

***Palaeocompositus*, gen. nov., a validation of the invalid fossil diatom designation “*Compositus*” Vekshina (*Stictodiscaceae*, *Bacillariophyta*)**

Umakant B. Deshmukh, *Institution of Higher Learning, Research and Specialized Studies Centre, Department of Botany, Janata Mahavidyalaya, Chandrapur – 442 401, Maharashtra, India.*  
(correspondence: [deshmukhumakant979@gmail.com](mailto:deshmukhumakant979@gmail.com))

Saúl Blanco, *Laboratorio de Diatomología, Instituto de Investigación de Medio Ambiente, Recursos Naturales y Biodiversidad, La Serna 58 – E24007 León, Spain.*

Eduardo A. Molinari-Novoa, *Chess Consulting & Project, Lima 15039 and ‘La Molina’ National Agrarian University, Lima 15024, Peru.*

Vekshina (1960) published a new fossil diatom genus, “*Compositus*”, with “*C. evgenii*” as type and only species. A check of algal generic names against a vocabulary of “... terms and expressions used in describing plants” (Stearn 1983) shows that, since the generic designation is invalid as it “coincides with a Latin technical term in use in morphology” (ICN Art. 20.2, Turland & al. 2018), the introduction of a new genus name is necessary.

***Palaeocompositus* U.B.Deshmukh, S.Blanco & Molinari, gen. nov.**

Replaced designation: “*Compositus*” Vekshina, *Trudy Sibirskogo Nauchno-Issledovatel'skogo Instituta Geologii, Geofiziki i Mineral'nogo Syr'ya*. 8: 161, 1960.

Type: *Palaeocompositus evgenii* U.B.Deshmukh, S.Blanco & Molinari, *sp. nov.*

Description: Cylindrical diatoms. Valves round, with undulate edges. The elevated parts of the valves form wide strips that are radially intercalated with depressed, triangular parts; margins with spiny outgrowths, forming an areola-like structure (from the Russian of Vekshina 1960: 161).

Notes: Vekshina (1960) commented that “due to the great originality of the new form, it is rather difficult to establish its relationship with known genera”, and referred this genus to the *Actinodiscaceae* (*Coscinodiscales*, *Coscinodiscophyceae*, currently included in the *Heliopeltaceae*). She compared it to *Pyrgodiscus antiquus* Forti & Schulz-Danzig (*Aulacodiscaceae*), noting that the general cylindrical structure was similar to it; however, she further noted that the radial waviness and large size of the valves placed this entity closer to *Actinoptychus* Ehrenberg. We follow the assignment of the Global Biodiversity Information Facility (GBIF) for the genus (<https://www.gbif.org/zh-tw/species/4248>).

***Palaeocompositus evgenii* U.B.Deshmukh, S.Blanco & Molinari, sp. nov.**

Replaced designation: “*Compositus evgenii*” Vekshina, *Trudy Sibirskogo Nauchno-Issledovatel'skogo Instituta Geologii, Geofiziki i Mineral'nogo Syr'ya*. 8: 161, fig. 1, 1960.

Holotype: Preparete N° 1, deposited in the Collection of the Siberian Scientific-Exploration Institute of Geology, Geophysics and Mineral Resources (SNIIGGIMS), Novosibirsk, Russia (Fig. 1).

Description: Diatom cylindrical, with wide hyaline margins and undulate edges. Valves round, convex, radially undulate, 286 µm in diameter, 8-stripped, along each strip there is a radial recess. Toothed outgrowths bordered by a hyaline undulate keel near the edges, with hook-shaped spits on top. Areolated pits rounded, unequal, densely packed spanning the entire valve, 0.75–1 to 10 µm of diameter. The upper valve resembles that of *Pyrgodiscus antiquus*, but the nature of the depressions in the valve (in the form of triangular sectors rather than rectangular ones) and the larger structure compared to that of other Jurassic diatoms, justifies a new genus and species (modified from the Russian of Vekshina 1960: 161).

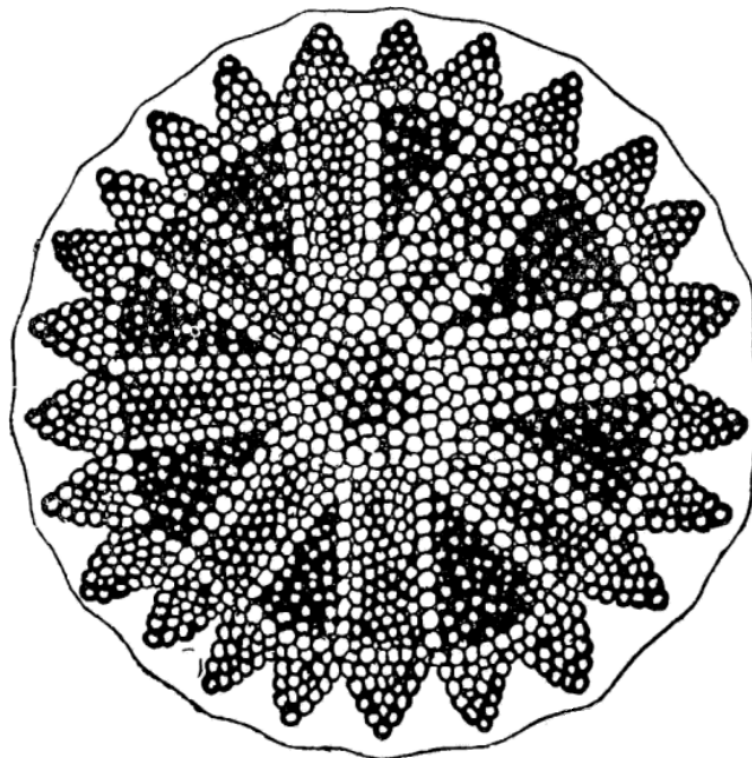
Distribution: RUSSIA: Kaluga Oblast: Uteshevo, West Siberian Plain, Upper Jurassic deposits, Maryanov formation, well 4-R, depth: 2266.05–2272 m.

UBD thanks the Principal Dr M. Subhas and Dr M.B. Shende, Head of Botany Department, Janata Mahavidyalaya, Chandrapur, for providing facilities. The authors thank Professor Michael D. Guiry for his kind suggestions.

Stearn, W.T. (1983). *Botanical Latin. History, grammar, syntax, terminology and vocabulary* ed. 3. pp. i-xiv, [1]-566, 41 figs. Newton Abbott: David & Charles.

Turland, N.J., Wiersema, J.H., Barrie, F.R., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Kusber, W.-H., Li, D.-Z., Marhold, K., May, T. W., McNeill, J., Monro, A.M., Prado, J., Price, M.J. & Smith, G.F. (eds.) 2018: *International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017*. Regnum Vegetabile 159. Glashütten: Koeltz Botanical Books.

Vekshina, V.N. (1960). Diatomovyye vodorosli verkhneyurskikh otlozheniy zapadno-sibirskoy nizmennosti [Diatoms of the Upper Jurassic deposits of the West Siberian Lowland]. *Trudy Sibirskogo Nauchno-Issledovatel'skogo Instituta Geologii, Geofiziki i Mineral'nogo Syr'ya* 8: 160–162, 2 figs, 1 table. [in Russian]



**Fig. 1** *Palaeocompositus evgenii* U.B.Deshmukh, S.Blanco & Molinari, *sp. nov.* Valve of the holotype (after Vekshina 1960: 161).