'*Neglecta timonensis*' gen. nov., sp. nov., a new human-associated species

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Abstract

We herein describe the main characteristics of '*Neglecta timonensis*' strain SN17 (CSUR P2265) that was isolated from the stool of an 88-year-old woman with type 2 diabetes.

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In 2015, the bacterial strain SN17 (CSUR P2265) was cultivated from the stool of an 88-year-old woman with type 2 diabetes. This study was part of the culturomics project that we are conducting on the human microbiota [1,2]. The patient provided signed informed consent and the study was validated by the ethics committee of the Institut Federatif de Recherche 48 under number 09-022. Growth was obtained in anaerobic atmosphere at 37°C after 3 days of culture on 5% sheep blood-enriched Columbia agar (bioMérieux, Marcy l'Etoile, France). Agar-grown colonies were translucent white and had a diameter of 0.5–1 mm. Cells were Gram-positive rods ranging in length from 1.5 to 6 µm. Strain SN17 was strictly anaerobic, catalase-positive and oxidase-negative. The bacterium could not be identified using matrix-assisted laser desorption-ionization time-of-flight mass spectrometry (MALDI-TOF MS) (Microflex, Bruker Daltonics, Bremen, Germany) [3].

As a consequence, we sequenced the complete 16S rRNA gene using a 3130-XL sequencer (Applied Biotechnologies, Villebon sur Yvette, France) and compared it to GenBank. The complete 16S rRNA gene of strain SN17 exhibited a sequence identity of 92.67% with *Clostridium sporosphaeroides* strain DSM 1294^T (GenBank Accession number M59116), the phylogenetically closest species with standing in nomenclature (Fig. 1). *Clostridium sporosphaeroides* is an anaerobic bacterium isolated for the first time in 1948, and recently identified in biogas plants in Germany [4]. *Clostridium sporosphaeroides* produces butyric acid, acetic acid and propionic acid from the fermentation of the biomass [4]. Another closely related species, *Clostridium leptum*, has been proposed to play a role in the pathogenesis of inflammatory bowel diseases [5] as well as an immunomodulatory role in diseases such as asthma [6].

As the 16S rRNA identity rate of strain SN17 with the *C. sporosphaeroides* type strain was lower than the 95% cut-off gene sequence suggested to delineate bacterial genera [7], we considered it as a representative of a putative new genus within the order *Clostridiales*. We propose to name this new genus '*Neglecta* gen. nov.' and the new species '*Neglecta timonensis*' gen. nov., sp. nov. Strain SN17^T is the type species of '*Neglecta timonensis*' gen. nov., sp. nov.

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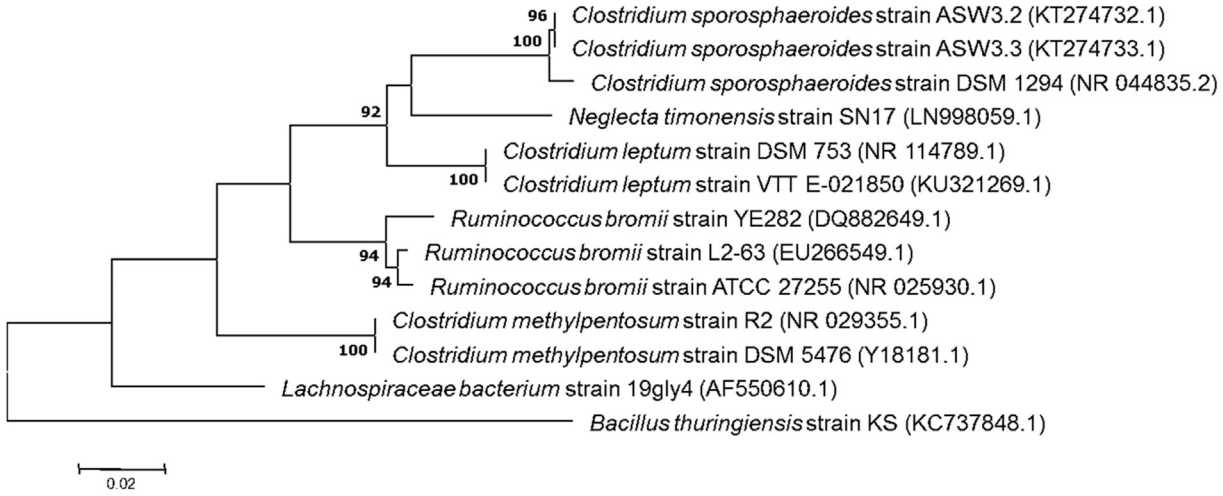

FIG. 1. Phylogenetic tree showing the position of '*Neglecta timonensis*' strain SN17^T relative to other phylogenetically close members of the order *Clotridiales*. GenBank Accession numbers are indicated in parentheses. Sequences were aligned using CLUSTALW, and phylogenetic inferences were obtained using the maximum-likelihood method within MEGA software. Numbers at the nodes are percentages of bootstrap values obtained by repeating the analysis 500 times to generate a majority consensus tree. Only bootstrap scores of at least 90% were retained. The scale bar indicates a 2% nucleotide sequence divergence.

MALDI-TOF MS Spectrum

The MALDI-TOF MS spectrum of *N. timonensis* is available at http://www.mediterranee-infection.com/article.php?laref=256&titre=urms-database

Nucleotide Sequence Accession Number

The 16S rRNA gene sequence was deposited in GenBank under accession number LN998059.

Deposit in a Culture Collection

Strain SN17^T was deposited in the collection de Souches de l'Unité des Rickettsies (CSUR, WDCM 875) under number P2265.

Conflicts of interest

The authors certify that they have no conflict of interest in relation to this research.

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