Synonymy of *Flexibacter maritimus* Wakabayashi, Hikida, and Masumura 1986 and *Cytophaga marina* Reichenbach 1989†

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There are two validly published species names, *Flexibacter maritimus* Wakabayashi, Hikida, and Masumura 1986 (with strain NCMB 2154 as the type strain) and *Cytophaga marina* Reichenbach 1989 (with strain NCMB 2153 as type strain), for what is clearly the same organism. Both type strains were included in the original description of *F. maritimus*. The proposal of *C. marina* was intended as a new combination for "*Flexibacter marinus*," a name that was never validly published but was used for the same organism for which *F. maritimus* was eventually proposed. *F. maritimus* clearly has priority.

Masumura and Wakabayashi (4) isolated a gliding organism which had caused mass mortality among certain cultured juvenile marine fishes. Hikida et al. (2) characterized eight strains of this organism and considered them to be members of a new species; these authors announced their intention to make a separate formal proposal of the name "*Flexibacter marinus*." Additional characteristics of the organism, based on additional strains, were described by Wakabayashi et al. (8). Since the epithet *marinus* had already been used in the name *Vibrio marinus*, the authors changed their minds on the use of this epithet (7), and the eventual formal proposal was a proposal for a taxon called *Flexibacter maritimus* (9). Strain R2 was designated the type strain and was deposited in the National Collection of Marine Bacteria (NCMB) as strain NCMB 2514 (sic) together with one additional strain, strain B2 (= NCMB 2513 [sic]); the NCMB accession numbers of these strains should be NCMB 2154 and NCMB 2153, respectively (5).

Although the name "*Flexibacter marinus*" Hikida, Wakabayashi, Egusa, and Masumura 1979, 421 was never formally proposed, Reichenbach (6) proposed (in an article probably written several years earlier) the name "*Cytophaga marina*" Hikida, Wakabayashi, Egusa, and Masumura) comb. nov., with strain B2 (= NCMB 2153) as the type strain. The name *Cytophaga marina* was subsequently validated (3) as a new species, not a new combination. Since the name "*Flexibacter marinus*" never had standing in nomenclature, the correct citation should be *Cytophaga marina* Reichenbach 1989, 2015.

Currently then, there are two validly published species names, *Flexibacter maritimus* Wakabayashi, Hikida, and Masumura 1986 (with strain NCMB 2154 as the type strain) and *Cytophaga marina* Reichenbach 1989 (with strain NCMB 2153 as the type strain). Clearly, however, the same organism is encompassed by both species names. In his proposal of *Cytophaga marina*, Reichenbach (6) clearly intended a new combination for "*Flexibacter marinus*" Hikida, Wakabayashi, Egusa, and Masumura. Both NCMB

strains were included in the original description of *Flexibacter maritimus* and were almost identical in phenotypic characteristics and G+C contents (9). The synonymy of the two organisms has been further demonstrated by the results of DNA relatedness studies; DNA from strain NCMB 2154 exhibited 73% reassociation with labeled DNA from strain NCMB 2153 (1).

As other workers have noted (1), more work is needed to better define the genera in the *Cytophaga*-*Flexibacter*-*Flavobacterium* phylogenetic branch. Pending reorganization of the branch as a whole, it seems prudent to leave the organism as *Flexibacter maritimus* rather than transfer it to the genus *Cytophaga* as presumably Reichenbach would.

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