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О-72 **Осадочные планетарные системы позднего палеозоя: стратиграфия, геохронология, углеводородные ресурсы** [Электронный ресурс]: сборник тезисов Международной стратиграфической конференции Головкинского 2019 (24-28 сентября 2019 г., Казань, Россия). – Электрон. сетевые данные (1 файл: 19 440 КБ). – Казань: Издательство Казанского университета, 2019. – 329 с. – Систем. требования: Adobe Acrobat Reader. – Режим доступа: <http://dspace.kpfu.ru/xmlui/bitstream/handle/net/151929/golovkinsky2019.pdf>. – Загл. с титул. экрана.

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Carapace microsculpture of conchostracans from the Permian and Triassic sections of Eastern Europe and Western Siberia

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Microsculptural ornamentation is one of the morphological features used for the taxonomic definition of conchostracan species (e.g., Novojilov, 1960; Orlova, Sadovnikov, 2006; Li, 2017). Therefore, assessing the interrelationship of microsculpture and taxonomy will enable more precise species determinations.

We studied conchostracans from Middle and Late Permian sections in the Cheremushka (55°46'48.8"N; 48°55'32.2"E) and Monastirsky ravines (55°01'40.3"N; 48°53'05.1"E), European Russia, as well as from the Late Permian–Early Triassic Babi Kamen' section (54°23'04.7"N, 87°32'06.3"E, West Siberia, Kuznetsk Basin). Conchostracans from these sections have been described previously by Neyburg (1936), Lezhnin and Papin (1998), Silantiev et al. (2018), Mouraviev et al. (2018), Zharinova et al. (2018) and Zharinova (2019).

The study material belongs to the Stuckenbergs Geological Museum of the Kazan Federal University and is stored under the collection numbers 39/P04, 39/P09, 39/M05, 39/M08, 39/M16, 39/BK 15, 39/BK16.

Microsculptural ornamentation was studied under an AURIGA CrossBeam scanning electron microscope (Zeiss).

The microsculpture is a stabilizing skeletal structure of the thin carapace valves exhibiting a certain type of ornamentation. For characterizing the ornamentation type, micrographs of the microsculpture from several parts of a valve (from the umbo, the anterior, ventral, posterior margins, and from the valve centre) have been taken. This was necessary because different parts of the carapace have different ornamentation (e.g., Molin, Novojilov, 1965).

Based on our first results (Fig. 1A), the carapaces of *Pseudestheria* cf. *itiliana* (Novojilov, 1950) from bed P08/128 of Cheremushka Ravine section (Silantiev et al., 2015) show a medium-sized reticulate microsculptural ornamentation (cell size = 7.5 µm) with closely spaced cells (spacing = 2.9 µm). The microsculpture is well observable over the whole growth bands along the ventral margin; in the central part of the carapace this ornamentation is only well developed in the distal half of the growth band, in the proximal part it is indistinct. Towards the larval valve, the microsculptural ornament is hardly discernible or cannot be observed at all.

Palaeolimnadiopsis cf. *lundongaense* (Novojilov, 1970) has been collected from bed P04/37 of Cheremushka Ravine section (Silantiev et al., 2015). This species shows a medium-sized reticulate ornament (cell size = 6.8 µm) with close cell spacing (spacing = 0.9 µm). The microsculptural ornamentation is evenly distributed over the carapace (Fig. 1B).

Pseudestheria exigua (Eichwald, 1860) is abundant in the Monastery Ravine section (beds M05/06, M05/07 and M05/08; Mouraviev et al., 2015). This species is characterized by a medium-sized reticulate ornament (cell size = 7.8 µm) with close cell spacing (0.6 µm). The microsculptural ornamentation is evenly distributed over the valve and identical in all studied specimens (Fig. 1C).

The microsculpture of *Pseudestheria novacastrensis* (Mitchell, 1927) from the Babiy Kamen' section is small-pitted (pit size = 5 μm) with closely spaced pits (spacing = 1 μm). The ornamentation can be traced almost over the whole growth bands, only in the proximal part of the bands it becomes indistinct (Fig. 1, D2) The smooth valve surface without sharp growth lines, seen under the microscope, belongs to the inside of the carapace (Fig. 1, D1, left and down right). In some specimens, the shell substance is absent, and the microsculpture of the outer side of the valve is preserved as impression in the sediment. This means that the impressions reflect the ornamentation from the carapace outside (Fig. 1D3).

The ornamentation of the genus *Pseudestheria* Raymond, 1946 has been discussed controversially, either to lack characteristic ornaments (e.g., Martens, 1983) or to show a pitted ornamentation (e.g., Scholze et al., 2019). Our first results indicate some variability in mi-

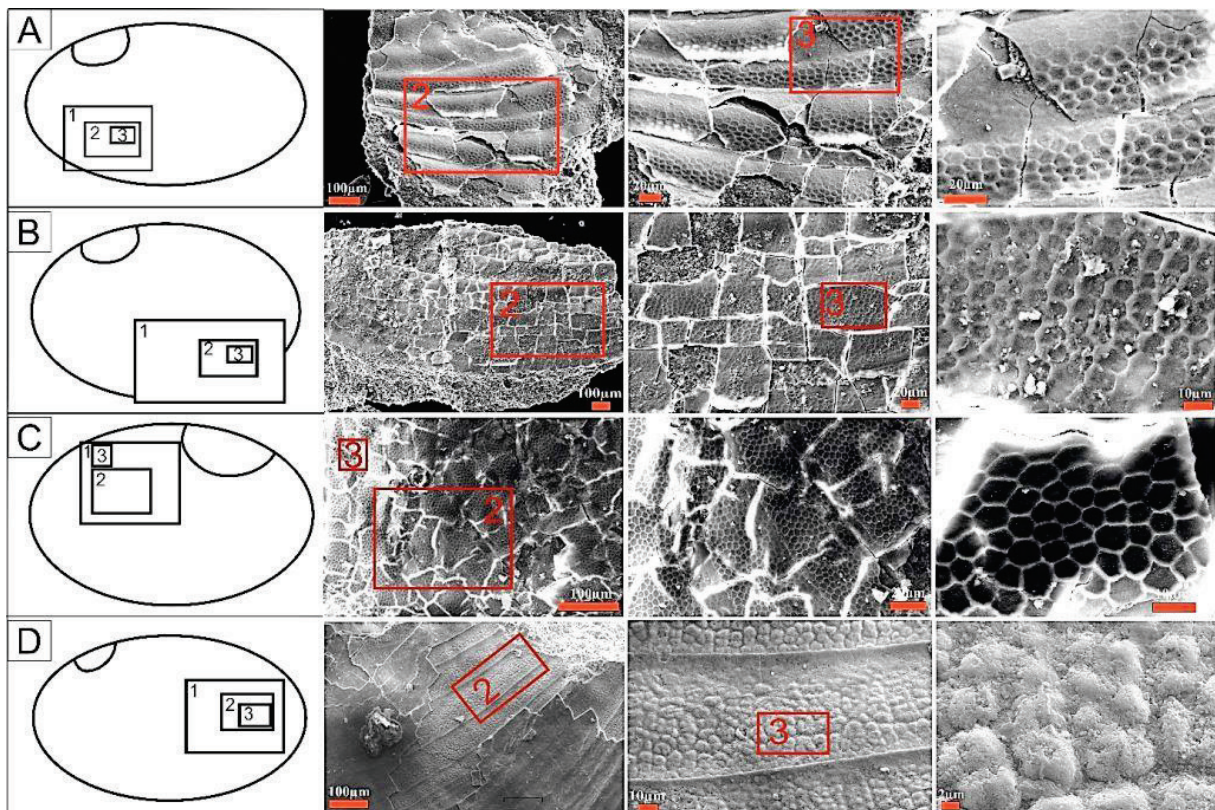


Fig. 1. Carapace microsculpture of Permian–Triassic conchostracans: A) Reticulate microsculpture of *Pseudestheria* cf. *itiliana* (Novojilov, 1950) from Cheremushka Ravine section (No. 39/P09); B) Reticulate microsculpture of *Palaeolimnadiopsis* cf. *lundongaense* (Novojilov, 1970) from Cheremushka Ravine section (No. 39/P04); C) Reticulate microsculpture of *Pseudestheria exigua* (Eichwald, 1860) from Monastery Ravine section (No. 39/M05); D) Pitted microsculpture of *Pseudestheria novacastrensis* (Mitchell, 1927) from Babiy Kamen' section (No. 39/BK15), preserved as sedimentary imprint of the external side of the valve

crosculptural ornamentation within the genus *Pseudestheria*.

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