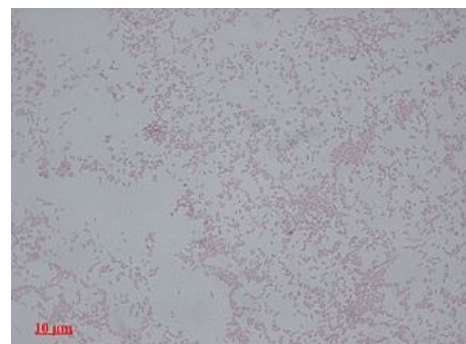


Proteus

The genus *Proteus* belongs to the family **Enterobacteriaceae**. It is a Gram-negative facultatively anaerobic bacteria characterized by a swarming phenomenon.

General characteristics

It is a genus of bacteria with considerable mobility, which is made possible by the presence of several flagella. It differs from other enterobacteria in its ability to deaminate some amino acids to ketoacids and ammonia. They produce hydrogen sulfide and have significant proteolytic activity, breaking down organic matter in garbage. A very specific property that can be observed during cultivation is swarming on the Endo agar surface in the form of concentric rings (the so-called **Rauss phenomenon**). It also grows on blood agar. They are commonly found on plants, in soil, or in faeces and are usually transmitted in the fecal-oral way (though the transmission is mostly endogenic). They are also human pathogens – common agents of urinary tract infections (especially *P. mirabilis*), where the released ammonia irritates the mucous membranes and alkalizes the urine, which can contribute to the formation of urinary stones. They can also cause secondary infections in wounds or decubitus. The entire genus has increased resistance to some disinfectants and includes 8 species, with **P. vulgaris** and *P. mirabilis* being particularly important.^[1]



Proteus mirabilis

Therapy

The antibiotics of choice for *Proteus spp.* are usually **cephalosporins** of 1st and 2nd generation for *P. mirabilis*, eventually **nitrofurantoin** for *P. vulgaris*. Generally, the genus became resistant to colistine and **tetracyclines**.^[2]

Proteus mirabilis

Proteus mirabilis is probably the most important species of the genus *Proteus*. It is one of the common pathogens causing urinary tract infections.

 For more information see *Proteus mirabilis*.

Proteus vulgaris

Proteus vulgaris is a slightly less common representative of the genus. It is commonly isolated from wound infections and can cause disease in immunosuppressed patients.

Links

Related articles

- *Proteus mirabilis*
- *Escherichia coli*
- *Salmonella*
- *Vibrio*
- Urinary tract infections

External links

- *Proteus* on wikipedia ([https://en.wikipedia.org/wiki/Proteus_\(bacterium\)%7C](https://en.wikipedia.org/wiki/Proteus_(bacterium)%7C))

Source

- NOVÁK, Jan. *Gramnegativní bakterie* [lecture for subject Microbiology 1, specialization General medicine, 1. lékařská fakulta Univerzita Karlova]. Praha. 14. 4. 2016.

References

1. JULÁK, Jaroslav. *Úvod do lékařské bakteriologie*. 1. edition. Praha : Karolinum, 2006. 404 pp. ISBN 8024612704.
2. HURYCH, Jakub – ŠTÍCHA, Roman, et al. *Lékařská mikrobiologie : Repetitorium*. 2. edition. Praha : Triton, 2021. 622 pp. pp. 165. ISBN 978-80-7553-900-7.

Literature

- JULÁK, Jaroslav. *Úvod do lékařské bakteriologie*. 1. edition. Praha : Karolinum, 2006. 404 pp. ISBN 8024612704.
- BEDNÁŘ, Marek – SOUČEK, Andrej – FRAŇKOVÁ, Věra, et al. *Lékařská mikrobiologie : Bakteriologie, virologie, parazitologie*. 1. edition. Praha : Marvil, 1996. 558 pp. ISBN 8594031505280.
- VOTAVA, Miroslav, et al. *Lékařská mikrobiologie speciální*. 1. edition. Brno : Neptun, 2003. 495 pp. ISBN 80-902896-6-5.
- HURYCH, Jakub – ŠTÍCHA, Roman, et al. *Lékařská mikrobiologie : Repetitorium*. 2. edition. Praha : Triton, 2021. 622 pp. pp. 165. ISBN 978-80-7553-900-7.