

NATIONAL BIORESOURCE DEVELOPMENT BOARD

Dept. of Biotechnology
Government of India, New Delhi

For office use:

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 (Ascosporegenous yeast)		
Scientific name & Authority: <i>Hansenula mrakii</i> Wickerham(1951) Common Name (if available) :		
Synonyms: <i>Williopsis saturnus</i> var. <i>mrakii</i> Kimura T (1993)		
Author(s): Same as given in synonyms. Status Reference No. Gene 137:267-270(1993).		
Classification: Phylum: Ascomycota Sub- Phylum: Saccharomycotina Super class Class: Saccharomycetes Sub- Class Super Order: Order: Saccharomycetales Super Family Family: Saccharomycetaceae Sub-Family Genus: <i>Hansenula</i> Species: <i>mrakii</i> Authority: Reference No. Gene 137:267-270(1993).		
Geographical Location: Latitude: Place: Central Indian Ocean Basin and Andaman Sea. (Isolated from water samples at 10 - 25 m depth) Longitude: State: Indian Ocean and EEZ of Indian Coast .		

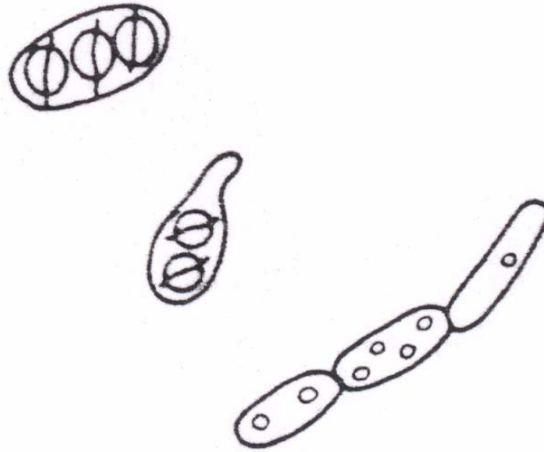
Environment

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)



H. mraki

2 weeks on Malt extract agar

Saturn shaped ascospores inside the cells

Ref: Ranu Gupta (unpublished work)

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 *Hansenula mrakii*

Growth on 5% Malt extract agar: After 3 days at 25°C, the cells are spheroidal to ellipsoidal (2.2 – 7.2) X (2.4 – 9.5) μ m and may be single or in pairs. Growth is butyrous and tannish-white in colour.

Growth on the surface of assimilation media: Pellicles vary from thin and smooth to folded. Rings may reach 20 mm in height.

Dalmau plate culture on Morphology agar: After 7 days at 25°C, growth under the cover glass shows abundant and highly branched pseudohyphae. True hyphae are not formed. Aerobic colonies are tannish-white, dull to faintly glistening, and butyrous. Margins are generally lobed.

Formation of Ascospores: Generally, asci are formed directly from vegetative cells without prior conjugation although conjugation may occur between independent cells. Ascospores are Saturn- shaped and one to four are formed per ascus. The asci are dehiscent. Single ascospores from the four- spored ascus (from the type strain) formed sporogenous colonies, thus indicating the species to be homothallic. Spores were observed on 5% malt extract agar.

Diagnostic characteristics: -

a) Biochemical

Fermentation:-

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

Assimilation of carbon compounds

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

Additional carbon compounds tested: L - Sorbose -, melibiose -, melezitose -, inulun -, D-arabinose -, α -methyl -D-glucoside -, salicin +, DL-Lactic acid +

Assimilation of nitrate: +

Growth in vitamin - free medium: +

Growth I n 10% sodium chloride plus 5% glucose in yeast nitrogen base : -

Growth at 37 °C : v

G+C: 44.3 mol %

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

b) rRNA sequence

SQ Sequence 2424 BP; 703 A; 481 C; 540 G; 700 T; 0 other;

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gaattcgaat gttagatgat attcacacga tcacgagatc cgttcttca gataactata 60
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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.
SPAWNING INFORMATION:	
Locality: Season: Fecundity: Comment:	Main Ref:
MAJOR PUBLICATIONS (INDIAN): (include review articles, monographs, books etc.) Unpublished work(Internal Reports of NIO's EIA studies). LIST OF INDIAN EXPERTS(Name, address, phone, fax, e-mail etc.) 1.Dr (Mrs) Ranu Gupta, NIO,RC, PBox.1616, Kochi 682014. e-mail drngupta@rediffmail.com Res.Ph.0484 2538067 2 Dr.G.S.Prasad, IMTECH, Chandigarh.	
ACKNOWLEDGMENT: (List of persons who contributed, modified or checked information) Assisted by Project Assistant Mrs.Maria Honey	