Validation of *"Pseudacaryochloris sahariense" nom. inval.* (*Acaryochloridaceae*, *Cyanophyceae*) isolated from desert rocks in the Sahara

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We here validate "*Pseudoacaryochloris sahariense*" an invalid designation introduced in Mehda & al. (2022: 464) as a nomenclatural type was not designated in accordance with ICN Art. 7.2 (Turland & al. 2018).

Pseudoacaryochloris sahariensis S.Mehda & P.Mateo *gen. et sp. nov*.

Description: Cells spherical or elongated before cell division, occurring as individual cells or in small or large aggregates. Cells with a thin sheath involved in the development of aggregates. Cell division by binary fission and is always perpendicular to the longer axis of the ovoid cells. Mean cell size varies in diameter from 1.8 ± 0.2 to 2.5 ± 0.2 µm, depending on the strain, with a range of 1.3–3.2 µm in diameter. Cultures tolerated desiccation, surviving at high temperatures of 35–40 ºC.

Type locality: Oued Righ (وادي ريغ) near Mrara, north-eastern Algerian Sahara; endolithic environment; leg. Smail Mehda, 12.xii.2018.

Holotype: Cryopreserved material in a metabolically inactive state from reference strain UAM 940 MAR63,in the Algal Culture Collection of the Universidad Autónoma de Madrid, Spain, as **UAM** 940.

Representative illustrations: Mehda & al. (2022, figs 3 O–R, 5 O–R, right part of fig 7 P and left part of the filament in fig. 7 Q).

Registration: http://phycobank.org/104179 (genus), http://phycobank.org/104180 (species).

Reference Strain: UAM940 MAR63, isolated by Smail Mehda.

Other strains: PLM129, PLM131, PLM132, MAR65 MAR66, SIK2, SIK3, SIK40, SIK83, SIK114 and SIK 123

GenBank accession number: MZ677373

Etymology: Genus name refers to the morphological similarity and phylogenetic relationship to the genus *Acaryochloris*, but genetically the strain is clearly distant and separated from it in different clusters. The epithet refers to its presence at the Sahara Desert.

Note: Other strains from the same species have been also isolated from endo- and hypolithic environments from Ouargla Province in eastern Algeria, and identical 16S Ribosomal RNA sequences have been described in biological soil crusts from the Oued Souf (El Oued, Algeria) in the Sahara Desert (Mehda & al. 2021).

Mehda, S., Muñoz-Martín, M. Á., Oustani, M., Hamdi-Aïssa, B., Perona, E., & Mateo, P. (2022). Lithic cyanobacterial communities in the polyextreme Sahara Desert: Implications for the search for the limits of life. *Environmental Microbiology*, 24: 451–474.

Mehda, S., Muñoz-Martín, M. Á., Oustani, M., Hamdi-Aïssa, B., Perona, E., & Mateo, P. (2021). Microenvironmental conditions drive the differential cyanobacterial community composition of biocrusts from the Sahara Desert. *Microorganisms*, 9: 487.

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.