Additional file 3

Influence of the polar light cycle on seasonal dynamics of an Antarctic lake microbial community.

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Additional file 3: Ace Lake video

Supplementary Video

The video was taken from the main sampling hole on Ace Lake Nov 23, 2013, using a Contour +2 video camera (1920 x 1080, 30 frames sec^{-1}) illuminated using a Fantasea Radiant Video light mounted in a custom housing (Fig. S1). The duration and quality of the original video was edited in order to obtain a file size < 20 Mb.

- 0-9 sec: Inside the mobile work shelter with expeditioners Sarah Payne, Alyce Hancock and Rick Cavicchioli (camera operator).
- 9-18 sec: Descending into and down the Ace Lake ice hole.
- 19+ sec: Numerous *Paralabidocera antarctica* copepods are visible from within the ice hole down the water column (~12 m) to the interface.
- 26+ sec: The colour of the image changes from clear blue (upper zone waters) to green-brown as the camera approaches the interface.
- 30-42 sec: Relatively regularly spaced white spots become visible forming a dot pattern on the surface of the interface, which increase in size as the camera descends.
- 43-56 sec: After the camera enters the interface the image loses clarity and the colour becomes green-brown or vivid green caused by the dense (> 10^8 cells ml^{-1}), thick (~1 m) layer of green sulfur bacteria (GSB; *Chlorobium*).
- 57-1:06 sec: As the camera re-emerges from the interface the dotted surface pattern is somewhat visible towards the left had side of the image.
- 67-1:10 sec: A white plume results from the camera being brought towards the lake surface. The copepods appear more active (than during the descent), possibly as a result of the copepods feeding on the GSB which have been brought up as source of food, the presence of the light re-emerging, and/or the physical disturbance created by the camera.
- 1:11-1:14: Camera withdrawn from the ice hole.
- Note: Approximately eight hours after taking the video, the surface layer of the interface appeared to have reformed.

Fig. S1 Video camera and light mounted in housing.