

# Species Datasheet

Datasheet No. A-078.001.003  
(family.genus.species)

DBT- Network Programme

## 1. Taxon:

Species: *Commelina benghalensis* L.

Subspecies:

Variety:

Cultivar:

Hybrid:

Image file

**2. Synonyms:** *Commelina acuminata* R. Br., *C. benghalensis* subsp. *hirsuta* (C.B. Clarke) J. K. Morton, *C. benghalensis* var. *hirsuta* C.B. Clarke, *C. canescens* Vahl, *C. cavaleriei* H. Lev., *C. cucullata* L., *C. delicatula* Schldl., *C. hirsuta* R.Br., *C. kilimandscharica* K. Schum., *C. mollis* Jacq., *C. nervosa* Burm. f., *C. obscura* K. Schum., *C. poligama* Fern.-Vill., *C. procurrens* Schldl., *C. prostrata* Regel, *C. pyrrhoblepharis* Hassk., *C. pyrrhoblepharis* var. *glabra* Pic.Serm., *C. radiceiflora* R.Br. ex C.B. Clarke, *C. rhizocarpa* Afzel. ex C.B. Clarke, *C. rufociliata* C.B. Clarke, *C. saltiana* Steud., *C. senegalensis* Ten., *C. turbinata* Vahl, *C. uncata* C.B. Clarke, *C. villosiuscula* Sol. ex C.B. Clarke

## 3. Systematic position:

### APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Monocots
- Order: Commelinales Mirb. ex Bercht. & J. Presl
- Family: Commelinaceae Mirb.
- Genus: *Commelina* L.
- Species: *C. benghalensis* L.

### Bentham and Hooker (1862)

- Kingdom: Plantae
- Division: Phanerogamia
- Class: Monocotyledones
- Series: Coronarieae
- Ordo: Commelinaceae Mirb.
- Genus: *Commelina* L.
- Species: *C. benghalensis* L.

## 4. Distribution:

**Global:** Arabian Peninsula Saudi Arabia, Bangladesh, Burkina, Cameroon, Cape Provinces, Central African Republic, China, Djibouti, East Himalaya, East Tropical Africa Kenya, Eastern Asia Japan, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Gulf c Guinea Islands, Hainan, India, Andaman Islands, Ivory Coast, Kazan-retto, Korea, Lesotho, Macaronesia Cape Verde, Malawi, Malaya, Maldives, Malesia Jawa, Mali, Mauritania, Mozambique, Myanmar, Namibia, Nansei-shoto, Nepal, Nicobar Islands, Niger, Nigeria, Northeast Tropical Africa Chad, Northern Provinces, Pakistan, Philippines, Rwanda, Senegal, Sierra Leone, Somalia, South Tropical Africa Angola, Southern Africa Botswana, Sri Lanka, Sudan, Swaziland, Taiwan, Tanzania, Thailand, Togo, Uganda, Vietnam, West Himalaya, West Tropical Africa Benin, West-Central Tropical Africa Burundi, Yemen, Zaire, Zambia, Zimbabwe

**India:** Andhra Pradesh, Andaman and Nicobar, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Meghalaya, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh

## 5. Indigenous/Exotic/Endemic; Cultivated/Wild:

## 6. Threat Status:

IUCN: Least Concern

BSI:

**7. Habit and Habitat:** Herb, in cultivation, along roadsides, hilly slopes, riversides, in grasslands, along sea shores

**8. Life Form:** Therophyte

**9. Economic Importance:** It can be used to treat external wounds

**10. Probable Progenitor of:**

**11. DNA**

**C-value:**

(2C: 14.9-15.2pg; 4C: 29.9-30.3pg)<sup>35</sup>

**Methodology**

Feulgen Microdensitometry (Fe)<sup>35</sup>

**12. Basic chromosome number(s):**  $x=4$ <sup>2,15</sup>  $1$ <sup>2,24,39,44,47,52,53,54,65,69</sup>

**13. Zygotic chromosome number(s):**  $2n=22$ <sup>1,2,3,4,6,7,8,10,11,12,13,14,15,16,36,39,46,50,51,52,53,54,55,57,58,59,65,66,69</sup>  $28$ <sup>41,67</sup>  $44$ <sup>14,35,44,47,54,66</sup>  $46$ <sup>35</sup>  $56$ <sup>41,67</sup>  $66$ <sup>44</sup>

**14. Gametic chromosome number(s):**  $n=11$ <sup>1,3,4,5,9,11,13,36,39,45,46,53,54,55,56</sup>  $12$ <sup>14</sup>  $22$ <sup>54</sup>

**15. Specialized chromosomes (B chromosomes/Sex chromosomes/polytene chromosomes/Neocentric chromosomes):** B chromosome (0-2)<sup>12,17,29,20,21,51</sup> (0-4)<sup>45</sup>

Image file

**16. Ploidy level:** Diploid<sup>2,19,39,44,52,53,54,65,69</sup> Tetraploid<sup>14,24,47,54</sup> Hexaploid<sup>24</sup>

Image file

**17. A gametoploidy:**

**18. Nature of polyploidy (auto, segmental, allo, autoallo):**

**19. Genomic formula:**

**20. Aberrant chromosome number(s) (aneuploidy, aneusomy, polysomy):**

**21. Somatic chromosomes:**

**Karyotype:** Mostly submetacentric and subtelocentric<sup>15</sup>, Mostly Metacentric and submetacentric<sup>39,50,53,65,69</sup>, Mostly submetacentric<sup>55</sup>

**Chromosome size:** Medium size<sup>15,53,69</sup> Large size<sup>39</sup>

**NOR chromosome(s):** 2NOR<sup>50,51,53</sup>, 4NOR<sup>39,46,50,55</sup>, 6 NOR<sup>15</sup>

**Degree of asymmetry:** Asymmetrical<sup>50,53,65</sup> (3A and 2A)<sup>69</sup>

Image file

**22. Banding pattern(s):**

Image file

**23. Physical mapping of chromosomes:**

**In situ hybridization**

Image file

**Fluorescent in situ hybridization**

Image file

**24. Genomic in situ hybridization:**

Image file

**25. Linkage map:**

Image file

**26. Chromosome associations:**

**Female meiosis:**

**Male meiosis:** 11 II<sup>2,11,15,53,55</sup>

Image file

**27. Chromosome distribution at anaphase I:** 11:11<sup>15,55</sup>

**28. Genetic diversity:**

**Chromosomal level:**

Image file

**DNA level**

**29. Any other information (Apoixis; Inversion; Male sterility; Pollen grain mitosis; Pollen stainability; Translocations etc.):**

Pollen fertility: 87%<sup>55</sup>