



Kazan Golovkinsky Stratigraphic Meeting

2022



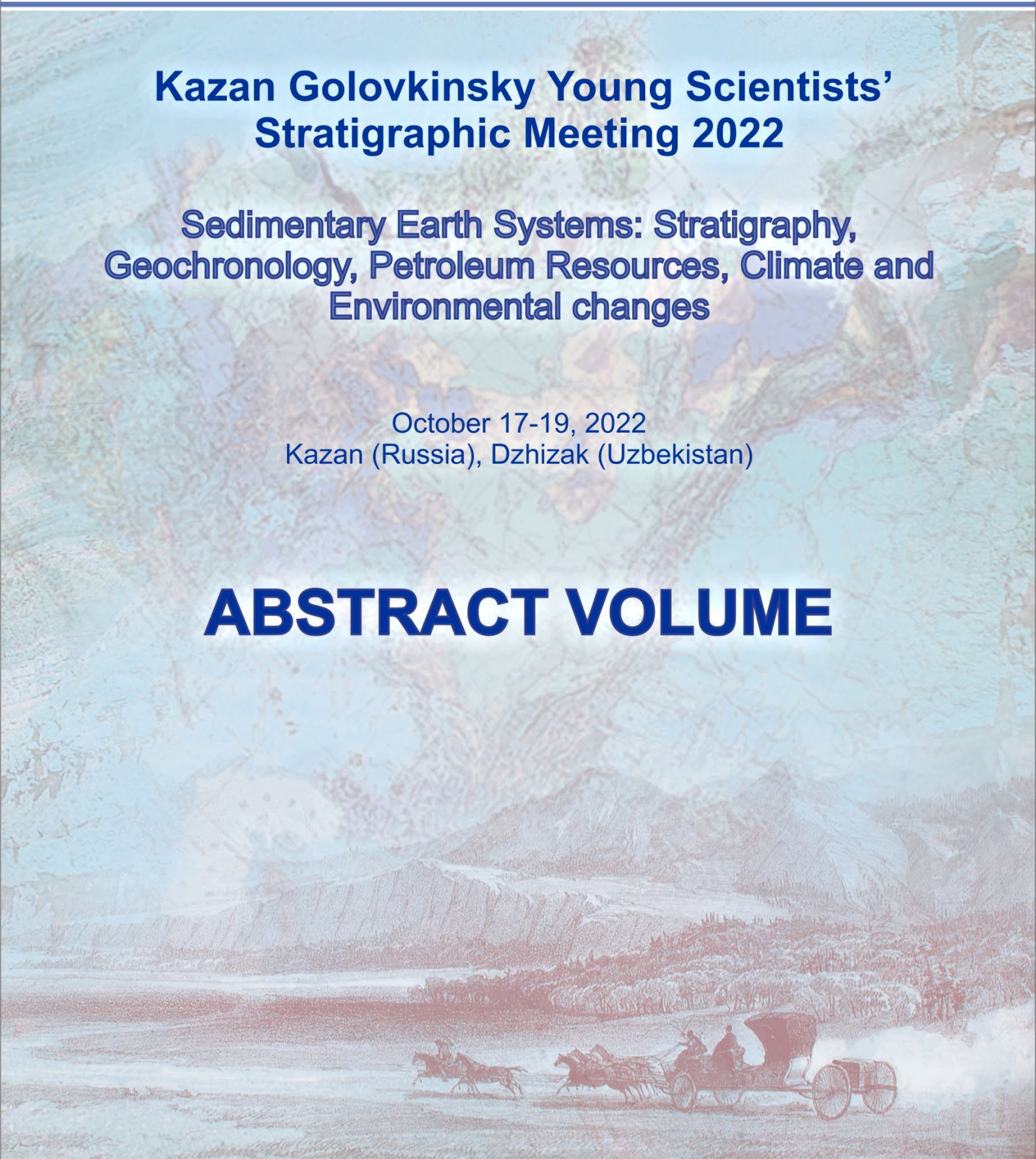
Institute of Geology and Petroleum Technologies
Kazan Federal University in Dzhizak (Uzbekistan)

Kazan Golovkinsky Young Scientists' Stratigraphic Meeting 2022

**Sedimentary Earth Systems: Stratigraphy,
Geochronology, Petroleum Resources, Climate and
Environmental changes**

October 17-19, 2022
Kazan (Russia), Dzhizak (Uzbekistan)

ABSTRACT VOLUME





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Abstract Volume



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Международная молодежная стратиграфическая конференция Головкинского, 2022

**Осадочные планетарные системы: стратиграфия,
геохронология, углеводородные ресурсы, изменения климата
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17–19 октября 2022 г.

Казань (Россия), Джизак (Узбекистан)

Сборник тезисов



**КАЗАНЬ
2022**

УДК 551.7/.8
ББК 26.33
О-72

Ответственный редактор
Данис К. Нурғалиев

Научный редактор
Владимир В. Силантьев

Технический редактор
Миляуша Н. Уразаева

Editor-in-Chief
Danis K. Nurgaliev

Scientific editor
Vladimir V. Silantiev

Technical editor
Milyausha N. Urazaeva

О-72

Осадочные планетарные системы: стратиграфия, геохронология, углеводородные ресурсы, изменения климата и окружающей среды [Электронный ресурс]: сборник тезисов Международной молодежной стратиграфической конференции Головкинского – 2022 (Казань, Джизак, 17–19 октября 2022 г.). – Электронные текстовые данные (1 файл: 1,1 МБ). – Казань: Издательство Казанского университета, 2022. – 43 с. – Системные требования: Adobe Acrobat Reader. – URL: https://dspace.kpfu.ru/xmlui/bitstream/handle/net/173323/Golovkinsky%202022_Abstract%20Volume.pdf. – Электронный архив Научной библиотеки имени Н.И. Лобачевского КФУ. – Загл. с титул. экрана.

Sedimentary Earth Systems: Stratigraphy, Geochronology, Petroleum Resources, Climate and Environmental changes [Electronic resource]: Abstract volume of Kazan Golovkinsky Young Scientists' Stratigraphic Meeting 2022 (Kazan, Dzhizak, October 17–19, 2022). – Electronic text data (1 file: 1,1 MB). – Kazan: Kazan University Press, 2022. – 43 p. – System requirements: Adobe Acrobat Reader. – URL: https://dspace.kpfu.ru/xmlui/bitstream/handle/net/173323/Golovkinsky%202022_Abstract%20Volume.pdf. – Electronic archive of the Scientific Library named after N.I. Lobachevsky KFU. – Title from the title screen.

ISBN 978-5-00130-651-1

Международная конференция посвящена проблемам планетарных систем, стратиграфическим событиям, эволюции биоты, седиментационным бассейнам и полезным ископаемым, изменениям климата и окружающей среды.

International Stratigraphic Meeting is dedicated to Earth systems, stratigraphic events, biotic evolution, sedimentary basins and resources, climate and environmental changes.

УДК 551.7/.8
ББК 26.33

ISBN 978-5-00130-651-1

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MICROSCULPTURE STUDIES OF LATE PERMIAN, EARLY TRIASSIC AND MODERN CONCHOSTRACANS

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The microsculpture of conchostracans is a reinforcing skeletal formation of chitinous valves. Microsculptural elements – nodules, pits, radial-lirae – are located on the growth bands, less on the growth lines.

The significance of microsculpture for the taxonomy of conchostracans is discussed by various authors. Some of them consider that microsculpture has no important taxonomic significance in identifying conchostracan species [Tasch, 1969; Liao et al., 2019]. Other authors suggest that microsculpture may have taxonomic significance at the generic and species levels [Novojilov, 1954; 1956; 1963; Li et al., 2009] or are additional characteristics for some species [Orlova, Sadovnikov, 2006; 2009; Teng et al., 2016; Hethke et al., 2017]. Some authors believe that changes in environmental conditions, including changes in temperature, are reflected in the microsculpture of conchostracans [Grube, 1865; Novojilov, 1954; Web, 1979].

The microsculpture of conchostracans has been studied in 13 fossil and 3 modern species. Fossil conchostracans are found in the Middle and Upper Permian and Lower Triassic sections of the Volga-Ural antecline, the Kuznetsk Coal Basin, and Southern Verkhoyanie. Modern conchostracans are found in the localities of Atsrak Playi in the eastern desert of Jordan, Königswart (Germany) and Dead Vley desert of Namibia.

The Permian conchostracans of the genus *Pseudestheria* have reticulated microsculpture, while Triassic conchostracans of this genus have pitted microsculpture [Zharinova, Silantiev, 2019; Zharinova, 2021].

The studied Early Triassic species *Euestheria gutta* (Lutkevich, 1938) from the Babii Kamen Section (Kuznetsk Coal Basin), Tiryakh-Kobyume Section (Southern Verkhoyanie) has a small pitted microsculpture [Zharinova, 2021].

Three specimens of the species *Limnadia lenticularis* (Linné, 1761) grown in artificial condition from the Königswart locality (Germany) have nodular microsculpture [Sabirova et al., 2019].

The modern species *Cyzicus tetracerus* (Krynicky, 1830) and Early Triassic species *Concherisma tomensis* Novojilov, 1958 and *Hemicycloleia* sp. have mixed (transitional) microsculpture [Sabirova, et al., 2019; Zharinova, 2021]. This may be a taxonomic feature for these species.

The study of conchostracan microsculpture led to the conclusion that microsculpture may be a taxonomic feature for some conchostracan species or genus.

Future studies of modern conchostracans under conditions of changing temperature, salinity, and pressure will help clarify whether a change in microsculpture is a taxonomic feature for some species or a consequence of changes in environmental conditions.

This work has been supported by the grants the Russian Science Foundation, RSF 22-14-00258.

*Электронное научное издание
сетевого распространения*

**МЕЖДУНАРОДНАЯ МОЛОДЕЖНАЯ СТРАТИГРАФИЧЕСКАЯ
КОНФЕРЕНЦИЯ ГОЛОВКИНСКОГО, 2022**

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Подписано к использованию 16.11.2022
Формат 60x84 1/8. Гарнитура «Arial».
Усл. печ. л. 5,1. Заказ № 138/10.

Издательство Казанского университета

420008, г. Казань, ул. Профессора Нухина, 1/37
тел. (843) 206-52-14 (1704), 206-52-14 (1705)