Azomonas macrocytogenes (ex Baillie, Hodgkiss, and Norris 1962, 118) nom. rev.

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The name *Azomonas macrocytogenes* (Jensen) Baillie, Hodgkiss, and Norris 1962, 118 is not in the *Approved Lists of Bacterial Names*. The organism to which this name refers does not belong to the genus *Azotobacter*, although the name *Azotobacter macrocytogenes* Jensen 1955, 280 was included in the *Approved Lists*. Reasons are presented for including the organism in the genus *Azomonas*, and the name *Azomonas macrocytogenes* is revived. The type strain is ATCC 12335.

The name *Azomonas macrocytogenes* (Jensen 1955) Baillie, Hodgkiss, and Norris 1962, 118 does not appear in the *Approved Lists of Bacterial Names* (9), although it was accepted in the 8th edition of *Bergey's Manual* (3) and was included in the first draft of the *Approved Lists* (1). Instead, the former name of this organism, *Azotobacter macrocytogenes* Jensen 1955, 280, was given in the *Approved Lists*, and the new combination *Azomonotrichon macrocytogenes* (Jensen 1955) Thompson and Skerman 1981, 215 has since been validly published (6). The purpose of this report is to revive the name *Azomonas macrocytogenes* (used hereafter) and to effect its valid publication, as specified in Rules 27, 28a, and 34a and Provisional Rules A2, B2, and B3 of the *International Code of Nomenclature of Bacteria* (8).

This aerobic, nonsymbiotic, nitrogen-fixing organism was originally included by Jensen in the microcyst-forming genus *Azotobacter*, although the author was not certain whether cysts are actually formed (7). Baillie et al. (2) assigned the organism to the genus *Azomonas* on the basis of polar flagellation and lack of cyst formation. However, Thompson and Skerman (11) have reported cyst formation by four of seven strains. The discrepancies in the reports may be reconciled by the electron microscopic study of Tchan (10), which shows that the cystlike cells of *Azomonas macrocytogenes* are surrounded by a thick layer of capsular-like material rather than the layered outer wall of a typical cyst of *Azotobacter*.

On the basis of a numerical taxonomic study, Thompson and Skerman (11) excluded *Azomonas macrocytogenes* from the genera *Azomonas* and *Azotobacter* and placed it in the new genus *Azomonotrichon*. The exclusion of this organism from the genus *Azotobacter* is supported by deoxyribonucleic acid base composition and homology studies (4) and ribosomal ribonu-

cleic acid cistron similarities (5); however, the exclusion from the genus *Azomonas* is not so justifiable. *Azomonas macrocytogenes* and *Azomonas insignis* are more similar to each other than to the third member of the genus, *Azomonas agilis*, in terms of flagellation (2) and deoxyribonucleic acid base composition (4). Although the three species differed as much from one another as from species of *Azotobacter* in terms of their ribosomal ribonucleic acid cistrons, de Smedt et al. (5) proposed that all three species should be included in the genus *Azomonas* until more information becomes available.

We therefore propose the revival of the name *Azomonas macrocytogenes*. The organism has been described previously (3, 11). The type strain is ATCC 12335 (= strain O of Jensen [7] = NCIB 8700 = WR 111).

REPRINT REQUESTS

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