

1 Fig. S1. Map of sampling stations marked with circles. .

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3 Fig. S2. Predicted secondary structure of strain TIO519 based on ITS-2 rDNA

4 sequences showing four helices (I, II, III and IV) and changes in strain TIO239

5 (arrow).

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7 Fig. S3. Cyst diameter, the ratio of process length and cyst diameter of wide cysts

8 examined in this study. Isolates of ribotype A were indicated in blue; isolates of

9 ribotype B were indicated in green and isolates of ribotype C in red.

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13 Fig. S4. Global biogeography of three ribotypes of *Protoceratium reticulatum*. Circles

14 refer to ribotype A; squares refer to ribotype B and stars refer to ribotype C.