



***Oedogonium rollii* Levanets, *nom. nov.* (≡ *Oedogonium arnoldii* Y.V.Roll, *nom. illeg.*)
(*Oedogoniaceae*, *Chlorophyceae*)**

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Oedogonium arnoldii Y.V.Roll was described from Lake Seliger, Russian Federation (Arnoldi & Roll 1939: 344, 347: fig. 9). However, this name is a later homonym of *Oedogonium arnoldii* Kisselev (1931: 79: pl. 4: fig. 31), and is thus illegitimate (ICN Principle III, Art. 53.1, Turland & al. 2018). I propose here to replace this name as follows.

Oedogonium rollii* Levanets, *nom. nov.

Replaced name: *Oedogonium arnoldii* Y.V.Roll (in Arnoldi & Roll) *Journal de l'Institut Botanique de l'Académie des Sciences de la R.S.S. d'Ukraine* 21–22 (29–30): 344, 347, fig. 9 (as 'Arnoldii') 1939, *nom. illeg.* Priority for *Oedogonium arnoldii* Kisselev 1931: 79, pl. 4: fig. 31 (as 'Arnoldii')

Lectotype (designated here): [icon!] Arnoldi & Roll 1939: fig. 9 (Fig. 1).

Description: Dioecious, macrandrous. The length of vegetative cells exceeds their width six times.

They have a slightly obtuse shape, and the cells of male specimens are slightly thinner than female ones. Oogonia are usually double, less often single. The pore is located in the upper part of the oogonia (supramedian). The oogonia are pyriform-globose in shape. The oospore is almost spherical or ellipsoid-spherical in shape, almost filling the oogonia; spore wall is thick and smooth. Antheridia compressed, 2 to 5-seriate with 2 spermatozoids, which are formed as a result of horizontal cell division. Width of a vegetative cell of a female specimen 8–14 µm, its length 24–48 µm; width of the vegetative cell of a male specimen 12 µm, length 24 µm; width of oogonia 24–32 µm, its length 32–36 µm; oospore width 28 µm, its length 30–32 µm; antheridial cell width 10 µm, its length 12 µm (Arnoldi & Roll 1939; Gonzalves 1981).

Registration (of name): <http://phycobank.org/105099>

Registration (of lectotype): <http://phycobank.org/105100>

Type locality: Russian Federation: in Lake Seliger [Kalinin Region, near Baranovo village (now Tver' Region, Ostashkov District)] (Arnoldi & Roll 1939).

Eponymy: The species name honours Yakiv Volodymyrovych Roll (1887–1961), noted Ukrainian phycologist, hydrobiologist and botanist, who made important contribution to freshwater algal flora studies in the former Union of Soviet Socialist Republics.

Oedogonium rollii is taxonomically close to *O. franklinianum* Wittrock ex Hirn but differs in the paired arrangement of oogonia (in *O. franklinianum* there is only one oogonium), their pyriform shape and the shape of oospores, usually broadly elliptical (in *O. franklinianum* oogonia and oospores are spherical), as well as the larger size of vegetative cells. Additionally, this species might be identified as *O. sociale* Wittrock ex Hirn, but it differs from it in the location of the opening (pore) of the oogonia; this opening is always located above the middle of the oogonia or even in its upper part (in *O. sociale*, the pore is in the middle part of the oogonium). Also, it can be distinguished from *O. sociale* by the pairing of oogonia and the shape of the oospore (in *O. sociale* it is usually spherical in shape) (Arnoldi & Roll 1939).

Characterizing the sampling place, Arnoldi & Roll noted: "This species was found in ..., in a large number of the specimens (Roll, 1911)" (Arnoldi & Roll 1939: 344). However, this appears to be an indication of the sampling date rather than a reference to the earlier publication because according



to the phycological bibliography by Elenkin & Ohl (1929), the first known Roll's publication dated from 1914 (Roll 1914).

Yunger & Moshkova (1993) give a general description of this species published with a number of the errors and incorrect dimension values, for example: ratio of the length to the width of vegetative cells, dimensions of vegetative cells of a female specimen and antheridial cells.

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- Arnoldi, V.M. & Roll, Y.V. (1939). Novi vydy rodu *Oedogonium* [New species of the genus *Oedogonium*]. *Journal de l'Institut Botanique de l'Academie des Sciences de la RSS d'Ukraine* 21–22(29–30): 341–352, 11 figures [in Ukrainian: Арнольдї, В.М., Ролл, Я.В. (1939). Нові види роду *Oedogonium*. *Журнал Інституту ботаніки АН УРСР* 21–22(29–30): 341–352].
- Elenkin A.A., Ohl, L. (1929). Bibliography of algological works within the USSR from 1900 to 1925 inclusive. *Trudy Glavnogo Botanicheskogo Sada* [Proceedings of the Main Botanical Garden] 42(1): 1–139 [in Russian: Еленкин А. А., Оль Л. (1929). Библиография альгологических трудов в пределах СССР с 1900 по 1925 г. включительно. *Труды Главного Ботанического сада* 42(1): 1–139].
- Gonzalves, E.A. (1981). *Oedogoniales*. pp. [i]–vi, [1]–757. New Delhi: Indian Council of Agricultural Research.
- Kisselev, I.A. (1931). Opyt gidrobiologicheskoi charakteristiki tipovykh vodoemov Srednei Azii [Materialen zur hydrobiologischen Charakteristik einiger typischen Wasserbecken Mittelasien]. *Trudy Sredne-Aziatskogo Gosudarstvennogo Universiteta* [Tashkent], ser. XII-a, Geografiya 9 [Acta Universitatis Asiae Mediae, Series XII-a, Geographia, Fasciculus 9]: 1–85, 8 pls. [in Russian: Киселев И.А. (1931). Опыт гидробиологической характеристики типовых водоемов Средней Азии. *Труды Средне-Азиатского государственного университета*, Серия XII-a, География, Выпуск 9: 1–85].
- Roll, Y.V. (1914). Materialy k flore vodorosley Rossii. Rod *Closterium* Nitzsch [Matériaux pour servir à l'étude des algues de la Russie. Genus *Closterium* Nitzsch]. *Trudy Obshchestva Ispytateley Prirody pri Imperatorskom Kharkovskom Universitete* [Travaux de la Société des Naturalistes à l'Université Impériale de Kharkow] 47: 171–242 [in Russian: Ролл Я.В. (1914) Материалы к флоре водорослей России. Род *Closterium* Nitzsch. *Труды общества испытателей природы при Императорском Харьковском университете* 47: 171–242].
- 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., editors (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*, Vol. 159. pp. [i]–xxxviii, 1–253. Glashütten: Koeltz Botanical Books.
- Yunger, V.P. & Moshkova, N.O. (1993). *Oedogoniales*. In: Identification manual of freshwater algae of Ukraine. Vol. VII. pp. [1]–411. Kyiv: Naukova Dumka Publishing House [in Ukrainian: Юнгер, В.П., Мошкова, Н.О. (1993). Визначник прісноводних водоростей України. Едогонієві водорості – *Oedogoniales*. Київ: Наукова думка, 411 с.].

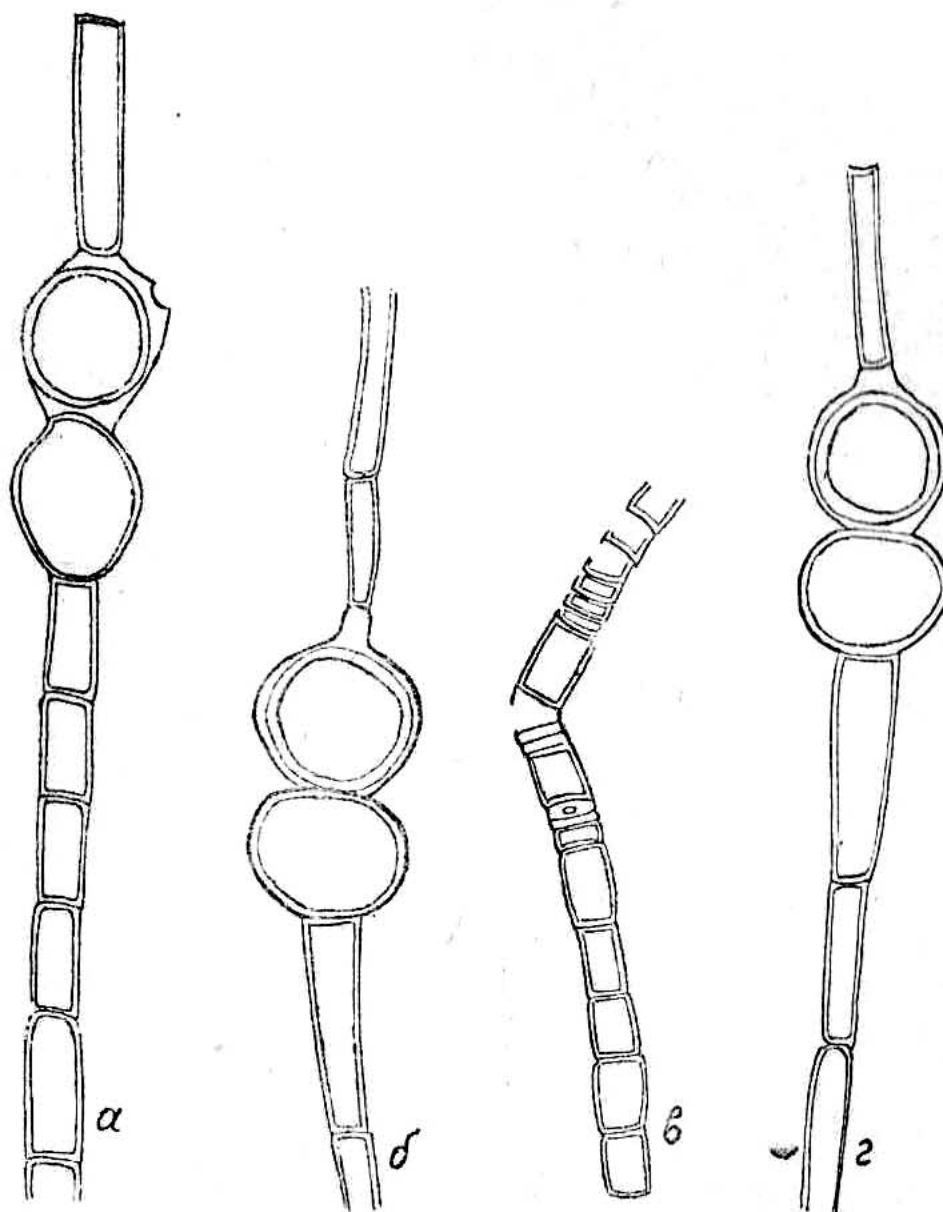


Рис. 9 а, б, в, г

Fig. 1. Lectotype (designated here): [icon!] Arnoldi & Roll 1939: fig. 9.