

Do megaspores of *Otynisporites* have a stratigraphic value for the correlation of Permian-Triassic deposits?

Natalia E. Zavialova¹, Eugeny V. Karasev^{1,2}, Elke Schneebeli³, Wenben Li⁴

¹Borissiak Paleontological Institute, Russian Academy of Sciences, Moscow, Russia, zavial@mail.ru

²Kazan (Volga region) Federal University, Kazan, Russia

³Universität Zürich, Zürich, Switzerland

⁴Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing, China

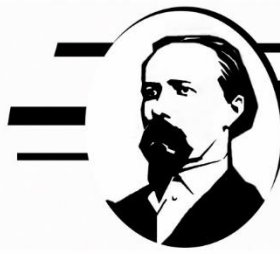
Dispersed megaspores of the genus *Otynisporites* (Fuglewicz) Karasev et Turnau, 2015 have been known to scientists since 1977, when Richard Fuglewicz (1977) published a study of megaspore assemblages from Upper Permian and Lower Triassic sediments of the Baltic Formation in the Polish part of the Central European Basin system (CEBs).

Fuglewicz (1980) defined the zone of *O. eotriassicus* in the Polish part of the CEBs. The zone was introduced after analysing the distribution of dispersed megaspore assemblages from five boreholes in the Fore-Sudetic Monocline and is best represented in Oty IG 1 borehole in the depth interval 793.0–956.0 m. The base of the zone is defined by the first occurrence of *O. eotriassicus*. Ostracods, phylloids, and hystrichospheres were also found in this interval (Mojski et al., 1986). The age of the zone ranges from the latest Changhsingian to the earliest Olenekian (Foster and Afonin, 2005; Kozur, 1998; Looy, 2000; Twitchett et al., 2001; Marcinkiewicz et al., 2014).

Dispersed megaspores of *Otynisporites eotriassicus*, *O. tuberculatus*, and *O. maculosus* from the latest Changhsingian–early Induan of the Moscow Basin of Russia, *O. eotriassicus* from the Induan of the Kap Stosch subbasin of East Greenland, and *O.? tarimensis*, and *Otynisporites?* sp. from the Middle Triassic of the Tarim Basin of China were studied using light, scanning and transmission electron microscopy. Megaspores of *Otynisporites?* sp. and *O.? tarimensis* differ from the other studied megaspores and were produced by a different heterosporous lycopsid than megaspores of the other species and should be excluded from the genus.

The geographic distribution shows that *Otynisporites*-producing plants grew under a moderately warm climate, in the middle latitudes. Our analysis of morphology, stratigraphic and geographic ranges of earlier reports of *Otynisporites* show that confirmed findings are confined to the latest Changhsingian–Induan, with *O. tuberculatus* and *O. maculosus* sharing the same stratigraphic range as *O. eotriassicus*. Megaspores reported from younger deposits most probably do not belong to *Otynisporites* (Li et al., 2021), as our morphological analysis shows, and, therefore, the stratigraphic range of *O. eotriassicus* remain narrow. In addition, as *O. tuberculatus* and *O. maculosus* occur in deposits of the same age as *O. eotriassicus*, they are potentially useful as stratigraphic markers.

The study was supported by RFBR, #19-04-00498 for NZ, the subsidy allocated to Kazan Federal University for the state assignment project № FZSM-2023-0023 in the sphere of scientific activities for EK, and Swiss NSF project 20021-135446/1 for ES.



Kazan Golovkinsky Stratigraphic Meeting

2024



Kazan Golovkinsky Stratigraphic Meeting 2024

Modern Stratigraphy: methods and applications

**Eighth All-Russian Conference
“Upper Palaeozoic of Russia”**

October 28-30, 2024
Kazan, Russia

ABSTRACT VOLUME





Kazan Golovkinsky Stratigraphic Meeting

2024



Kazan Golovkinsky Stratigraphic Meeting 2024

Modern Stratigraphy: methods and applications

Eighth All-Russian Conference

“Upper Palaeozoic of Russia”,

devoted to the 190th anniversary of the Nikolai A. Golovkinsky birth

Kazan, October 28–30, 2024

Abstract Volume



KAZAN

2024



Kazan Golovkinsky Stratigraphic Meeting

2024



**Международная конференция
Kazan Golovkinsky Stratigraphic Meeting 2024**

Современная стратиграфия: методы и приложения

Восьмая Всероссийская конференция

«Верхний палеозой России»,

посвященные 190-летию со дня рождения Н.А. Головкинского

Казань, 28–30 октября 2024 г.

Сборник тезисов



КАЗАНЬ

2024

УДК 551.7/.8
ББК 26.33
С23

Ответственный редактор
Данис К. Нургалиев

Научный редактор
Владимир В. Силантьев

Технический редактор
Миляуша Н. Уразаева

Editor-in-Chief
Danis K. Nurgaliev

Scientific editor
Vladimir V. Silantieva

Technical editor
Milyausha N. Urazaeva

С23 Сборник тезисов Международной конференции Kazan Golovkinsky Stratigraphic Meeting 2024 «Современная стратиграфия: методы и приложения» и Восьмой Всероссийской конференции «Верхний палеозой России», посвященных 190-летию со дня рождения Н.А. Головкинского (Казань, 28–30 октября 2024 г.) [Электронный ресурс]. – Электронные текстовые данные (1 файл: 1,58 Мб). – Казань: Издательство Казанского университета, 2024. – 83 с. – Системные требования: Adobe Acrobat Reader. – URL: <https://dspace.kpfu.ru/xmlui/handle/net/185004>. – Электронный архив Научной библиотеки имени Н.И. Лобачевского КФУ. – Загл. с титул. экрана.

Abstract volume of Kazan Golovkinsky Stratigraphic Meeting 2024 “Modern Stratigraphy: methods and applications” and Eighth All-Russian Conference “Upper Palaeozoic of Russia”, devoted to the 190th anniversary of the Nikolai A. Golovkinsky birth (Kazan, October 28–30, 2024) [Electronic resource]. – Electronic text data (1 file: 1,58 Mb). – Kazan: Publishing House of Kazan University, 2024. – 83 p. – System requirements: Adobe Acrobat Reader. – URL: <https://dspace.kpfu.ru/xmlui/handle/net/185004>. – Electronic archive of the Scientific Library named after N.I. Lobachevsky KFU. – Cap. with title screen.

ISBN 978-5-00130-869-0

Международная конференция посвящена современной стратиграфии, ее методам и приложениям.

International Stratigraphic Meeting is dedicated to Modern Stratigraphy, its methods and applications.

УДК 551.7/.8
ББК 26.33

ISBN 978-5-00130-869-0

© Издательство Казанского университета, 2024
© Publishing House of Kazan University, 2024