

**NATIONAL BIORESOURCE DEVELOPMENT BOARD**

Dept. of Biotechnology  
Government of India, New Delhi

For office use:
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**MARINE BIORESOURCES**

FORMS DATA ENTRY: Form- 1(general) Ref. No.:  
(please answer only relevant fields; add additional fields if you require)

Fauna :	Flora	√ Microorganisms
General Category : Eukaryota , Fungi , Ascomycota , (Ascosporogenous yeast).		
Scientific name & Authority: <i>Pichia guilliermondii</i> Wickerham(1966) Common Name ( if available ) : Imperfect state : <i>Candida guilliermondii</i> (Cast.) Langeron et Guerra Synonyms: <i>Endomycopsis guilliermondii</i> nom. Nud. (Wickerham & Burton, 1954) <i>Myceloblastanon arzi</i> Ota (1924)		
Author( s) : Same as given in synonyms. Ref. The Yeast ed. III (1984)		Status
Classification: Phylum: Ascomycota Super class Sub- Class Super Order: Super Family Sub-Family Genus: <i>Pichia</i> Authority: Reference No. J. Clin. Microbiol. 35 (5), 1216-1223 (1997)		
		Sub- Phylum: Saccharomycotina Class: Saccharomycetes Order: Saccharomycetales Family: Saccharomycetaceae Species: <i>guilliermondi</i>
Geographical Location: Latitude: Place: Chilka Lake bar mouth and Kochi back waters. (Isolated from water samples at 5-10 m depth )		
Longitude:		State: Orissa and Kerala

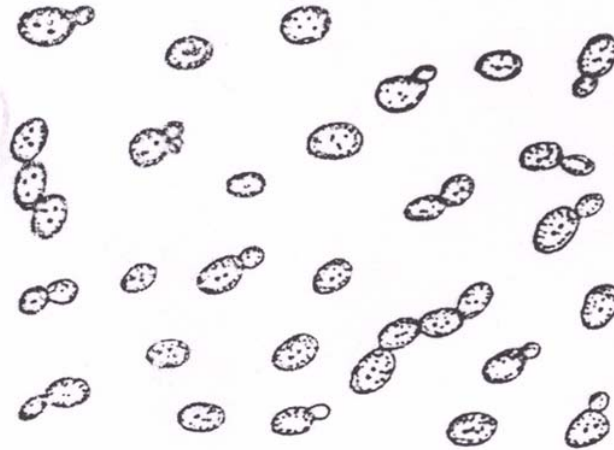
Environment

Fresh water : Yes/ No  
Brackish : Yes/ No  
Salt water : Yes/ No

Habitat :  
Migrations :  
Depth range :

Salinity :  
Temperature :

Picture (scanned images or photographs of adult / larval stages )



***P. guilliermondii***  
**3 days in Malt extract**  
**Budding cells**

Ref : From Ph.D. thesis of N.Prabhakarn, 1990

DATA ENTRY FORM: Form- 2(Fish / shellfish / others )  
(please answer only relevant fields ; add additional fields if you require)  
Form –1 Ref.No.:

#### IMPORTANCE

Landing statistics (t/y) : from                      to                      Place :                      Ref . No. :  
Main source of landing : Yes/ No                      Coast: east/ west  
Importance to fisheries :  
Main catching method :  
Used for aquaculture :yes/ never/ rarely  
Used as bait: yes/no/ occasionally  
Aquarium fish :yes/ no/ rarely  
Game fish : yes/ no  
Dangerous fish :poisonous/ harmful/ harmless  
Bioactivity : locally known/ reported/ not known                      Details:  
Period of availability: Throughout the year – yes/ no                      If no, months:

#### SALIENT FEATURES :

Morphological:

##### **Standard Description of *Pichia guilliermondii***

**Growth on 5% Malt extract agar:** After 3 days at 25°C, the cells are ovoidal to elongate (1.5 – 4.8) X (2.0 – 15.0)  $\mu$  m, and occur singly, in pairs, or in short chains. Growth is smooth to wrinkled and tannish – white in colour.

**Growth on the surface of Assimilation media:** Generally pellicles are not formed, but rings may be present.

**Dalatau plate culture on Morphology agar:** After 7 days at 25°C, growth under the cover glass shows abundant, well branched pseudohyphae bearing whorls of blastospores. True hyphae are not present. Aerobic growth in tannish-white, sometimes butyrous, smooth and glistening or dull rugose. Margins are usually lobate.

**Formation of Ascospores:** This species is hetrothallic and only haploid forms have been isolated. Following the paring of complementary mating types, the resulting asci produce one to four hat-shaped spores. The spores are liberated soon after formation.

Spores were observed on 5% malt extract agar.

Diagnostic characteristics: -

a) Biochemical

**Fermentation:-**

Glucose	+	Maltose	-	Trehalose	+
Galactose	v	Lactose	-		
Sucrose	+	Raffinose	+		

**Assimilation of carbon compounds**

Galactose	+	Raffinose	+	Erythritol	-
Sucrose	+	Soluble starch	-	Ribitol	+
Maltose	+	D-Xylose	+	D-Mannitol	+
Cellobiose	+	L-Arabinose	+	Succinic acid	+
Trehalose	+	D-Ribose	+	Citric acid	v
Lactose	-	L-Rhamnose	v	Inositol	-

**Additional carbon compounds tested :** L-Sorbose v, melibiose +, melezitose +, Inulin +, D-arabinose +, D-glucosamine.HCl +, glucitol +,  $\alpha$ -methyl-D-glucoside +, salicin +, potassium D-gluconate v, DL-lactic acid v.

**Assimilation of nitrate: -**

**Growth in vitamin - free medium: -**

**Growth in 10% sodium chloride plus 5% glucose in yeast nitrogen base : +**

**Growth at 37 °C : +**

**G+C: 44.4 mol. %**

Ref. **The Yeast** ed. III (1984)

b) rRNA sequence

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1 aaaccaacag ggattgcctt agtagcggcg agtgaagcgg caaaagctca aatttgaat
61 ctggcgctt cgggtgccga gttgtaattt gaagattgta accttggggt tggctcttgt
121 ctatgtttct tggaacagga cgtcacagag ggtgagaatc ccgtgcatg agatgcccaa
181 ttctatgtaa ggtgctttcg aagagtcgag ttgtttggga atgcagctct aagtgggtgg
241 taaattccat ctaaagctaa atattggcga gagaccgata gcgaacaagt acagtgatgg
301 aaagatgaaa agaactttga aaagagagtg aaaaagtacg tgaattggt gaaagggag
361 ggtttgagat cagactcgat attttgtag ccttgccttc gtggcggggt gacccgcagc
421 ttatcgggcc agcatcggtt tggncggtag gataatggcg taggaatgtg actttacttc
481 ggtgaagtgt tatagcctgc gttgatgctg cctgcctaga ccgaggactg cgattttatc
541 aaggatgctg gcataatgat cccaaaccgc
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[\(</entrez/viewer.fcgi?val=2062302&itemID=1&view=gbwithparts>\)](http://entrez/viewer.fcgi?val=2062302&itemID=1&view=gbwithparts)

1..7566 /product = "263 ribosomal RNA"

Sex attributes:

Descriptive characters:

Meristic characteristics :

Feeding habit:

Main food :

Feeding type :

Additional remarks :

Size and age :

Maximum length (cm) (male / female/ unsexed )

Ref. No.:

Average length (cm) (male / female / unsexed )

Ref. No.:

Maximum weight : (g) (male / female / unsexed )

Ref.No.:

Average weight :(g) (male / female / unsexed )

Ref No.:

Longevity (y) (wild) : (captivity )

Ref. No.:

Length / weight relationships:

Eggs and larvae: Characteristics: Abundance:	Ref. No.:
Biochemical aspects: Proximate analysis: moisture/ fat/ protein/ carbohydrate/ash Electrophoresis:	Ref. No. Ref. No.
<b>SPAWNING INFORMATION:</b>	
Locality: Season: Fecundity: Comment:	Main Ref:
<b>MAJOR PUBLICATIONS (INDIAN):</b> (include review articles, monographs, books etc.) (Internal Reports of NIO's EIA's studies) Ph.D.Thesis of N.Prabhakaran (CUSAT, Kochi)	
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