

Table S1. Morphometric data of the *Simonsenia* species.

Species	Valve shape	Habitat	Apex	Length (µm)	Width (µm)	Fibulae (in 10 µm)	Fenestral bars (in 10 µm)	Transapical ribs (in 10 µm)	Striae	Valve face	Transapical ribs	References
<i>S. amazonica</i>	linear–lanceolate	slightly brackish	acute	11.0–15.3	1.8–2.4	10	16–18	16–18	multiseriate	undulate	forked distally	present study
<i>S. bifurcata</i>	lanceolate	slightly brackish	acute, slightly protracted	6.9–9.6	1.9–2.5	9–10	18–22	18–22	bi– to multi-seriate	undulate	forked	present study
<i>S. bodoquenensis</i>	linear–lanceolate to lanceolate	freshwater	acute, slightly protracted	13.2–30.4	2.3–3.0	8–9	16–18	16–18	bi– to multi-seriate	undulate	simple	present study
<i>S. delicatula</i> ^a	linear–lanceolate	freshwater	slightly protracted	12–22	2.0–2.5	8–9	18–20	18–20	bi– to multi-seriate	undulate	forked distally	MIKHAILOV& MAKAROVA 1983
<i>S. delicatula</i>	linear–lanceolate	freshwater	slightly protracted	8.2–12.2	1.9–2.2	8–9	16–20	18–21	bi– to multi-seriate	undulate	forked distally	present study
<i>S. delognei</i>	linear–lanceolate	freshwater to slightly brackish	slightly protracted	8.0–15	1.6–2.0	11	–	16–22	bi– to multi-seriate	undulate	simple	LANGE–BERTALOT 1979
<i>S. delognei</i>	linear–lanceolate	freshwater	protracted	8.4–12.7	2.0–2.3	9	–	20–21	bi– to multi-seriate	undulate	simple	YOU et al. 2016
<i>S. maolaniana</i> ^a	lanceolate to elliptical–lanceolate	freshwater	narrow rostrate, not protracted	8.9–25.4	2.3–3.4	6–7	–	13–17	bi– to multi-seriate	undulate	simple	YOU et al. 2016
<i>S. aveniformis</i> ^S	lanceolate	brackish–marine	more or less acute, slightly protracted	7.5–13.7	2.0–2.5	ca. 12	24–25	50–60	uniseriate	flat	simple	WITKOWSKI et al. 2015
<i>S. crawfordii</i>	linear–lanceolate	marine	slightly produced	4–6	1.7–2.3	11–12	25–30	25–30	biseriate	undulate	simple	WITKOWSKI et al. 2021
<i>S. dolmeoriana</i>	strictly lanceolate	marine	acute	9–12	1.2–1.9	14	30–32	30–32	biseriate	flat	simple	WITKOWSKI et al. 2021
<i>S. eileencoxiae</i>	lanceolate	marine	protracted	12–13	1.9–2.0	11–12	24–26	24–26	biseriate	undulate	simple	KIM et al. 2019
<i>S. medliniae</i>	lanceolate	marine	slightly capitate	11–14	1.3–2.2	10–12	22–24	22–24	multiseriate	slightly undulate	simple	WITKOWSKI et al. 2021
<i>S. paucistriata</i>	lanceolate	marine	acute	12–13	1.8–2.3	6–7	13–14	13–14	multiseriate	strongly undulate	forked distally	KIM et al. 2019