



BRACHIARIA DECUMBENS

Signal Grass

A tufted perennial, up to 1.5 m tall. *Culms* erect, or almost so, sometimes kneeed at the base, smooth and hairless below the inflorescence, but hairy about the points of attachment of the racemes, the leafy culms somewhat flattened, arising from scaly, rhizome-like buds at the base, sparingly branched above. *Nodes* hairless, the internodes longer than the leaf sheaths at maturity. *Leaves* basal and on the culm, pale green. *Leaf sheaths* close, rounded above but flattened and overlapping below, sparingly covered with short hairs, particularly above the nodes. *Ligule* a very short rim of hairs. *Leaf blades* up to 40 cm long and 18 mm wide, somewhat rounded at the base, broadening slightly towards the middle then tapering gradually to a point, rough down the margins, shortly and sparsely hairy on both surfaces, the mid-vein prominent, folded in the lower leaves, more or less flat above.

Inflorescence a panicle of 2 to several sessile racemes, 4–10 cm long, borne separately more or less on one side of the axis, the flattened axis of the raceme hairy and bearing 2 rows of almost sessile overlapping spikelets on the underside. *Spikelets* (S) all similar, 4–6 mm long and 2 mm wide, rounded, falling entire at maturity. *Florets* 2, the lower male, the upper bisexual. *Glumes* (G_1 , G_2) very unequal; the lower glume (G_1) about half the length of the spikelet, very broad at the base and enclosing the spikelet, 9–11-nerved; the upper (G_2) the same length as the spikelet, 7–9-nerved, slightly hairy with tubercle-based hairs on the back in the upper half. *Lemma* (L_1) of the lower male floret similar to G_2 , 5-nerved and slightly hairy on the back in the upper half. *Palea* (P_1) the length of L_1 , 2-nerved and strongly 2-keeled, flat on the back between the keels, the margins thinly membranous and enclosing the anthers. *Anthers* 3, about 2 mm long. *Lemma* (L_2) of the upper fertile floret the same length, hardened and shining, transversely ridged and rounded on the back, faintly 5-nerved. *Palea* (P_2) hardened like L_2 and the same length, faintly 2-nerved and 2-keeled, somewhat flattened on the back between the keels, thinly membranous on the infolded margins. *Anthers* 3; 2 mm long.

Native to Africa, this grass has become established in eastern Queensland. It is readily eaten by stock, but is not cultivated widely. It has been known to cause photosensitization in sheep. *B. mutica* is a well-known cultivated grass of the tropics for damp sites. *B. decumbens*^{9,17} and *B. ruziziensis*¹¹ are promising pasture species, particularly in northern Queensland. The perennial *B. foliosa* is a good fodder grass that does not form a permanent sward, preferring disturbed land. *B. miliiformis* is a creeping annual that grows on rich soils and is palatable to stock. The other species are of minor significance, though all appear to be eaten by stock.

REFERENCES

- Hughes (1923),² pp. 314-16; Hubbard (1934b),² p. 446; Gardner and Hubbard (1938b),³ pp. 2-5; Blake (1948b),⁴ p. 159; Hitchcock (1950),⁵ p. 594; Gardner (1952),⁶ pp. 234-37; Chippindall (1955),⁷ p. 371; Vickery (1961),⁸ pp. 104-13; Commonwealth Bureau of Pastures

and Field Crops (1968*b*, 1968*e*, 1968*f*);^{9,10,11} Barnard (1969),¹² pp. 9-18; Blake (1969*b*),¹³ pp. 3-7; Lazarides (1970),¹⁴ pp. 74-82; Beadle *et al.* (1972),¹⁵ p. 665; Vickery (1975),¹⁶ pp. 132-34; Loch (1977),¹⁷ pp. 142-43; Black (1978),¹⁸ p. 132; Jessop (1981),¹⁹ pp. 474-76.

KEY TO SPECIES

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| 1. Spikelets with long, silky hairs, much exceeding tip.
Spikelets without silky hairs exceeding tip. | <i>B. holosericea</i> ^{6,14,19}
2 |
| 2. Spikelets less than 2.5 mm long.
Spikelets more than 2.5 mm long. | 3
4 |
| 3. Racemes sparse on axis, barely overlapping; spikelets hairy.
Racemes usually densely clustered on axis; spikelets hairless. | <i>B. eruciformis</i> ^{7,13}
<i>B. reptans</i> ^{3,6,13} |
| 4. Annuals or very weak perennials.
Perennials. | 5
15 |
| 5. Spikelets hairy.
Spikelets hairless, or almost so. | 6
9 |
| 6. Lower lemma fringed with long, stiff bristles.
Lower lemma not fringed with bristles. | <i>B. gilesii</i> ^{2,8,14,18,19}
7 |
| 7. Spikelets irregularly arranged on raceme axis.
Spikelets regularly arranged on raceme axis. | <i>B. ramosa</i> ⁶
8 |
| 8. Spikelets 3-4 mm long; hairs on lemma not markedly longer towards apex.
Spikelets 4-5 mm long; hairs on lemma markedly longer towards apex (hairy armgrass) | <i>B. whiteana</i> ²
<i>B. piligera</i> ^{6,7,8,14} |
| 9. Spikelets up to 3 mm long.
Spikelets more than 3 mm long. | <i>B. fasciculata</i> ^{13,16}
10 |
| 10. Lower glume less than 1/5 spikelet length.
Lower glume 1/5-1/2 spikelet length. | <i>B. notochthona</i> ^{2,14,18,19}
11 |
| 11. Racemes overlapping, on a short axis.
Racemes spread out on a long axis, not or barely overlapping. | 12
13 |
| 12. Inflorescence loose, 7-18 cm long; spikelet pedicels usually with more than one bristle near tip.
Inflorescence contracted, 2.5-7 cm long; spikelet pedicels without or occasionally with a single bristle near tip (large armgrass) | <i>B. windersii</i> ^{3,19}
<i>B. praetervisa</i> ^{2,3,4,8,14,18,19} |
| 13. Spikelets 6 mm long, irregularly arranged on raceme axis (Texas millet)
Spikelets 4 mm long, regularly arranged on raceme axis. | <i>B. texana</i> ^{11,15,16}
14 |
| 14. Lower lemma without a membranous palea (green summer grass)
Lower lemma with membranous palea. | <i>B. miliiformis</i> ^{2,3,4,6,8,14,18,19}
<i>B. subquadripars</i> ⁵ |
| 15. Plants strongly stoloniferous.
Plants not stoloniferous, though sometimes rooting from nodes on decumbent culms. | 16
17 |

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| <p>16. Plant 1–2 m high. Inflorescence of 10–20 racemes; spikelets 3–4 mm. Leaves not or slightly hairy. Wet to aquatic places (Para grass)
Plant up to 1 m high. Inflorescence of 3–6 racemes; spikelets 4 mm. Leaves hairy (ruzi grass)</p> | <p><i>B. mutica</i>^{6,8,12,13}</p> <p><i>B. ruziziensis</i>^{11,12}</p> |
| <p>17. Spikelets widely and irregularly spaced on raceme. Leaves not linear (leafy panic).
Spikelets regularly arranged in a single or double row on raceme. Leaves linear.</p> | <p><i>B. foliosa</i>^{7,8,15}</p> <p>18</p> |
| <p>18. Spikelets densely and evenly arranged in a double row along raceme axis; rhachis flattened (signal grass)
Spikelets spaced on rhachis so that they appear singly ranked; rhachis not flattened. Rare (palisade grass)</p> | <p><i>B. decumbens</i>^{6,9,12,17}</p> <p><i>B. brizantha</i>^{1,6,7,10,17}</p> |