GERMPLASM IMPROVEMENT

Genetic resources

Characteristics of *Oryza indandamanica* Ellis, a newly discovered wild species

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A new wild species, *O. indandamanica* has been discovered in Rutland (11.50°N, 92.25°E), Andaman Islands, India. The perennial, herbaceous species was growing on a rocky slope over light loam soil, on a stream bank. Average annual rainfall is 3,000 mm, spread unevenly over 8 mo of the year. Temperature ranges from 27 to 32 °C, with 60-80% relative humidity.

O. indandamanica averages 10 tillers/plant with shoot fresh weight of 3.8 g and root fresh weight of 0.8 g. Basal internode diameter averages 1.2 cm. Leaf area per plant averages 0.24 m^2 and leaves respond to moisture stress by rolling. Unbranched panicles bear an average of 8 awnless spikelets, which shed pollen having 4-5% sterility. The grains are nonglutinous. This species is diploid with a chromosome number of 2n = 24. To determine the characteristics presented in the table, 10 plants were randomly selected from the original habitat.

O. indandamanica is morphologically similar to *Oryza meyeriana* (Zoll. & Mor.) Baill. var. *meyeriana* (Backer s.n.) and *Oryza meyeriana* var. *granulata* (Watt) Duistermaat with which this species should be compared. □

Morphoagronomic characteristics of *Oryza indandamanica* Ellis.

Character	Observation
Coleoptile length: mesocotyl length	2.59
Primary leaf length: mesocotyl length	8.59
Primary leaf length: coleoptile length	3.31
Leaves (no.) on main culm	4
Leaf thickness (cm)	0.0125
Length of flag leaf (cm)	4.53
Width of flag leaf (cm)	0.50
Tiller angle (°)	45
Average internode no.	7
Average internode length (cm)	5.36
Lemma and palea surface	Glabrous
Percent filled grains/panicle	75
Grain density (grains/cm)	1.98
Proteinous layer in grain	Peripheral (not uniform)
Scent	Nonscented

Taxonomic key for identifying the 22 species in the genus *Oryza*

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The IRGC is receiving more and more requests for seeds of wild species of *Oryza,* from both rice scientists and biotech workers using rice as an experimental material. Recent revisions in the taxonomy and nomenclature of the 20 wild species and 2 cultigens (cultivated species) in the genus necessitate a revised taxonomic key to identify newly collected materials or to reevaluate previous identification.

A working key prepared earlier has been revised and updated to assist biologists using the wild species as novel sources of resistance to diseases and insects and tolerance for eco-edaphic stresses.

A working key to the valid species of *Oryza* (modified after Roschevicz, 1931; Chatterjee, 1948; Tateoka, 1963; Bardenas and Chang, 1966; Tateoka, 1965; Sharma and Shastry, 1965; Ng et al., 1981).

A-1 Sterile lemmas present
- B-1 Sterile lemmas linear or linear lanceolate
  - C-1 Ligule of lower leaves 14-45 mm long, tips acute
    - D-1 Annual; leaf blades narrow; no rhizomes; spikelets persistent, 3-14 mm long, 2-5 mm wide; Asian origin; cultivated; diploid ..... *sativa*
    - D-2 Annual; semi-erect to decumbent growth; without rhizomes; basal internodes spongy; spikelets oblong and deciduous; short anthers; Asian origin; diploid ..... *nivara*
    - D-3 Annual, some perennial; erect to semi-erect growth; without rhizomes; tightly adpressed short secondary rachises resulting in more compact panicle; stiff, erect, ascending panicle branches; Australian origin; diploid ..... *meridionalis*
      - E1 Perennial; erect habit; branched, spreading rhizomes; long anthers fill entire spikelet; elliptic pollen; African origin; diploid ..... *longistaminata*
      - E2 Perennial; prostrate or floating habit; weak rhizomes; long anthers; adventitious roots and extravaginal branching at higher nodes; long internodes; lax panicles; long, slender, deciduous spikelets; Asian origin; diploid ..... *rufipogon*
      - E3 Perennial; semierect habit; stoloniferous culms; long awns and long spikelets; American origin; diploid ..... *glumaepatula*
  - C-2 Ligule of lower leaves shorter than 6 mm, tip round or truncate
    - D-4 Sterile lemmas almost equal in length and similar in structure to lemma and palea; ligule with a fringe of hairs at the apex; leaves broad; American origin; perennial; tetraploid ..... *grandiglumis*
    - D-5 Sterile lemmas considerably shorter than the lemma and palea
      - E-4 Annual; plants erect; leaves glabrous to slightly scabrid; panicles more or less compact; lemma and palea perfectly or almost perfectly glabrous; sometimes hispid; spikelets usually awnless or short-awned; main panicle axis without secondary or tertiary branches; spikelet length between 7-9 mm; spikelet width 2.9-3.6 mm; tip of sterile lemmas acute; African origin; cultivated; diploid ..... *glaberrima*
      - E5 Annual; plants erect to spreading panicles open, main axis with secondary or rarely tertiary branches; lemma and palea hispid; spikelets 7.8-11.0 mm long, 2.8-3.4 mm wide, always awned (10 cm or longer); awns bristled; sterile lemmas 2.1-5.0 mm long, acuminate at tip; African origin; diploid ..... *barthii* [a]