



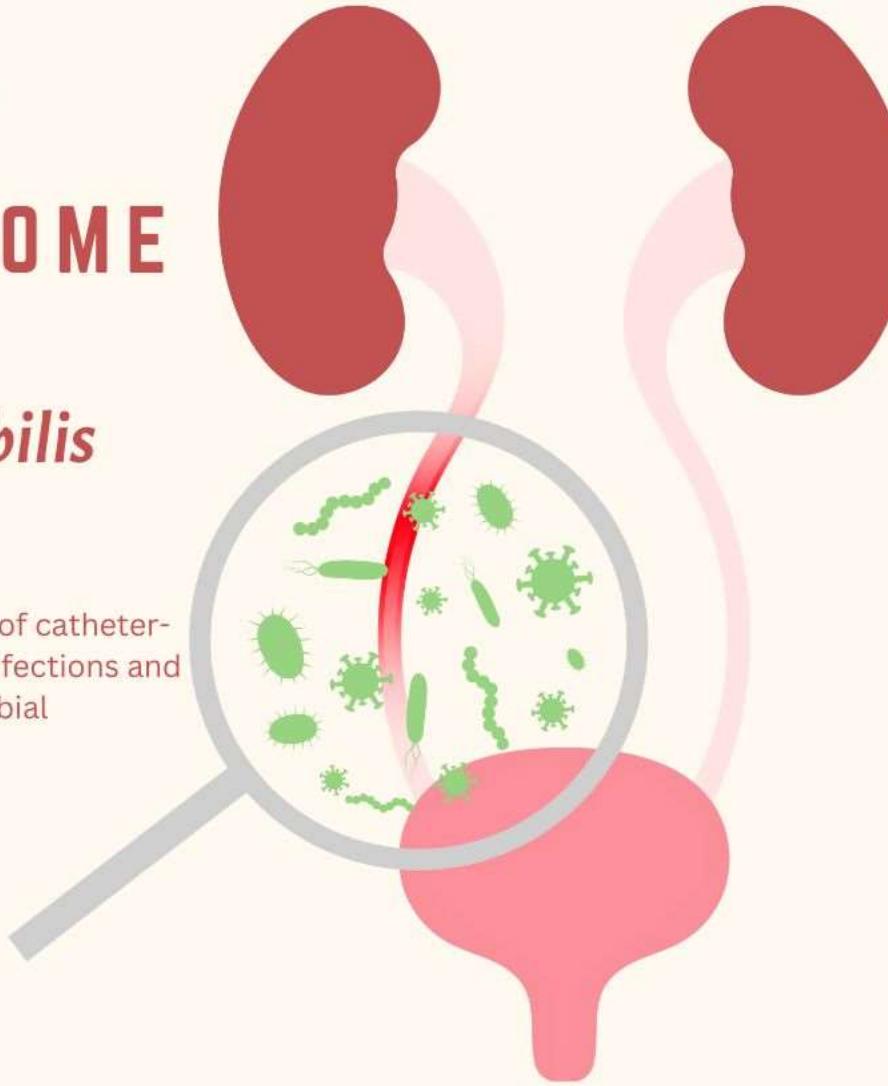
Government of India
Ministry of Science & Technology
Department of Biotechnology
सत्यमेव जयते

BRIC RGCB
a DBT Organization
DISCOVERIES FOR A BETTER TOMORROW

ONE DAY ONE GENOME

Proteus mirabilis

The starin is known cause of catheter-associated urinary tract infections and carries multiple antimicrobial resistance genes

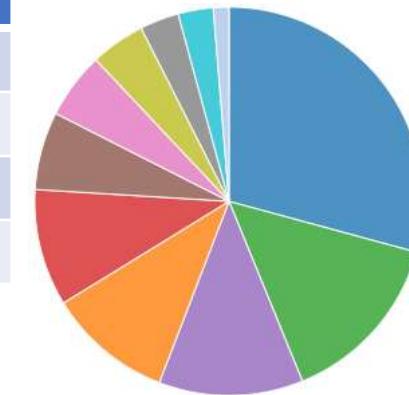


Quality of Genome Assembly and Annotation:Results from indigenously developed **BHARAT** analysis pipeline: (**Bacterial Hybrid genome Assembly and Rapid Annotation Toolset**)**Table 1: Assembly Details**

Contigs	48
GC Content	38.43
Contig L50	6
Genome length	4,932,422 bp
Contig N50	224,663

Table 2: Annotated Genome Features

CDS	8,519
tRNA	110
Repeat Regions	0
rRNA	25

**Subsystem Analysis**

Subsystem (Subsystems, Genes)
METABOLISM (90, 1347)
PROTEIN PROCESSING (45, 445)
STRESS RESPONSE, DEFENSE, VIRULENCE (37, 331)
ENERGY (32, 566)
MEMBRANE TRANSPORT (30, 377)
CELLULAR PROCESSES (20, 271)
DNA PROCESSING (17, 208)
RNA PROCESSING (14, 151)
MISCELLANEOUS (10, 174)
CELL ENVELOPE (9, 101)
REGULATION AND CELL SIGNALING (4, 33)

Table 3: Antimicrobial Resistance Genes

AMR Mechanism	Genes
Antibiotic inactivation enzyme	BlaZ family, CatA1/CatA4 family
Antibiotic target protection protein	BcrC
Antibiotic target in susceptible species	Alr, Ddl, dxr, EF-G, EF-Tu, folA, Dfr, folP, gyrA, gyrB, inhA, fabI, Iso-tRNA, kasA, MurA, parC, rho, rpoB, rpoC, S10p, S12p
Protein altering cell wall charge conferring antibiotic resistance	GdpD, PgsA
Efflux pump conferring antibiotic resistance	AcrAB-TolC, AcrZ, EmrAB-TolC, MacA, MacB, MdtABC-TolC, MdtL, MexAB-OprM, MexHI-OpmD, SugE, Tet(J), TolC/OpmH
Regulator modulating expression of antibiotic resistance genes	AcrAB-TolC, EmrAB-TolC, H-NS, OxyR

Genome Assembly