Proposal To Change the Genus Designation Serpula to Serpulina
gen. nov. Containing the Species Serpulina hyodysenteriae
comb. nov. and Serpulina innocens comb. nov.

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The bacterial genus Serpula Stanton et al. 1991 is illegitimate due to the existence of a fungal genus Serpula
Pers. ex S. F. Gray. Consequently, a new genus designation, Serpulina, is proposed for this spirochete genus.
Serpulina hyodysenteriae, the type species, and Serpulina innocens Stanton et al. 1991, therefore, become Serpulina
hyodysenteriae comb. nov. and Serpulina innocens comb. nov.

My colleagues and I have proposed a reclassification of the intestinal anaerobic spirochetes Treponema hyodysenteriae
and Treponema innocens (21). This proposal was based on results of DNA-DNA reassociation experiments, sodium
dodecyl sulfate-polyacrylamide gel electrophoresis of cell proteins, and 16s rRNA sequence analyses. Our results and
the results of previous investigators (16, 17) indicated that T. hyodysenteriae and T. innocens are related to one another
but are related only distantly to T. pallidum, type species of the genus Treponema, and to other spirochetes. Conse-
quently, we proposed that the species T. hyodysenteriae and T. innocens be transferred to a new genus, Serpula gen. nov.

Recently, I learned that the name Serpula has been used to designate a genus of fungi belonging to the Class Basidiomycetes
(1, 5, 18). Species of this genus are associated with rotting wood and include S. lacrymans, which causes dry rot
of lumber in buildings (2, 5). According to Rule 51b of the
International Code of Nomenclature of Bacteria (13), a bacterial name is illegitimate if it is a junior homonym (a
name published later) of a taxon of bacteria, fungi, algae, protozoa, or viruses. Due to the prior use of the name
Serpula for a fungal genus, the name Serpula for a bacterium is illegitimate and should be rejected.

Serpula translated from the Latin means "little snake." When viewed by phase-contrast microscopy, S. hyodysen-
teriae cells have a snakelike appearance (22). In recognition of this morphology, I propose that the bacterial genus name
Serpula be replaced by Serpulina (ser.pu.li'.na) gen. nov. (L.n. serpula, little snake; L. suffix -ina belonging to; N.L.
fem. n. Serpulina belonging to the class of little snakes, snakelike). Serpulina hyodysenteriae and Serpulina innocens
would be transferred to the new genus as Serpulina hyodysenteriae comb. nov. and Serpulina innocens comb. nov. The
type species would be S. hyodysenteriae, with strain B78 (= ATCC 27164) as the type strain. The genus description for
these intestinal spirochetes is the same as the description for Serpula, and the species descriptions are the same as those
for S. hyodysenteriae and S. innocens (21).

There is no indication that the name Serpulina has been used previously to designate taxa of bacteria (4, 7, 10, 20),
protozoa (11, 14), algae (8, 12, 19), fungi (1, 2, 9, 18), or viruses (3, 6, 7, 15, 23). Computer searches of titles, key
to 1991; Life Sciences Collection, 1978 to 1991; Medline, 1966 to 1991; Excerpta Medica Base, 1974 to 1991; and Chemical
Abstracts Search, 1967 to 1991) have not revealed any prior use of the designation Serpulina.

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REFERENCES
illustrated guide to the protozoa. Society of Protozoologists, Lawrence, Kans.