

**NEW RECORDS OF PHYTOPLANKTON FOR BANGLADESH:
PHACUS, LEPOCINCLIS AND PTEROMONAS**

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In Bangladesh, the genus *Phacus* is so far represented by 40 species and *Lepocinclis* by 10 species (Islam and Khatun 1966, Islam *et al.* 1991, Islam and Alfasane 2002, 2003, Islam and Irfanullah 2003, 2005). On the other hand, the genus *Pteromonas* is represented by a single species, *Pteromonas aculeata* Lemm. var. *lemmermanni* Skuja (Islam and Alfasane 2002). Recently, studies made on some new collections of algal material revealed the occurrence of few more taxa to the above-mentioned genera so far unreported from Bangladesh, namely, *Phacus horridus* and *Lepocinclis ovum* var. *globula* of Euglenaceae and *Pteromonas angulosa* of Phacotaceae.

The samples for the present study were collected from a small temporary rainwater pocket created on the ground in Ramna Park, Dhaka City and from an industrially polluted pond at Fatullah in Narayanganj District. Water samples from both the habitats were blackish to greenish in colour, and mixed with fine sand and organic particles of moderate concentration. The algal samples were fixed with Formalin-Aceto-Alcohol (FAA), examined under microscope, and photo-micrographed. The newly recorded taxa are described below.

**Division: Euglenophyta; Class: Euglenophyceae; Order: Euglenales
Family: Euglenaceae**

1. ***Phacus horridus*** Pochmann (Fig. 1)

(Huber-Pestalozzi 1955, 239, 55: 343; Dillard 2000, 58, 9: 1)

Cells oval or spoon-shaped, lateral margins parallel, anterior end broad and posterior end sometimes abruptly produced into a straight or slightly bent caudus. Cells 46 µm long and 27 µm broad, caudus 7 µm long. Pellicle ornamented with disposed rows of small posteriorly directed spines, caudal region devoid of ornamentation. Number of longitudinal rows of spines per 10 µm is 6-7 in the middle of the cell, number of individual spine along the axes in 10 µm is 7-8.

Ramna Park, Dhaka, 13.01.2005.

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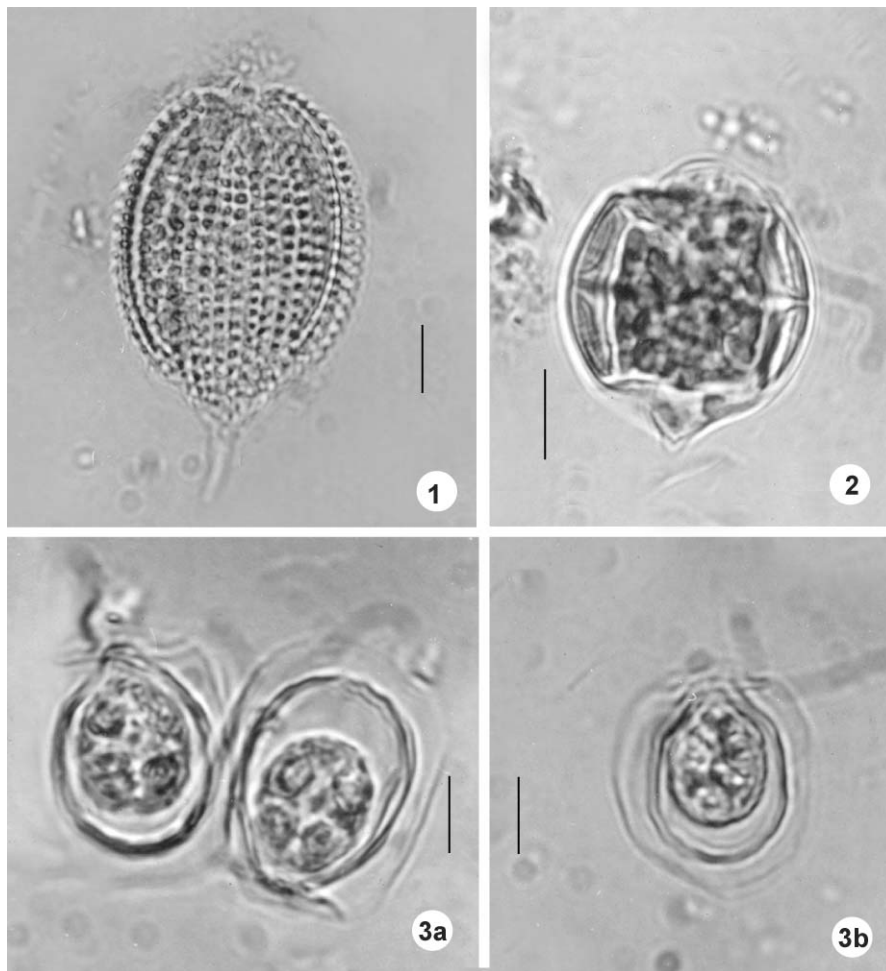
2. **Lepocinclis ovum** var. **globula** (Perty) Lemm. [Syn.: *Phacus ovum* var. *globula* Klebs.]

(Fig. 2)

(Huber-Pestalozzi 1955, 152, 30: 158)

Cells broadly ovate, anterior end broadly rounded, sometimes slightly indented, posterior end produced into a short caudus. Cells 27 μm long and 24 μm broad. Flagellum about cell length. Pellicular striations with a left-hand spiral (not visible in the present specimen). Chloroplasts discoid. Paramylon bodies 2 large rings, 7 μm long and 2.5 μm broad.

Ramna Park, Dhaka, 13.01.2005.



Figs. 1-3. 1. *Phacus horridus*, 2. *Lepocinclis ovum* var. *globula*, 3a-b. *Pteromonas angulosa*, (a. two individuals in opposite direction, b. a single individual). (Bar = 10 μm)

Division: Chlorophyta; Class: Chlorophyceae; Order: Volvocales
Family: Phacotaceae

3. **Pteromonas angulosa** (Carter) Lemm. [Syn.: *Pteromonas alata* Cohn, Seligo; *Phacotus alatus* Dang.; *P. angulosus* Stein; *Cryptoglena alata* Carter] (Figs. 3a-b)
 (Huber-Pestalozzi 1961, 587, 119: 827; Dillard 2000, 27, 4: 11)

Lorica ovoid, posterior broadly rounded, anterior widely flat, apical view with two curved wings, 20 µm long and 17 µm broad. Protoplast broadly ovoid, margin smooth, 11 µm long and 8 µm broad with an anterior papilla.

Fatullah, Narayanganj, 02.07.2005.

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References

- Dillard, G.E. 2000. Freshwater algae of the Southeastern United States. Part 7. Pigmented Euglenophyceae .
 Bibl. Phycol. Vol. **106**. J. Cramer, Berlin, pp. 1-135 + pls. 20.
- Huber-Pestalozzi, G. 1955. Das Phytoplankton des Süßwassers. Systematik und Biologie. **4**. Teil: Euglenophyceen. E. Schweizerbart'sche Verlagsbuchhandlung (Nägele u. Obermiller), Stuttgart, Germany, pp. 1-606 + pls. 114.
- Huber-Pestalozzi, G. 1961. Das Phytoplankton des Süßwassers. Systematik und Biologie. **5**. Teil: Chlorophyceae (Grünalgen), Ordnung: Volvocales. E. Schweizerbart'sche Verlagsbuchhandlung (Nägele u. Obermiller), Stuttgart, Germany, pp. 1-744 + pls. 158.
- Islam, A.K.M. Nurul and Khatun, M. 1966. Preliminary studies on the phytoplanktons of polluted waters. Sci. Res. **3**(2): 94-109.
- Islam, A.K.M. Nurul, Khondker, M. and Haque, S. 1991. Euglenoid algae of four polluted ponds in and around Dhaka city. Bangladesh J. Bot. **20**(1): 7-15.
- Islam, A.K.M. Nurul and Alfasane, M.A. 2002. New records of motile green algae for Bangladesh: *Phacotus*, *Pteromonas* and *Thoracomonas*. Bangladesh J. Plant Taxon. **9**(1): 15-18.
- Islam, A.K.M. Nurul and Alfasane, M.A. 2003. Euglenophyceae from Barisal district, Bangladesh II: *Lepocinclis*, *Strombomonas* and *Trachelomonas*. Bangladesh J. Plant Taxon. **10**(1): 15-26.
- Islam, A.K.M. Nurul and Irfanullah, H.M. 2003. Freshwater algae of St. Martin's Island, Bangladesh - I. Bangladesh J. Plant Taxon. **10**(2): 33-45.
- Islam, A.K.M. Nurul and Irfanullah, H.M. 2005. Hydrobiological studies within the tea gardens at Srimangal, Bangladesh. II. Algal flora (excluding Chlorophyceae). Bangladesh J. Plant Taxon. **12**(1): 33-52.

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