Vaucheria montevidensis Levanets, *nom. nov.* (≡ *Vaucheria pendula* Arechavaleta, *nom. illeg.*) (*Vaucheriaceae, Xanthophyceae*)

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Uruguayan pharmacist, geologist, zoologist and botanist José de Arechavaleta [José Arechavaleta y Balpardo] (1838–1912) described eight new species of *Vaucheria* A.P. De Candolle (1801: 20) from the Montevideo *barrios* (districts) in Uruguay (Arechavaleta 1883). These species are mostly similar in morphology to previously known species (Magnus 1883; Heering 1907; Blum 1972; Rieth 1980; Vishnyakov 2021). Only one, *Vaucheria pendula* Arechavaleta, was described by Magnus (1883: 628) as interesting, with oogonia and antheridia morphologically resembling *Vaucheria racemosa* (Vaucher) De Candolle (in Lamarck & De Candolle 1805: 61), "but all facing backwards i.e. facing the vegetative filament." However, this name is a later homonym of *Vaucheria pendula* Reinsch (1866: 112, pl. XX [20] D: I), and is thus illegitimate (ICN Principle III, Art. 53.1, Turland & al. 2018) and I propose here to replace this name.

Vaucheria montevidensis Levanets, *nom. nov*.

Replaced name: *Vaucheria pendula* Arechavaleta *Anales del Ateneo del Uruguay* 4(17): 25, pl. VI [6]: fig. 5, 1883. *nom. illeg*., not *Vaucheria pendula* Reinsch 1866: 112, pl. XX [20] D: I. 1-4.

Lectotype **(**of *Vaucheria pendula* Arechavaleta **here designated)**: [icon!] Arechavaleta 1883: pl. VI [6]: fig. 5 [reproduced here as Fig. 1].

Epitype (**here designated for the above lectotype**): Uruguay: ad Montevideo; a 1884, leg. Prof. J. Arechavaleta (**NY** 02363792).

Description: Monoecious. Vegetative system usually little branched, frequently simple, non-branched, 4-10 cm long, 0.5-0.6 mm in diameter. Primary branch height, from base to bend of secondary branches, 1.5–1.8 mm (Fig. 1). Asexual reproduction unknown. Gametangia arranged on a lateral bisexual fruiting branch arising perpendicular to the vegetative filament. Sexual reproductive of four, sometimes five, spherical and widely ellipsoid oogonia at secondary branches in a whorl, all borne at the same level together with a solitary antheridium. Secondary branches inclined towards the vegetative filament and regularly set on the upper part of the branch. Length of secondary branches similar to the length of oogonia. A narrow slightly arcuate long-cylindrical antheridium borne on the primary branch, antheridia curved towards the vegetative filament and the space between oogonia. Type of antheridium opening unknown. Oogonia broadly ellipsoid to spherical, 0.5-0.6 mm in diameter, lacking a beak, fertilisation pore, or papilla; oospores completely fill the oogonia.

Diagnosis: *Vaucheria montevidensis* differs from *V. racemosa* in arrangement of the gametangia on a lateral bisexual fruiting branch arising perpendicular to the vegetative filament and facing it.

Registration (of name): http://phycobank.org/105531

Registration (of lectotype): http://phycobank.org/105532

Syntype localities: Uruguay: Montevideo: Carrasco, stagnant water pools, September and October.

Note. Since the material used by Arechavaleta cannot be found, we propose to designate pl. VI [6]: fig. 5 in Arechavaleta (1883) as lectotype. In the New York Botanical Garden Herbarium (**NY**) there is a deposited herbarium sheet with *Vaucheria pendula* Arechavaleta (Catalog #: 02363792 & 02363793; Fig. 2). On the same herbarium sheet two specimens are mounted: Catalog #: 02363792 [*Uruguay: ad Montevideo*; *a* 1884, *leg*. Prof. J. Arechavaleta] and Catalog #: 02363793 [*b* (*forma*?), August 1885, *leg*. Prof. J. Arechavaleta]. The specimens stored in **NY** cannot be a part of original material, because they were collected in a different year. In addition,

the specimen deposited in **NY** have brief labels that do not indicate that they were collected at the type locality.

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Arechavaleta, J. (1883). Los *Vaucheria* Montevideanos. *Anales del Ateneo del Uruguay* 4(17): 18–28, pls. V, VI.

Blum, J.L. (1972). Vaucheriaceae. *In*: *North American flora*. Series II. Part 8. New York: 1–64.

De Candolle, A.P. (1801). Extrait d'un rapport sur les conferves. *Bulletin des Sciences par la Société Philomathique de Paris* 3(51): 17–21, pl. I.

Heering, W. (1907). Die Süßwasseralgen Schleswig-Holsteinsund der angrenzenden Gebiete der Freien und Hanses-tadte Lübeck und des Fürstentums Lübeck mit Berück-sichtigung zahlreicher Gebiete bisher nicht beobachten Gattungen und Arten. 2 Teil: Chlorophyceae (Allge-meines–Siphonales). *In*: *Mitteilungen aus den Botanischen Staatsinstituten in Hamburg: Beiheft zum Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten 24*. Hamburg: 105–235.

Lamarck, J.B., de & De Candolle, A.P. (1805). Flore française, ou descriptions succinctes de toutes les plantes qui croissent naturellement en France, disposées selon une nouvelle méthode d'analyse, et précédées par un exposé des principes élémentaires de la botanique. Troisième Édition. Tome second. pp. i–xii, 1–600, 1 folded map. Parisiis [Paris]: Chez H. Agasse, rue de Poitevine, No. 6 de l'Imprimerie de Stoupe, An XIII (1805).

Magnus, P. (1883). Los *Vaucheria* Montevideanos. By J. Arechavaleta. (Aus Anales del Ateneo del Uruguay. 2. Jahrg. T. IV. Nr. 17. 1883. p. 18. Mit 2 col. Tafeln 5 u.6.). *Botanische Zeitung* 41(38): 627–628.

Reinsch, P.F. (1866). De speciebus generibusque nonnullis novis ex Algarum et Fungorum classe. *Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft* 6: 111–144, pls. XX–XXV.

Rieth, A. (1980). Xanthophyceae. *In*: Ettl. H., Gerloff, J., Heynig, H, editors. *Süsswasserflora von Mitteleuropa*, Vol. 4(2), pp. [i]-xiv, [1]-147. Stuttgart: Gustav Fischer.

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.

Vishnyakov, V.S. (2021). Revision of *Vaucheria* sect. *Tubuligerae* (Xanthophyceae) in Russia. *Botanicheskiy Zhurnal* 106(7): 703–723 [in Russian: Вишняков, В.С. (2021). Ревизия *Vaucheria* sect. *Tubuligerae* (Xanthophyceae) в России. *Ботанический ж*урнал 106(7): 703–723].

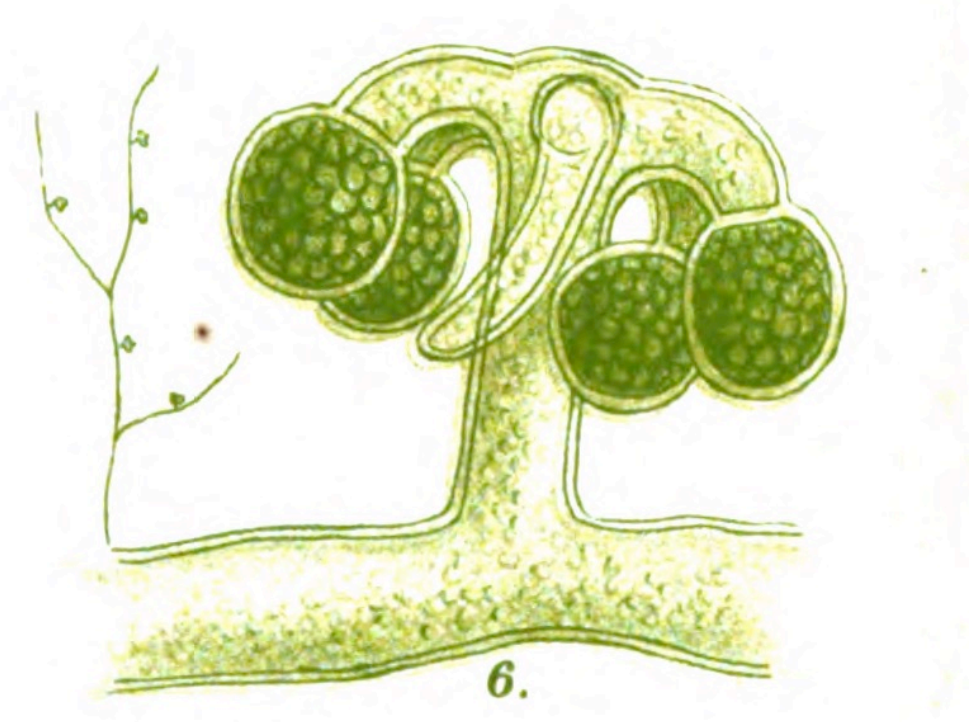

Fig. 1. Lectotype (here designated) of *Vaucheria pendula* Arechavaleta, *nom. illeg.*; from Arechavaleta (1883: pl. VI [6]: fig. 7).

Fig. 2. Digital image of herbarium sheet with *Vaucheria pendula* Arechavaleta, *nom. illeg.* deposited in The New York Botanical Garden Herbarium (**NY**) Catalog #: 02363792 & 02363793 (above, epitype, here designated).