

A new species of *Proteromonas*, *P. grassei* n. sp. from the gut of *Hemidactylus prashadi* Smith

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Abstract. A new species of *Proteromonas*, *P. grassei* n. sp. from the gut of the wall lizard, *Hemidactylus prashadi* Smith is described and its systematic position is discussed.

Keywords. *Proteromonas grassei* n. sp.; *Hemidactylus prashadi*.

1. Introduction

11 species belonging to the genus *Proteromonas* Kunstler, 1883 have so far been reported from vertebrates. They are: *P. lacertae-viridis* (Grassi 1879) Grassé, 1926, from reptiles and amphibians; *P. brevifolia* Alexeieff, 1946, *P. harenii* Ray, 1950 and *P. hystrixi* Todd, 1963 from guinea pigs; *P. uromastixi* Janakidevi, 1962 from *Uromastix hardwickii*; *P. chameleoni* Krishnamurthy, 1963 from *Chamaeleon zeylanicus* and *Calotes versicolor*; *P. sanjivei* Grewal, 1966 from *Mabuya dissimilis*; *P. hemidactyli* Krishnamurthy, 1968 from *Hemidactylus brooki*; *P. ophisauri* Chikovani, 1970 from *Ophisaurus apodus*; *P. kakatiyae* Rao *et al* 1978 from *Hemidactylus*; and *P. warangalensis* Rao *et al* 1978 from *Mabuya carinata*. In the present paper another species of *Proteromonas*, *P. grassei* n. sp. occurring in the wall lizard, *Hemidactylus prashadi* Smith is described.

2. Materials and methods

The wall lizards, *H. prashadi* ranging in size 4-7 cm were collected from Srikakulam, Andhra Pradesh (India) were examined for flagellate parasites. 3 out of 16 wall lizards harboured in their rectum a new species of *Proteromonas*. Thin smears prepared from the rectal contents of infected lizards were fixed in acetone-free methyl alcohol and stained with Giemsa. Smears were also wet-fixed in Schaudinn's fluid and stained with Heidenhain's iron haematoxylin.

3. Observations

The flagellates were elongate measuring $12.0-22.0 \times 2.2-5.0 \mu\text{m}$ with an anterior bluntly pointed end. The posterior end was drawn out into a short, narrow,

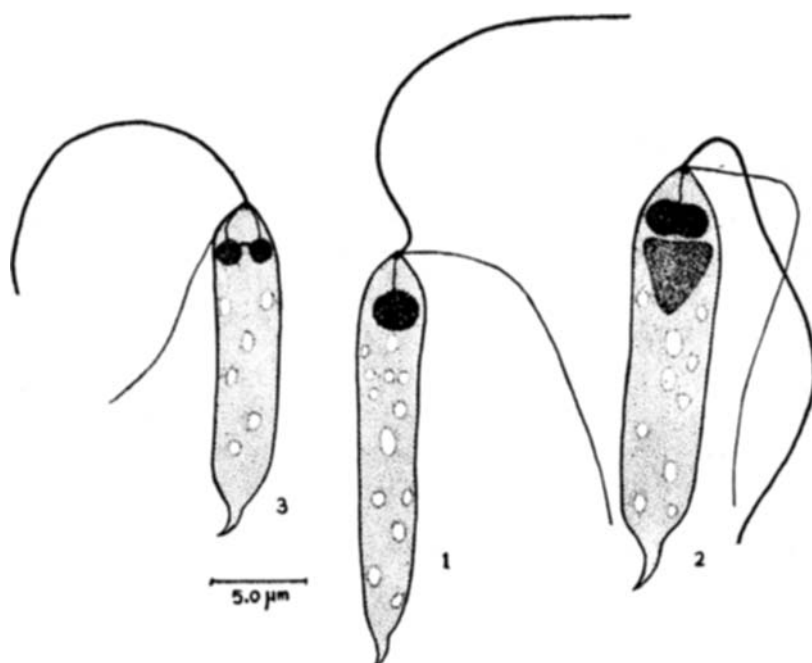
slightly curved spike measuring $1.5-2.5 \mu\text{m}$ (figures 1 and 2). The cytoplasm stained pale pinkish blue with Giemsa.

The nucleus which was situated near the anterior end was round, oval or slightly elongate. It measured $2.0-3.5 \times 1.2-1.8 \mu\text{m}$ and contained deeply stained, coarsely packed chromatin masses. A distinct nuclear membrane was not observed. Smears stained with iron haematoxylin showed a triangular paranuclear body measuring $2.0-4.5 \times 2.0-3.5 \mu\text{m}$, the base of which lies in contact with the posterior border of the nucleus. The blepharoplast situated at the anterior tip was deeply stained and measured $0.5-0.7 \mu\text{m}$ in diameter. It was connected to the nucleus by a thread-like rhizoplast. The flagella are of unequal length. The anterior flagellum which measured $13-26 \mu\text{m}$ was thick and more deeply stained while the trailing flagellum which measured $10-26 \mu\text{m}$ was thin and lightly stained. Sub-blepharoplastic and parabasal bodies were absent.

Early stages of division of the parasite were observed where the single nucleus was divided into two which lie side by side but are still connected by a strand of achromatic material (figure 3). The rhizoplast was divided completely.

4. Discussion

The present form compares favourably with *P. uromastixi* and *P. hemidactyli* in its measurements. It resembles *P. hareni*, *P. uromastixi* and *P. hemidactyli* in being elongate, but the spike is seen in *P. hemidactyli* and the present form only. The unequal flagella seen in the present form distinguishes it from *P. hareni*,



Figures 1-3. Trophozoites of *P. grassei* n. sp. 1. Stained with Giemsa and 2. stained with iron haematoxylin. 3. Form showing early division.

P. hemidactyli and *P. uromastixi*. The differential thickness of the flagella was not seen in *P. hemidactyli*. The parabasal body which is absent in *P. hemidactyli*, *P. hareni*, *P. ophisauri* and the present form is seen in the rest of the species. The sub-blepharoplast body seen in *P. lacertae-viridis*, *P. hareni*, *P. uromastixi*, *P. chameleoni*, *P. hemidactyli* and *P. worangalensis* is absent in the present form. Further, the large paranuclear body seen in the present form differs from those of other species in its shape and staining properties. For these reasons the present form is considered new to science and the name, *Proteromonas grassei* n.sp. in honour of Prof. P P Grassé is proposed.

Acknowledgements

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* Not referred to in original.