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 (Ascosporogenous yeast)

Scientific name &Authority: *Debaryomyces vanriji* (van der Walt et Tscheuschner) Abadie, Pignal et Jacob (1963)
Common Name (if available) :

Synonyms: *Pichia vanriji* van der Walt et Tscheuschner (1956)
Azymomyces vanrij (van der Walt et Tscheuschner) Novak et Zsolt (1961)
Torulaspora formicaria (Golubev et Babjeva) van der Walt et Johannsen (1975)

Author(s): Same as given in synonyms. Status
Ref. **The Yeast** ed. III (1984)

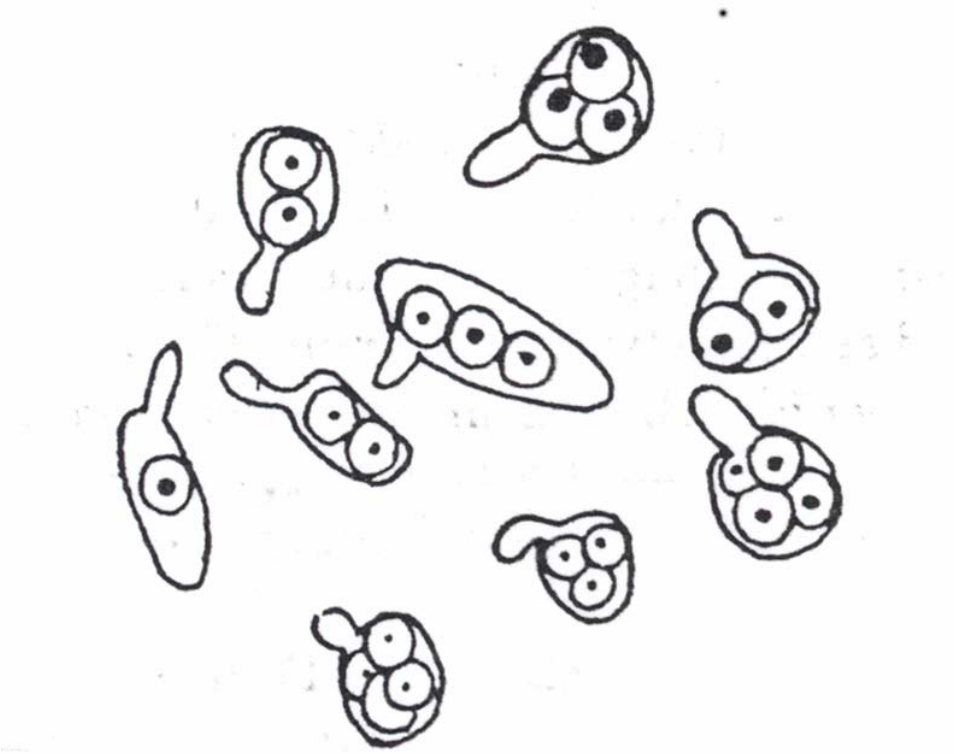
Classification:
Phylum: Ascomycota Sub- Phyllum: Saccharomycotina
Super class Class: Saccharomycetes
Sub- Class
Super Order: Order: Saccharomycetales
Super Family Family: Saccharomycetaceae
Sub-Family
Genus: *Debaryomyces* Species: *vanriji*
Authority:
Reference No. Prasad G.S., Suzuki M.; unpublished. (Japan Collection of Microorganisms; 2-1, Hirosawa, Wako-shi, Saitama)

Geographical Location:
Latitude: Place: Andaman Sea and off the bar mouth Cochin Backwaters.
(Isolated from water samples at 5-10 m depth)
Longitude: State: Kerala, EEZ OF Indian Coast

Environment

Fresh water : Yes/ No	Habitat :	Salinity :
Brackish : Yes/ No	Migrations :	Temperature :
Salt water : Yes/ No	Depth range :	

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



Deb. vanriji
14 days on V8 agar
Ascospores in the cells

Ref: The Yeast ed II (1970)

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 *Debaryomyces vanriji var. vanriji*
Growth in Malt extract: After 2 days at 25°C the cells are spherical to short-oval, (3 – 8.5) X (3 – 20) μm; single or in groups. A sediment and a white, wrinkled creeping pellicle are formed. After one month at 17°C a sediment and a dull pellicle are present.
Growth on Malt agar: After one month at 17°C the streak culture is yellow or yellowish-brown, dull or dull-glistening, smooth with a sinuous margin.
Slide cultures on Potato and Corn meal agar: Primitive pseudomycelia are abundantly formed.
Formation of Ascospores: Conjugation between mother cell and bud precedes ascus formation. The spores are spherical; one to four are formed per ascus. The spore wall is warty which is not always visible under the light microscope, but distinct in scanning micrographs (Kurtzman et; 1975) and in ultra thin sections (Santa-Maria & Garcia Aser, 1971).
Spores were observed on V8-, acetate-, arbutin-, YM-, Malt-, Potato-, and Corn Meal agar and in the pellicle on the Malt extract.

Diagnostic characteristics: -
a) Biochemical

Fermentation:-

Glucose	+vw or -	Maltose	-
Galactose	-	Lactose	-
Sucrose	+vw or -		

Assimilation of carbon compounds

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

Splitting of arbutin: +

Assimilation of nitrate: -

Growth in vitamin - free medium: +

Growth on 50%(w/w) glucose – yeast extract agar: +(w)

Growth at 37 °C : +

G+C: 33.2-33.3 mol. %

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

b) rRNA sequences

```
Sequence 575 BP; 162 A; 100 C; 112 G; 201 T; 0 other;
     tgcggaagga tcattacagt attcttttgc cagcgcttaa ttgcgcggcg aaaaacctta        60
     cacactatgt tttttgttat tacaagaact attgctttgg tctgtctcta gaaatagagt       120
     tgggccagag gtttaactaa acttcaattt tatattgaat tgtttctaat ttaaaatgtc       180
     aatttgttga ttaatttcaa aaaatcttca aaactttcaa caacggatct cttggttctc       240
     gcatcgatga agaacgcagc gaaatgcgat aagtaatatg aattgcagat tttcgtgaat       300
     catcgaatct ttgaacgcac attgcgccct ctggtattcc agagggcatg cctgtttgag       360
     cgtcatttct ctctcaaacc tttgggtttg gtattgagtg atactcttag tcgaactagg       420
     cgtttgcttg aaatgtatcg gcatgagtag tactgaatag tgcttcaaga ctttttcaat       480
     gtattaggtt tatccaactc gttgaatggt ttagtagtaa atttttggta ttattggctc       540
     ggccttacaa tacaacaaac aagtttgacc tcaaa                                  575
```


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 relationalships:

Eggs and larvae: Ref . No.:
Characteristics:
Abundance:

Biochemical aspects:
Proximate analysis: moisture/ fat/ protein/ carbohydrate/ash Ref. No.
Electrophoresis: Ref. No.

SPAWNING INFORMATION:
Locality: Main Ref:
Season:
Fecundity:
Comment:

MAJOR PUBLICATIONS (INDIAN):
(include review articles, monographs, books etc.)
1.Internal Reports of NIO's EIA studies.
2.Ph.D. Thesis of N.Prabhakaran 1990 (CUSAT, Kochi)
3. Prasad G.S., Suzuki M.; unpublished. (Japan Collection of Microorganisms; 2-1, Hirosawa, Wako-shi, Saitama)

LIST OF INDIAN EXPERTS(Name, address, phone, fax, e-mail etc.)
1.Dr (Mrs) Ranu Gupta, NIO,RC, PBox.1616, Kochi 682014.
e-mail drrgupta@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