, falling with an internode of the rhachilla attached, callus truncate. *Glumes* unequal, lower narrower and shorter than the upper, oblong, one-nerved, obtuse or slightly emarginate, persistent. *Lemmas* broadly oblong, obtuse, emarginate, 0.5–0.6 mm. long, 3-nerved, keeled, depressed between the nerves and membranous, nerves smooth, strongly raised. *Palea* subequal to and falling with the lemma, strongly keeled, keels smooth. *Lodicules* truncate, oblong-cuneate. *Stamens* 2, anthers 0.3–0.4 mm. long, broadly oblong. *Ovary* glabrous, styles free, stigmas plumose. *Caryopsis* obovate-oblong, hilum basal, punctiform, embryo more or less $\frac{2}{5}$ the length of the grain.

This is a small delicate and rather decorative hygrophyte, inhabiting the margins of seasonal pools in the subtropical drier areas of the Transvaal, Cape, South West Africa and Bechuanaland and probably also occurring in S. Rhodesia and Angola.

Holotype: Kalahari: in stagnis exsiccatis prope Uugua, May, 1891, *Fleck* 321, (Herb. Hackel, Vienna; fragment in PRE).

CAPE PROVINCE.—Kimberley: Riet Pan, near Riverton, *Reinhardt* 3228; Vryburg: farm Welgelegen, *Pentz* s.n., N.H. No. 14876.

TRANSSVAAL.—Bloemhof: *Louw* 1823; Soutpansberg: Farm Hamilton, *de Winter* & *Codd* 313.

SOUTH WEST AFRICA.—Maltahohe: Farm Urusis, *Kinges* 2548; Gibeon: Fish River Gorge, *V. Trotha* s.n.; Rehoboth: Kalkrand, *de Winter* 3521; Karibib: Farm Otiimbojo East, *Kinges* 3392; Okahandja: Waterberg, *Bradfield* 270; *de Winter* 2807; Okahandja River, *Dinter* 117; Grootfontein: Nosib, *Schoenfelder* S. 878; Nosib road, *Dinter* 7433; Tsumeb, *Dinter* 7432. Okavango: Omuramba Omatako, *Seiner* 685.

Most of the specimens named *E. namaquensis* Nees var. *uninodis* Hack. are in fact *E. pusilla*. I have not been able to trace a valid publication of the var. *uninodis*.