

# **Wild Rice Taxonomy**

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 The taxonomy of rice (*Oryza* spp.)

 Sect. <i>Padia</i>	2n	Genome
 <b>Ser. <i>Meyerianae</i></b>		
 <i>O. granulata</i>	24	GG
 <i>O. meyeriana</i>	24	GG
 <i>O. neocaledonica</i>	24	GG
 <b>Ser. <i>Ridleyanae</i></b>		
 <i>O. longiglumis</i>	48	HHJJ
 <i>O. ridleyi</i>	48	HHJJ
 <b>Ser. <i>Schlechterianae</i></b>		
 <i>O. schlechteri</i>	48	HHKK
 Sect. <i>Brachyantha</i>		
 <b>Ser. <i>Brachyanthae</i></b>		
 <i>O. brachyantha</i>	24	FF
 Sect. <i>Oryza</i>		
 <b>Ser. <i>Latifoliae</i></b>		
 <i>O. alta</i>	48	CCDD
 <i>O. eichingeri</i>	24, 48	CC
 <i>O. grandiglumis</i>	48	CCDD
 <i>O. latifolia</i>	48	CCDD
 <i>O. minuta</i>	48	BBCC
 <i>O. officinalis</i>	24, 48	CC
 <i>O. punctata</i>	24, 48	BB, BBCC
 <i>O. rhizomatis</i>	24	CC
 <b>Ser. <i>Australienses</i></b>		
 <i>O. australiensis</i>	24	EE
 <b>Ser. <i>Sativae</i></b>		
 <i>O. barthii</i>	24	AA
 <i>O. glumaepatula</i>	24	AA
 <i>O. longistaminata</i>	24	AA

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 <i>O. meridionalis</i>	24	AA
 <i>O. nivara</i>	24	AA
 <i>O. rufipogon</i>	24	AA
 <i>O. glaberrima</i>	24	AA
 <i>O. sativa</i>	24	AA

### Key to wild species of rice (*Oryza* spp.)

<b>1a</b>	Spikelets <2mm long, nodes hairy	<i>O. schlechteri</i>
<b>1b</b>	Spikelets >2mm long, nodes usually not hairy	→ 2
<b>2a</b>	Spikelets awnless, surface of lemma and palea granulate or with hooked hairs	→ 3
<b>2b</b>	Spikelets with awns or short apiculus at the tip of lemma, not granulate	→ 5
<b>3a</b>	Surface of lemma and palea with hooked hairs	<i>O. neocaledonica</i>
<b>3b</b>	Surface of lemma and palea granulate	→ 4
<b>4a</b>	Spikelets slender, >6.5 mm long	<i>O. meyeriana</i>
<b>4b</b>	Spikelets more or less rounded, <6.5 mm long	<i>O. granulata</i>
<b>5a</b>	Sterile lemma subulate or setaceous	→ 6
<b>5b</b>	Sterile lemma linear or linear-lanceolate	→ 8
<b>6a</b>	Annual, small plants, spikelets <1.6 mm wide	<i>O. brachyantha</i>
<b>6b</b>	Perennial, large plants, spikelets > 1.8 mm wide	→ 7
<b>7a</b>	Spikelet 7.6-12.7 mm long, sterile lemma 0.3-0.8 times as long as spikelets	<i>O. ridleyi</i>
<b>7b</b>	Spikelets about 7-8.2 mm long, sterile lemma 0.8-1.3 times as long as spikelets	<i>O. longiglumis</i>
<b>8a</b>	Spikelets with comma-shaped rachilla, oblique articulation, mucronate lemma	→ 9
<b>8b</b>	Spikelets with straight rachilla, horizontal or slightly oblique articulation, non-mucronate lemma	→ 14
<b>9a</b>	Ligule of lower leaves usually <10 mm long, tip rounded or truncate, panicle rarely has secondary branching	<i>O. barthii</i>
<b>9b</b>	Ligule of lower leaves >10 mm long, tip acute or two-cleft, panicle usually has secondary branching	→ 10

<b>10a</b>	Annual, anthers usually <2.5 mm long	→ <b>11</b>
<b>10b</b>	Perennial, anthers usually >3 mm long	→ <b>12</b>
<b>11a</b>	Spikelets slender, usually <2mm wide, base of awns thick	<i>O. meridionalis</i>
<b>11b</b>	Spikelets broad, usually >2 mm wide, base of awns not thick	<i>O. nivara</i>
<b>12a</b>	Rhizomatous habit	<i>O. longistaminata</i>
<b>12b</b>	Plant usually not rhizomatous	→ <b>13</b>
<b>13a</b>	Plants with brittle culm near the base, spikelets 6.6-11 long, anthers occupying 2/3 or 3/4 of the spikelets	<i>O. glumaepatula</i>
<b>13b</b>	Plants with high nodal tillering, spikelets 4.5-10.6 long, anthers occupying the entire length of the spikelets	<i>O. rufipogon</i>
<b>14a</b>	Rhizomatous, axis of the panicles hispid-scabrous towards the tip	<i>O. australiensis</i>
<b>14b</b>	Sometimes rhizomatous, axis of the panicle branches glabrous or hairy	→ <b>15</b>
<b>15a</b>	Plants large, leaf blades >2 cm wide	→ <b>16</b>
<b>15b</b>	Plants relatively small, leaf blades <2 cm wide	→ <b>18</b>
<b>16a</b>	Sterile lemma almost as long as the fertile lemma	<i>O. grandiglumis</i>
<b>16b</b>	Sterile lemma much shorter than the fertile lemma	→ <b>17</b>
<b>17a</b>	Leaf blades <5 cm wide, spikelets <7 mm long	<i>O. latifolia</i>
<b>17b</b>	Leaf blades >5 cm wide, spikelets >7 mm long	<i>O. alta</i>
<b>18a</b>	Panicle base usually with 2 or more (often 3-5) equally long branches	→ <b>19</b>
<b>18b</b>	Panicle base lacking whorl of branches, usually 1-2 branches	→ <b>20</b>
<b>19a</b>	Tufted habit, awns usually >2 cm long	<i>O. punctata</i>
<b>19b</b>	Usually shortly rhizomatous, awns <2 cm or absent	<i>O. officinalis</i>
<b>20a</b>	Rhizomatous, open panicles, spikelets usually >6 mm long	<i>O. rhizomatis</i>
<b>20b</b>	Non-rhizomatous, semi-open panicles, spikelet <6 mm long	→ <b>21</b>
<b>21a</b>	Tufted habit, spikelets usually >5 mm long	<i>O. eichingeri</i>
<b>21b</b>	Creeping habit, spikelets usually <5 mm long	<i>O. minuta</i>

 **Related genera in the tribe Oryzeae**

Genus	No. of species	Distribution	2n
<i>Chikusiochloa</i>	3	China, Japan (t)	24
<i>Hygroryza</i>	1	Asia (t + T)	24
<i>Leersia</i>	17	Worldwide (t + T)	48, 60, 96
<i>Luziola</i>	11	North and south America (t + T)	24
<i>Maltebrunia</i>	5	Tropical and Southern Africa (T)	Unknown
<i>Oryza</i>	24	Pan-tropical (T)	24, 48
<i>Porteresia</i>	1	South Asia (T)	48
<i>Prospytochloa</i>	1	Southern Africa (t)	Unknown
<i>Potamophila</i>	1	Australia (t + T)	24
<i>Rhynchoryza</i>	1	South America (t)	24
<i>Zizania</i>	3	Europe, Asia, N. America (t + T)	30, 34
<i>Zizaniopsis</i>	5	North and South America (t + T)	24
<i>T = tropical area, t = temperate area</i>			



# Taxa

## *Oryza alta* Swallen

### Morphological characteristics

Perennial, tall (up to 4 m), and erect grass with broad leaves (about 5 cm); panicles open; spikelets 7-8 mm long and 2.4-3 mm wide; anthers 2-3.8 mm long.

### Chromosome number

$2n=4x=48$

### Genome

CCDD

### Distribution

Belize, Brazil, Colombia, Guyana, and Paraguay.

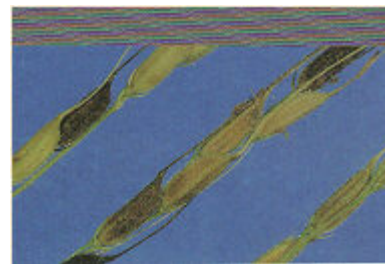


### Habitat

Found in savanna and sometimes in woodland, in wet places such as along the streams, rivers, lake edges, or canals in deep water, may form floating mats. Grows in open, sunny locations.



Habitat: riverside, Brazil



Spikelets

## *Oryza australiensis* Domin.

### Morphological characteristics

Perennial, tall (>2 m), and erect grass with strap-shaped, leaves gray-green or dark-green; panicles open, panicle axis scabrous; spikelets pear-shaped 6-9 mm long and 2-3.2 mm wide, with soft, wispy awns (<5 cm); anthers 3.5-5.5 mm long.

### Chromosome number

$2n=2x=24$

### Genome

EE

### Distribution

northern Australia.

## Wild Rice Taxonomy

### Habitat



Found in undulating plains of *Eucalyptus* and *Leptochloa* or box woodland, in wet places such as swamps, the edges of freshwater lagoons, seasonally dry pools, alluvial streams, or behind river levees. Grows in black, red loam or clay soils in open habitats.



Habitat: seasonally wet depression, Australia



Habitat: adjacent to swamp, Australia



A panicle



Spikelets



Rhizomes

## *Oryza barthii* A. Chev.

### Morphological characteristics

Annual and erect to semi-erect grass; leaves with short ligule (<13 mm); panicles compact to open, rarely having secondary branching; spikelets large, 7.7-12.3 mm long and 2.3-3.5 mm wide, with strong awns (up to 20 cm long), usually red; anthers 1.5-3 mm long.

### Chromosome number

$2n=2x=24$

### Genome

AA

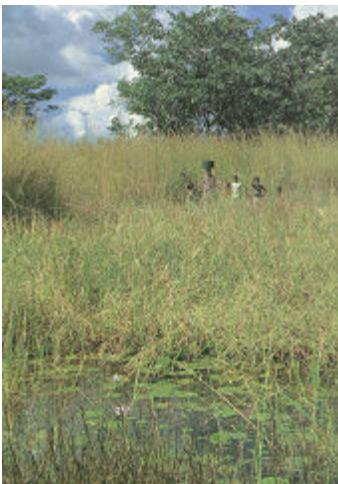
### Distribution

Benin, Botswana, Burkina Faso, Cameroon, Central Africa Republic, Chad, Côte d'Ivoire, Ethiopia, The Gambia, Ghana, Guinea, Mali, Mauritania, Namibia, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Tanzania, and Zambia.



### Habitat

Found in mopane or savanna woodland, savanna or fadama. Grows in deep water, seasonally flooded land, stagnant water, and slowly flowing water or pools; prefers clay or black cotton soils. Found in open habitats.



## Wild Rice Taxonomy

Habitat: laterite pond, Zambia



A panicle

Habit, in GRC's screen house, Philippines

### *Oryza brachyantha* A. Chev. et Roehr.

#### Morphological characteristics

Annual or weakly perennial, tufted grass, with slender culms; panicles compact; spikelets small and slender, 7.7-10 mm long and 1.4-1.8 mm wide, with long awns (6-17 cm long); anthers 2-3.4 mm long.

#### Chromosome number

$2n=2x=24$

#### Genome

FF

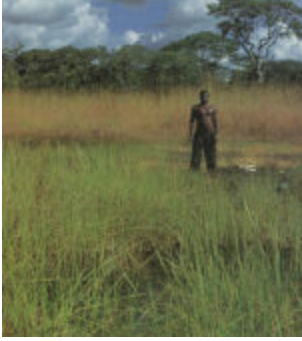
#### Distribution

Burkina Faso, Cameroon, Central African Republic, Chad, Democratic Republic of Congo, Guinea, Mali, Niger, Senegal, Sierra Leone, Sudan, Tanzania, and Zambia.



#### Habitat

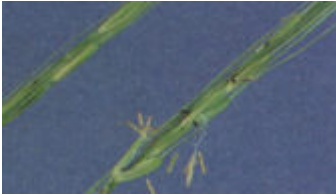
Found on flat ironstone rocks, granite/lateritic outcrops, in ponds, near streams, seasonally inundated areas in water up to 0.5 m deep, but more often in shallow water. Grows in open habitats.



Habitat: laterite hardpan pool, Zambia



A panicle



Spikelets



Habit: in GRC's screen house, Philippines

## *Oryza eichingeri* A. Peter

### Morphological characteristics

Perennial and short (usually <1 m) grass, with hard and slender culms; glabrous ligule (<3.5 mm); panicles open to intermediately open; chlorophyllous veins across the length of the immature spikelets, mature spikelets 4.5-6.2 mm long and 1.6-2.8 mm wide; anthers 1.5-3.3 mm long.

### Chromosome number

$2n=2x=24$  and  $2n=4x=48$

### Genome

CC

### Distribution

Central Africa Republic, Côte d'Ivoire, Democratic Republic of Congo, Kenya, Rwanda, Sri Lanka, Tanzania, and Uganda.



### Habitat

Found in undisturbed forest, gallery or evergreen forest, or forest margins. Grows in damp or flooded sites such as pools, water holds, marshy places, streams or riverbanks and beds, in ditches. Grows in sandy or gray loamy clay soils. Found in shade or semi-shade.

## Wild Rice Taxonomy



Collecting *O. eichingeri*, Uganda



Habitat: pool in forest, Sri Lanka



Habit: in GRC's screen house, Philippines



Spikelets

### ***Oryza glumaepatula* Steud.**

#### **Morphological characteristics**

Perennial, tufted, and scrambling grass with brittle culm near the base of plants; open panicles; spikelets about 6.6-11 mm long and 1.9-2.5 wide, with awns 6-16 cm long; anthers usually 2-5 mm long occupying 3/4 of the spikelets.

#### **Chromosome number Genome Distribution**

$2n=2x=24$

AA

Bolivia, Brazil, Colombia, Costa Rica, Cuba, Dominican Republic, French Guiana, Guyana, Honduras, Mexico, Panama, Surinam, and Venezuela.

<p><b>Habitat</b></p>	 <p>Found in swamps and marshes, in open ditches and pools, beside rivers, and near to cultivated rice fields, usually with deep water. Grows in open habitats.</p>
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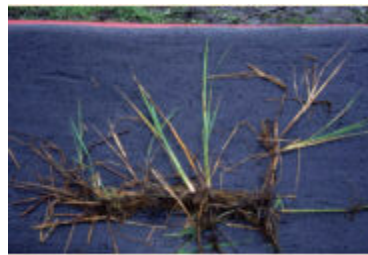
*O. glumaepatula* plants floating on the Amazon River in Brazil (Akimoto Masahiro, Japan)



*O. glumaepatula* constructing a floating meadow in the Amazon River (Akimoto Masahiro, Japan)



A natural population of *O. glumaepatula* near Marajo island, located at the mouth of the River Amazon (Akimoto Masahiro, Japan)



*O. glumaepatula* vegetatively propagating many shoots from its nodes, in Costa Rica (Akimoto Masahiro, Japan)

## *Oryza grandiglumis* (Doell) Prod.

<p><b>Morphological characteristics</b></p> <p><b>Chromosome number</b></p> <p><b>Genome</b></p> <p><b>Distribution</b></p>	<p>Perennial and tall (up to 4 m) grass, with broad leaves (3-5 cm), pubescent ligule; panicles open; spikelets 8.2-9.3 mm long and 2.3-4 mm wide, with sterile lemma the same length as fertile lemma and palea; anthers 3-4.5 mm long.</p> <p><math>2n=4x=48</math></p> <p>CCDD</p> <p>Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Paraguay, and Peru.</p>
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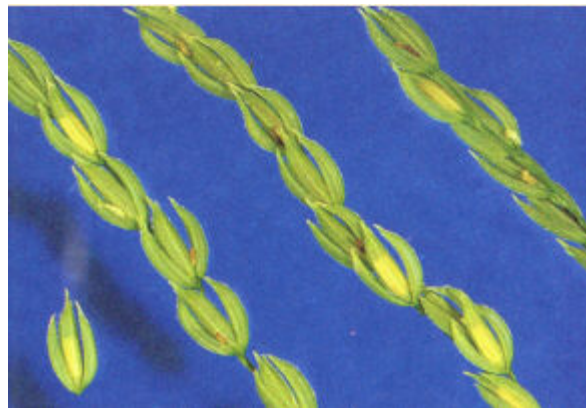
**Habitat**



Found in savanna or woodland. Grows in water at river's edges or wet places having clay and alluvial soils. Found in open and shaded habitats.



A panicle



Spikelets

***Oryza latifolia* Desv.**

**Morphological characteristics**

Perennial and short to tall (usually 1 to >2 m) grass with broad leaves (up to 5 cm); panicles open; spikelets 5-9.5 mm long and 2-2.7 mm wide; anthers 1.5-5.1 mm long.

**Chromosome number**

$2n=4x=48$

**Genome**

CCDD

**Distribution**

Argentina, Belize, Bolivia, Brazil, Colombia, Costa



Rica, Cuba, Dominican Republic, Ecuador, El Salvador, French Guiana, Guatemala, Guyana, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Surinam, Trinidad, and Venezuela.



**Habitat:** Found in low forest, rainforest, secondary growth forest, open woodland, undulating savanna, pasture, cultivated fields, open swamp, hill slopes, high ridges, coastal belts. Grows in or near water such as streams, riverbanks or pool edges; on rocks, alluvium, sandy seashore, moist clay; rarely salts flats, near hot sulfur springs. Grow in open or semi-open habitats.



Grasslands composed from *O. latifolia* just outside Palo Verde National park in Guanacaste, Costa Rica.



A vast population of wild species, Costa Rica.



Plants at flowering stage, Costa Rica.



Panicles of *O. latifolia*, Costa Rica.

## *Oryza longiglumis* Jansen

### Morphological characteristics

Perennial, erect to semi-erect, and tufted grass about 1-2 m tall; panicles intermediately open; spikelets 7-8.2 mm long and 1.8-2.4 mm wide with trichomes in rows down the length of papery lemma and palea; sterile lemmas narrow and flexuous, slightly shorter or longer than fertile lemma; awns about 1 cm long, anthers 1.6-2.5 mm long.

### Chromosome number

$2n=4x=48$

### Genome

HHJJ

### Distribution

Indonesia (Irian Jaya) and Papua New Guinea.



### Habitat

Found in forest areas. Grows on low-lying seasonally wet areas such as swamps, water holes of streambeds. Usually grow as scattered plants in full to partial shades, in organic loamy soils.



Habitat: forest floor, Papua New Guinea



A panicle



Spikelets



Habit: in GRC's screen house, Philippines

### *Oryza longistaminata* A. Chev. et Roehr.

#### Morphological characteristics

Perennial, tall (2 m or more), erect, and rhizomatous grass; ligule of lower leaves >15 mm, acute or 2-cleft; panicles open to intermediately open; spikelets 4.5-11.4 mm long and 2-3 mm wide, awned (2-5 cm long); anther 1.5-8.2 mm long.

#### Chromosome number

$2n=2x=24$

#### Genome

AA

#### Distribution

Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central Africa Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of Congo, Ethiopia, Gabon, The Gambia, Ghana, Kenya, Madagascar, Malawi, Mali, Martinique, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.



**Habitat:** Found in swampy areas, at the edges of lakes or ponds, streams or river sides, in irrigation canals, in and at the edges of rice fields. Grows in water up to 4 m

## Wild Rice Taxonomy

deep, but usually 1 m or less, in open savanna or openings in rain or gallery forests. Prefers black cotton soils, Kalahari sand, and alluvium. Grows in full sunlight.



Demonstrating the size of *O. longistaminata* panicle, Kenya



A large population of *O. longistaminata* covering more than 4 hectares in an abandoned rice field in Kwale, Kenya



A red-awned *O. longistaminata* in Garsen, Kenya



*O. longistaminata* growing on the banks of river Tana, Kenya



Habitat, in GRC's screen house, Philippines

## *Oryza meridionalis* Ng

### Morphological characteristics

Annual and erect grass usually 1-2 m tall; panicles usually compact or seldom open, rarely have secondary branching; spikelets slender, 7.2-9.6 mm long and 2-2.8 mm wide, with strong awns (thick at base), about 7-13 cm long; anthers 1.5-2.5 mm long.

### Chromosome number

$2n=2x=24$

### Genome

AA

### Distribution

Australia, Indonesia (Irian Jaya), and Papua New Guinea.



### Habitat

Found at the edges of freshwater lagoons, rivers, temporary pools, and swamps in 15-20 cm of water. Grows in black and clay soils in open habitats.



Habitat: seasonally wet depression in loose forest, Indonesia



Habitat: seasonal swamp, Australia



A panicle, in GRC's screen house, Philippines

### ***Oryza meyeriana* (Zoll. et Mor. ex Steud.) Baill.**

#### **Morphological characteristics**

Perennial and short (<1 m) grass with lanceolate and dark green leaves; panicles compact without secondary branching; spikelets 6.5-8.5 mm long and 2.2.5 mm wide, awnless, with granulate texture on the lemma and palea; anthers 3-4 mm long.

#### **Chromosome number**

2n=2x=24

#### **Genome**

GG

#### **Distribution**

Indonesia, Malaysia, Philippines, and Thailand.



#### **Habitat**

Found in primary dipterocarp forest, well-developed secondary forests, in damp places by streams or dry riverbanks; often on sloping areas of gneus or ultra basic hills. Grows in gray sand, alluvium, or laterite soils. Not found in standing water and usually grows in full shade.



Habitat: stream side, Philippines



Spikelets



Plants growing in natural habitat in Papua New Guinea



Habitat: in dark forest, Malaysia



A cluster of *O. meyeriana* vigorously growing among bamboo thickets in Aborlan, Palawan, Philippines

### ***Oryza minuta* J.S. Presl. ex C.B. Presl.**

#### **Morphological characteristics**

#### **Chromosome number Genome Distribution**

Perennial, scrambling, and stoloniferous grass, <1.5 m tall; panicles open, basal panicle branches usually not whorled; spikelets 4.1-5.6 mm long and 1.6-2.1 mm wide; anthers around 1.5-3 mm long.

$2n=4x=48$

BBCC

Philippines and Papua New Guinea.

## Wild Rice Taxonomy



**Habitat:** Found beside streams and riverbanks in lowland areas; in fertile alluvial clay or loamy soils; usually in partial shade but also found in full shade of sago swamps.



Habitat: stream side, Philippines



Spikelets



Plants growing in natural habitat in Papua New Guinea

### *Oryza neocaledonica* Morat

#### Morphological characteristics

Perennial and short (<1 m) grass with narrowly-lanceolate, dark green leaves; open panicles; spikelets 6-7 mm long and 1-1.5 mm wide with hooked hairs on the surfaces of lemma and palea, awnless; anthers 2-3 mm long.

#### Chromosome number

$2n=2x=24$

#### Genome

GG

#### Distribution

New Caledonia



Habitat



Found in sclerophyllous forest at an altitude of about 10-20 m; flowering between April and August. Grow in temporarily flooded black clay soils on schists. Found in shade.



A close-up of panicle, in GRC's screen house, Philippines



A plant in GRC's screen house, Philippines



A close-up of panicle



A close-up of panicle

## Wild Rice Taxonomy



Close-up spikelets, showing hooked hairs on lemma and palea

### *Oryza nivara* Sharma et Shastry

#### Morphological characteristics

#### Chromosome number

#### Genome

#### Distribution

Annual, short to intermediate height (usually <2 m) grass; panicles usually compact, rarely open; spikelets large, 6-10.4 mm long and 1.9-3.4 mm wide, with strong awn (4-10 cm long); anthers 1.5-3 mm long.

$2n=2x=24$

AA

Bangladesh, Cambodia, China, India, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, and Vietnam.



**Habitat:** Found in swampy areas, at edge of pond and tanks, beside streams, in ditches, in or around rice fields. Grows in shallow water up to 0.3 m, in seasonally dry and open habitats.



Plants growing in natural habit near field, Nepal



A panicle, in GRC's screen house, Philippines



Habitat: around a pond, Cambodia



Plants growing in a seasonal swamp, Cambodia



Plants occurring in a dry pond, Cambodia

## *Oryza officinalis* Wall ex Watt

### Morphological characteristics

Chromosome number  
Genome  
Distribution

Perennial, erect, and usually rhizomatous grass of variable height; panicles open, basal panicle branches whorled with spikelets inserted half way or more from base; spikelets 4.3-8.8 mm long and 2-3.3 mm wide; anthers around 1.5-4.5 mm long.  
 $2n=2x=24$  and  $2n=4x=48$

CC

Australia, Bangladesh; Brunei, Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Thailand, and Vietnam.

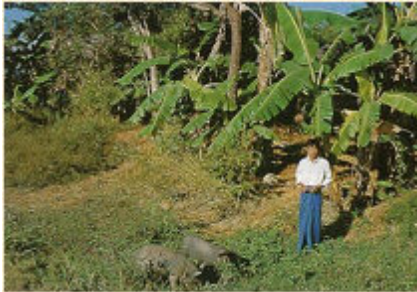


### Habitat

Found at the edge of or in forests, evergreen or deciduous forests; or low, open vegetation; in abandoned or rarely on the edge of cultivated rice fields or fruit/plantain gardens, in Southeast Asia

## Wild Rice Taxonomy

near the coast. Grows in seasonally wet areas, ditches, swampy/marsh places, near small water holes, and along lakesides, streams, or rivers. Prefers alluvial silt soils or sandy soils on limestone. Found in full sun or partial shade.



Habitat: disturbed area beside seasonally wet depression, Myanmar



Habitat: edge of pond, Indonesia



A panicle



Habitat: stream side, Philippines

## *Oryza punctata* Kotschy ex Steud.

### Morphological characteristics

Perennial ( $2n=48$ ) or annual ( $2n=24$ ), erect grass of two morphological types, which correspond to two cytological types ( $2n=24$  and  $2n=48$ ). Both morphological types have soft and splits (when dry) ligule  $>3$  mm; panicles open, basal panicle branches widely spreading; spikelets of diploid race ( $2n=28$ )  $>5.5$  mm long and  $<2.3$  mm wide, tetraploid race ( $2n=48$ )  $<5.5$  mm long and  $>2.3$  mm wide; awns of both races usually  $>3$  cm long; anthers 1.5-3.2 mm long.

### Chromosome number

$2n=2x=24$  and  $2n=4x=48$

### Genome

BB and BBCC

### Distribution

Angola, Benin, Cameroon, Central Africa Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Sudan, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe.

## Habitat



Diploid race is found in open or semi-open habitats, such as forest margins, grassland and thickets, degraded mopane scrub, open bush or shifting cultivation fields, and rice fields; tetraploid race is found in semi-open or shaded habitats of forest margins and forests. Both races grow in swampy areas, around water holes and pools, on riverbanks that flood to 1 m depth. Both races prefer back clay or sandy soil.



Habitat: near forest



Collecting *O. punctata* in a dry pool in Kwale district, Kenya



Habitat: pool side (tetraploid race), West Africa



Habit, in GRC's screen house, Philippines



## Wild Rice Taxonomy

A panicle



Spikelets (tetraploid race)

Spikelets (diploid race)

## *Oryza rhizomatis* Vaughan

### Morphological characteristics

Perennial, erect, and rhizomatous grass, 1-3 m tall; panicles open without whorled basal panicle branches; spikelets inserted near the base of lowest panicle branches; spikelets around 6.8 mm long and 2.2 mm wide with extenuated apiculus, often awnless; anthers 2.3-4 mm long.

### Chromosome number Genome Distribution

$2n=2x=24$   
CC  
Sri Lanka



### Habitat

Found in tropical forest and open, tall scrub with grassy openings. Grows in swampy or periodically flooded areas, usually in full sun or partial shade.



Habitat: grassy and beside seasonal pool, Sri Lanka



Panicles of plants growing in nature, Sri Lanka



Spikelets



Rhizomes

## *Oryza ridleyi* Hook. f.

### Morphological characteristics

Perennial, erect to semi-erect tufted grass, usually 1-2 m tall; panicles open; spikelets 7.6-12.7 mm long and 1.6-2.9 mm wide, with rows of trichomes down the length of the papery lemma and palea; sterile lemmas narrow and flexuous, shorter than lemma; awns about 1 cm long; anthers 2-3.4 mm long.

### Chromosome number

$2n=4x=48$

### Genome

HHJJ

### Distribution

Cambodia, Indonesia, Laos, Malaysia, Myanmar, Papua New Guinea, and Thailand.

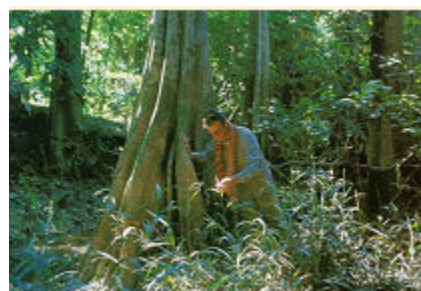


### Habitat

Cambodia, Indonesia, Laos, Malaysia, Myanmar, Papua New Guinea, and Thailand.

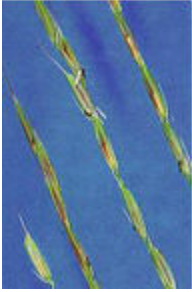


Habitat: Malaysia.



Panicles of plants growing in forest, Malaysia.

## Wild Rice Taxonomy



Panicles



Habit: in GRC's screen house, Philippines.

### *Oryza rufipogon* Griff.

#### Morphological characteristics

Perennial, tufted, and scrambling grass with nodal tillering; plant height variable (1-5 m) depending on the depth of water; panicles open; spikelets usually 4.5-10.6 mm long and 1.6-3.5 mm wide with awns usually 4-10 cm long; anthers >3 mm reaching 7.4 mm long.

#### Chromosome number Genome Distribution

$2n=2x=24$

AA

Australia, Bangladesh, China, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand, and Vietnam.



#### Habitat

Found in swamps and marshes, in open ditches, swampy grassland, ponds, along river banks, at the edges of lakes, and in or at the margins of rice fields, commonly found in deep water areas (0.2-4 m). Grows in clay/loam soil and black soil, in full sun.





A close-up panicle, in GRC's screen house, Philippines



Habitat: in a swamp, Bangladesh



Plants occurring in a swamp near a rice field, Nepal



Plants growing in a big swamp, Nepal



Children playing in a canal, Cambodia, surrounded by wild rice



A large *O. rufipogon* population of ca. 200 hectares in the eastern part of Nepal

## *Oryza schlechteri* Pilger

### Morphological characteristics

Perennial, short (50 cm or less), and stoloniferous grass with pubescent nodes; short narrow leaves with pubescent auricles and short ligule; panicles short (<7 cm long) and open; spikelets <2 mm long, awnless.

### Chromosome number

$2n=4x=48$

### Genome

HHKK

### Distribution

Indonesia (Irian Jaya) and Papua New Guinea.

## Wild Rice Taxonomy

### Habitat



Found in undisturbed forests, on land slips, beside rivers in humid conditions. Grows in shade or partial sun.



Habitats: beside the Minajim River, Papua New Guinea



Habitat on loose rocks, Papua New Guinea



Stoloniferous habit, Papua New Guinea



A panicle

## **Contributors**

Primary author: Bao-Rong Lu

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The taxonomy is based on earlier work by Duncan Vaughan.

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