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COMMENTS ON SNEATH, P.H.A. AND SKERMAN, V. B. D.
(1966) "A NEW LIST OF TYPE AND REFERENCE STRAINS
OF BACTERIA" INT. J. SYST. BACT., 16(1):1-133

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ABSTRACT. An annotated list of 210 corrections and emendations relative to the location (in recognized culture collections) of type strains, neotype strains and reference strains of bacteria as proposed by Sneath and Skerman (1966, 1).

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On examining the above paper a number of errors and omissions have been discovered. Many of these have arisen from the use of the first edition and appendix of the Catalogue of Strains of the National Collection of Industrial Bacteria rather than the second edition published at the end of 1964. A list of corrections is appended.

In addition, the following points should be noted.

1. Abbreviations: Additional to those given by Sneath and Skerman should be listed:

CDA - probably same as Canad. 201

CN - Burroughs Wellcome Research Laboratories,
Beckenham, Kent, England, U.K.

HMS - Hopkins Marine Station, Pacific Grove, California, U.S.A. (Catalogue of Cultures, 1951)

The abbreviations to the names of Culture Collections are as follows:

ATCC - American Type Culture Collection, Rockville,
Maryland 20852, U.S.A.

CCEB - Culture Collection of Entomogenous Bacteria,
Institute of Entomology, Prague 6, Czechoslovakia

CCMDB - Microbial Culture Collection Department,
Faculty of Natural Sciences, University of J.E. Purkyne, Brno, Czechoslovakia

¹ National Collection of Industrial Bacteria and National Collection of Marine Bacteria. Torry Research Station, P.O. Box 31, 135 Abbey Road, Aberdeen, Scotland, U.K.

- CDA - Canadian Department of Agriculture, Ottawa, Canada
- CDC - Communicable Disease Center, United States Public Health Service, Atlanta, Georgia, U.S.A.
- CN - Burroughs Wellcome Research Laboratories, Beckenham, Kent, England, U.K.
- HMS - Hopkins Marine Station, Pacific Grove, California, U.S.A.
- IFO - Institute for Fermentation, Osaka, Japan
- IMRU - Institute of Microbiology, Rutgers - The State University, New Brunswick, New Jersey, U.S.A.
- NCA - National Canners Association, Washington, D.C.
- NCDO - National Collection of Dairy Organisms, Shinfield, Reading, England, U.K.
- NCIB - National Collection of Industrial Bacteria, Torry Research Station, Aberdeen, Scotland, U.K.
- NCMB - National Collection of Marine Bacteria, Torry Research Station, Aberdeen, Scotland, U.K.
- NCTC - National Collection of Type Cultures, Central Public Health Laboratory, Colindale, London, NW 9, England, U.K.
- NIRD - National Institute for Research in Dairying, Reading, England, U.K.
- NRC - Canada - National Research Council, Ottawa, Canada
- NRRL - Northern Regional Research Laboratory, Northern Utilization Research and Development Division, U.S. Department of Agriculture, Peoria, Illinois, U.S.A.
- QMB - Pioneering Research Division, Quartermaster Research and Engineering Command, U.S. Army, Natick, Massachusetts, U.S.A.
- PSA - Progetto Sistematica Actinomiceti, Istituto "P. Stazzi," Milan, Italy

2. Status: From the introduction it is not clear exactly what is meant by the term "Authentic" in the table. When used in connection with holotypes it would seem superfluous. At other times it seems merely to emphasise "typical" etc., in the remarks column. If it indicates cultures checked for agreement with name and original description by the authors or others, it would be helpful if this were indicated.

3. Bacillus: In the annotations on Bacillus, references are made to "Aerobic Sporeforming Bacteria," U. S. Department of Agriculture Monograph No. 16, erroneously quoting this as "Aerobic Sporebearing Bacteria."
4. Propionibacterium: Sneath and Skerman do not regard van Niel's cultures as cotypes on the ground that these species were "founded" on recognizable varieties of earlier workers. If this interpretation is accepted, it would appear incorrect to cite Lactobacillus brevis ATCC 14869, L. casei ATCC 393, or L. helveticus Hansen Lh 12 as cotypes. Alternatively, it would seem a more logical extension of the type concept to regard van Niel's strains as cotypes for those species which he named and defined, even though his definitions may have embraced descriptions of previously described and recognisable strains. In this case Rhodopseudomonas spheroides ATCC 11167 should also be regarded as a cotype.

All references in the manuscript are to the pages where the taxon is named. The complete citations are included in the list of references.

NAME OF SPECIES AND AUTHORITY, AUTHOR'S STRAIN NUMBER,
CULTURE COLLECTION NUMBER, STATUS (PRIMARY, TECHNICAL)
AND ANNOTATIONS OF SNEATH AND SKERMAN 1966, 1

1. Acetobacter aceti (Beijerinck 1898) Beijerinck 1900.
Author's strain No. L40. Culture collection No. NCIB 8621.
Status: no comment. Annotation: ADD: this strain (L40) is No. 4 from Collection 1, Delft, Frateur's monograph (1950, 313). According to Frateur "We can then conclude that Pasteur's Mycoderma aceti non mucous is the equivalent of Beijerinck's A. aceti. For this reason we must name this organism A. aceti (Pasteur) Beijerinck."
2. Acetobacter alcoholophilus Kozulis and Parsons 1958.
Author's strain No. None. Culture collection Nos. ATCC 12879, NCIB 889 Status: Holotype. Annotation: AMEND: Parsons to ATCC and NCIB. Holotype, Kozulis and Parsons (1958, 47-50).
3. Acetobacter capsulatum Shimwell 1936.
Authors strain No. None. Culture collection Nos. NCIB 4943, ATCC 11894. Status: Holotype. AMEND: Shimwell to NCTC 1936, to NCIB to ATCC. Holotype, Shimwell (1936, 585).
4. Acetobacter mobile Tošić and Walker 1944.
Author's strain No. 20. Culture collection Nos. NCIB 6428, ATCC 12877. Status: Holotype. AMEND: Tošić to NCTC 1942, to NCIB. Tošić to ATCC. NCIB 6428 was designated as the type strain by Tošić (number 20 in his collection). Tošić and Walker (1944, 296).
5. AMEND: Acetobacter suboxydans Kluyver and de Leeuw 1924 (not 1923)
Author's strain No. None. Culture collection No. NCIB 9119. Status: Holotype. Annotations: Wikén to Carr to NCIB. Lineal descendant of the culture described by Kluyver and de Leeuw (1924, 170) and behaves in accordance with the original description. NCTC/NCIB 3734, sent direct to NCTC by Kluyver, has lost the property of converting glycerol to dihydroxyacetone, therefore NCIB 9119 is preferred. All genuine Acetobacter suboxydans are now classified by Shimwell and Carr (1959, 353) as Acetomonas oxydans.
6. Acetobacter turbidans Cosbie, Tošić and Walker 1942 (not 1941).
Author's strain No. 1. Culture collection No. NCIB 6249. Status: Holotype. Annotations: Walker to NCTC 1941, to NCIB. Cosbie, Tošić and Walker (1941, 382 and 1942, 82). This strain, No. 1 of Walker, was deposited in NCTC before publication of the second article and should rank as holotype. NCIB 6427 is then a paratype.
7. DELETE: Acetobacter oxydans
REPLACE: Acetomonas oxydans (Henneberg 1897) Shimwell and Carr 1959.
Author's strain No. None. Culture collection No. NCIB 9013.
Status: Proposed neotype. Annotations: Carr to NCIB. Proposed as neotype of Acetomonas oxydans not Acetobacter oxydans (Henneberg) Bergey et al. 1923; Shimwell and Carr (1959, 353). NCIB 9014 was also proposed as a neotype by these authors.

8. Achromobacter aquamarinus ZoBell and Upham 1944.
Author's strain No. 558. Culture Collection Nos. ATCC 14400, NCMB 557. Status: No comment. Annotations: AMEND: ZoBell to ATCC and Shewan to NCMB.
9. Achromobacter xerosis Groupe et al. 1954.
Author's strain No. None. Culture collection Nos. ATCC 14780, NCIB 9657. Status: No comment. Annotations: AMEND: Groupe to Rutgers University to ATCC to NCIB.
10. DELETE: Aerobacter aerogenes (Kruse 1896) Beijerinck 1900.
Author's strain No. 819-56. Culture collection Nos. NCTC 10006, ATCC 13048. Status: Proposed neotype. Annotations: Proposed neotype of Enterobacter aerogenes Hormaeche and Edwards (1960, 71), not of Aerobacter aerogenes.
11. DELETE: Aerobacter cloacae (Jordan 1890) Bergey et al. 1923.
Author's strain No. 279-56. Culture collection Nos. NCTC 10005, ATCC 13047. Status: Proposed neotype. Annotations: Proposed neotype of Enterobacter cloacae (Jordan 1890) Hormaeche and Edwards (1960, 71), not Aerobacter cloacae.
12. Aeromonas hydrophila (Chester 1901) Stanier 1943
Author's strain No. P 2. Culture collection Nos. NCTC 7810, ATCC 9071, CCMDDB 1242, NCMB 37, Canad 212, 494, CDC-RH 36, RH 252. Annotations: AMEND: Kulp to ATCC to NCTC to Miles to Shewan to NCMB. Status: No comment.
13. Aeromonas liquefaciens (Beijerinck 1900) Kluyver and van Niel 1936.
Author's strain No. Kluyver L 417. Culture collection Nos. NCMB 87, CDC-RH 47. Status: No comment. Annotations: AMEND: Kluyver to Miles to Shewan to NCMB. This strain was isolated by von Wolzogen Kühr and named Pseudomonas fermentans (1932, 239) but was received by Miles and Miles from Kluyver as Aeromonas liquefaciens (1951, 298). As Kluyver and van Niel proposed the genus Aeromonas this culture is presumably authentic.
14. Aeromonas salmonicida (Lehmann and Neumann 1896) Griffin 1954.
Author's strain No. CDC-RH 39. Culture collection Nos. ATCC 14174, CCMDDB 1249, NCMB 833. Status: no comment. Annotations: AMEND: Snieszko to Ewing to ATCC and NCMB.
15. Aeromonas shigelloides (Bader 1954) Ewing et al. 1961.
Author's strain No. M 51. Culture collection Nos. ATCC 14029, CCMDDB 1244, NCIB 9242, NCTC 10360; Private collection No. Hugh 798. Status: Holotype. Annotations: AMEND: Bader to Ewing to ATCC and NCIB. ADD: ATCC to NCTC.
16. Agrobacterium tumefaciens (Smith and Townsend 1907) Conn 1942.
Author's strain No. A 1. Culture collection No. ATCC 4720, NCIB 8150. Status: No comment. Annotations: AMEND: Baldwin to ATCC (in 1931) to NCIB.
17. Arthrobacter atrocyaneus Kuhn and Starr 1960.
Author's strain No. A 9.2. Culture collection Nos. ATCC 13752, NCIB 9220. Status: Holotype. Annotations: AMEND: Starr to ATCC and Keddle to NCIB. Holotype, Kuhn and Starr (1960, 175). Starr and Kuhn (1960, 50) also refers.
18. Arthrobacter citreus Sacks 1954.
Author's strain No. None. Culture collection Nos. ATCC 11624, NCIB 8915, CDA 837. Status: Holotype. Annotations: AMEND: Sacks to ATCC and Lochhead to Landerkin to NCIB.

19. Arthrobacter duodecadis Lochhead 1958.
Author's strain No. 541. Culture collection Nos. ATCC 13347, NCIB 9222, CDA 859. Status: Holotype (not cotype). Annotations: AMEND: Lochhead to ATCC and Keddie to NCIB. Holotype, Lochhead (1958, 166).
20. Arthrobacter flavescens Lochhead 1958.
Author's strain No. 401. Culture collection Nos. ATCC 13348, NCIB 9221, CDA 860. Status: Holotype (not cotype). Annotations: AMEND: Lochhead to ATCC and Keddie to NCIB. Holotype, Lochhead (1958, 166).
21. Arthrobacter globiformis (Conn 1928) Conn and Dimmick 1947.
Author's strain No. None. Culture collection Nos. NCIB 8602, Canad-201, 425. Status: Cotype. Annotations: AMEND: Conn to Canad-201 as Conn's stock strain to NCIB. Used in several studies, biotin requiring. Conn has suggested ATCC 8010 as the type strain—see below.
22. Arthrobacter globiformis (Conn 1928) Conn and Dimmick 1947.
Author's strain No. None. Culture collection Nos. ATCC 8010, NCIB 8907. Private collection No. N.R. Smith 168. Status: Cotype. Annotations: Conn to Smith to ATCC to NCIB. Suggested type strain of Conn (ATCC Catalogue, 1964). Conn (1928, 3). Does not require biotin.
23. Arthrobacter nicotianae Giovannozzi-Sermanni 1959.
Author's strain No. 94. Culture collection Nos. ATCC 15236, NCIB 9458, CDA 883. Status: No comment. Annotations: Amend: Giovannozzi-Sermanni to ATCC and Lochhead to NCIB.
24. Arthrobacter pascens Lochhead and Burton 1953.
Author's strain No. B 89. Culture collection Nos. ATCC 13346, NCIB 8910, CDA 858. Status: Holotype (not cotype). Annotations: AMEND: Lochhead to Landerkin to NCIB. Holotype, Lochhead and Burton (1953, 18).
25. Arthrobacter ramosus Jensen 1960.
Author's strain No. 1 Gm 25. Culture collection Nos. ATCC 13727, NCIB 9066. Status: No comment. Annotations: AMEND: Jensen to ATCC and NCIB as type strain.
26. Arthrobacter simplex (Jensen 1934) Lochhead.
Author's strain No. None. Culture collection Nos. ATCC 6946, NCIB 8929. Status: No comment. Annotations: AMEND: Jensen to NCTC to ATCC to NCIB. DELETE: Jensen (1933, 181). SUBSTITUTE: Jensen (1934, 43).
27. Arthrobacter terregens Lochhead and Burton 1953.
Author's strain No. 88. Culture collection Nos. ATCC 13345, NCIB 8909 (not 8908), CDA 857. Status: Holotype (not cotype). Annotations: AMEND: Lochhead to Landerkin to NCIB. Holotype, Lochhead and Burton (1953, 17).
28. Arthrobacter tumescens (Jensen 1934) Conn and Dimmick 1947.
Author's strain No. None. Culture collection Nos. ATCC 6947, NCIB 8914, CDA 836. Status: No comment. Annotations: AMEND: Jensen to NCTC to ATCC to Lochhead to Landerkin to NCIB. DELETE: Jensen (1933, 181). SUBSTITUTE: Jensen (1934, 45).
29. Arthrobacter ureafaciens (Krebs and Eggleston 1949) Clark 1955.
Author's strain No. NC. Culture collection Nos. ATCC 7562, NCIB 7811. Status: No comment. Annotations: AMEND: ATCC to NCTC to NCIB.

30. Azotobacter beijerinckii Lipman 1955
Author's strain No. 3. Culture collection No. HMS MB.2.3, NCIB 8948. Status: no comment. Annotations: AMEND: Soriano to van Niel to NCIB.
31. Azotobacter indicum Starkey and De 1939 (not A. indicus)
Author's strain No. Starkey 10.1. Culture collection Nos. ATCC 9037, NCIB 8597, HMS MB 5.1. Status: Cotype. Annotations: AMEND: Starkey to ATCC. Lochhead to NCIB.
32. Azotobacter indicum Starkey and De 1939
Author's strain No. Starkey 11.1. Culture collection Nos. ATCC 9039, NCIB 8712, HMS MB 5.2. Status: Cotype. Annotations: AMEND: Starkey to ATCC. van Niel to NCIB.
33. Azotobacter lactiogenes Kauffmann and Toussaint 1951
Author's strain No. None. Culture collection No. NCIB 8846. Status: Cotype. Annotations: AMEND: Kauffmann to Jensen to NCIB. Kauffmann and Toussaint (1951, 553). Now considered a member of the genus Beijerinckia Derx, B. lactiogenes. Received by NCIB under latter name.
34. Azotobacter macrocytogenes Jensen 1955
Author's strain No. None. Culture collection Nos. NCIB 8700, 8701 and 8702. Status: Paratype. Annotations: AMEND: Jensen to NCIB. Jensen (1955, 278). NCIB 8700 is Jensen's original (O) culture, NCIB 8701 and NCIB 8702 are his variants (M) and (I) respectively.
35. Azotomonas insolita Stapp 1940
Author's strain No. None. Culture collection Nos. ATCC 12412, NCIB 9747. Status: Holotype. Annotations: AMEND: Stapp to Hofer to ATCC to NCIB. Holotype, Stapp (1940, 1).
36. Bacillus alvei Cheshire and Cheyne 1895
Author's strain No. Lochhead 127 (not 1925). Culture collection Nos. NRRL B-383, ATCC 6344, NCTC 6352, IFO 3343, NCIB 9371, CN 2198. Status: Proposed neotype. Annotations: ADD: Gordon to NCIB. AMEND: Smith, Gordon and Clark (1952, 113).
37. Bacillus aminovorans den Dooren de Jong 1927
Author's strain No. 299. Culture collection Nos. NCIB 8292, ATCC 7046. Private collection No. N. R. Smith 341. Status: No comment. Annotations: AMEND: den Dooren de Jong to NCTC to Smith to ATCC to NCIB.
38. Bacillus anthracis Cohn 1872, emend. Koch 1876
Author's strain No. Vollum. Culture collection Nos. NCIB 9377, ATCC 14578, NCTC 10340. Status: no comment. Annotations: AMEND: Sneath to NCIB.
39. Bacillus aporrhoeus Fuller and Norman 1943
Author's strain No. None. Culture collection Nos. ATCC 9500, NCIB 9555. Status: Cotype. Annotations: AMEND: Fuller to ATCC to NCIB.
40. Bacillus badius Batchelor 1919, emend. Saghafi and Appleman 1953
Author's strain No. None. Culture collection Nos. ATCC 14574, NCIB 9364, NCTC 10333. Private collection Nos. Smith 663, Henry 110. Status: Holotype. Annotations: ADD: Gordon to NCIB. Gibson to NCTC.

41. Bacillus brevis Migula 1900, emend. Ford 1916
Author's strain No. Ford 27b. Culture collection Nos. NCTC 2611,
 ATCC 8246, NCIB 9372. Private collection No. Smith 604.
Status: Proposed neotype. Annotations: ADD: Gordon to NCIB.
 Gibson to NCTC.
42. Bacillus cereus Frankland and Frankland 1887
Author's strain No. None. Culture collection Nos. ATCC 14579,
 NCIB 9373, NCTC 2599. Private collection Nos. Gibson 971,
 Ford 13. Status: Cotype. Annotations: ADD: Gordon to NCIB.
43. Bacillus circulans Jordan 1890, emend. Ford 1916
Author's strain No. Ford 26. Culture collection Nos. NCTC 2610
 (not 2601), ATCC 4513, NCIB 9374. Private collection No. Smith
 726. Status: Cotype. Annotations: ADD: Gordon to NCIB.
44. Bacillus coagulans Hammer 1915
Author's strain No. None. Culture collection Nos. ATCC 7050,
 NCIB 9365, CN 2202, NCTC 10334. Private collection No. Smith
 609. Status: Cotype. Annotations: ADD: Gordon to NCIB.
 Gibson to NCTC.
45. Bacillus firmus Werner 1933
Author's strain No. None. Culture collection Nos. ATCC 14575,
 NCIB 9366, CN 3314. Private collection No. Smith 613. Status:
 Cotype. Annotations: ADD: Gordon to NCIB.
46. Bacillus laterosporus Laubach 1916
Author's strain No. None. Culture collection Nos. ATCC 64,
 NCIB 9367, NCTC 6357. Private collection Nos. Smith 314, Ford
 6. Status: Cotype. Annotations: ADD: Gordon to NCIB.
47. Bacillus lentus Gibson 1935
Author's strain No. Gibson 165. Culture collection Nos. ATCC
 10840, NCTC 4824, NCIB 8773, HMS RA 7.1, CCMDB 2179.
Status: ? Holotype. Annotations: AMEND: Gibson to Smith and
 NCTC to NCIB. Smith to ATCC. Listed by Smith et al. (1964, 269)
 as type culture, therefore preferred to ATCC 10841.
48. Bacillus licheniformis (Weigmann 1898) Chester 1901, emend.
 Gibson 1937.
Author's strain No. Ford 1. Culture collection Nos. ATCC 9789,
 NCIB 8061, IFO 12196. Private collection No. Smith 978. Status:
 no comment. Annotations: ADD: ATCC to NCIB.
49. Bacillus macerans Schardinger 1905
Author's strain No. None. Culture collection Nos. ATCC 8244,
 NCIB 9368 (not 9386), HMS RA 12.9, NCTC 6355, Smith
 888. Status: no comment. Annotations: ADD: Gordon to NCIB.
50. Bacillus megaterium de Bary 1884
Author's strain No. Ford 19. Culture collection Nos. ATCC 14581,
 NCIB 9376, NCTC 10342. Private collection No. Gibson 1060.
Status: no comment. Annotations: ADD: Gordon to NCIB.
51. Bacillus pantothenicus Proom and Knight 1950
Author's strain No. None. Culture collection Nos. NCTC 8162,
 NCIB 8775, ATCC 14576, CN 3028 (not 3208). Private collection
No. Smith 1321. Status: no comment. Annotations: ADD: Proom
 to NCTC to NCIB.

52. Bacillus pasteurii (Miquel 1889) Migula 1900
Author's strain No. G. 22. Culture collection Nos. NCTC 4822, NCIB 8841, ATCC 11859, CCMDDB 2180. Private collection Nos. Gibson 22, Smith 673. Status: no comment.
Annotations: ADD: NCTC to NCIB.
53. Bacillus polymyxa (Prazmowski 1880) Migula 1900
Author's strain No. None. Culture collection Nos. ATCC 842, NCIB 8158, NCTC 10343. Private collection No. Smith 1105.
Status: no comment. Annotations: ADD: ATCC to NCIB.
54. Bacillus pumilus Gottheil 1901
Author's strain No. Kral. Culture collection Nos. NCIB 9369, ATCC 7061, CN 2200, NCTC 10337, Smith 272.
Annotations: ADD: Gordon to NCIB.
55. Bacillus sphaericus Neide 1904
Author's strain No. None. Culture collection Nos. ATCC 14577, NCIB 9370, NCTC 10338. Gibson 1013. Status: no comment. Annotations: AMEND: Gordon to NCIB.
56. Bacillus stearothermophilus Donk 1920
Authors strain No. None. Culture collection Nos. ATCC 12980, NCIB 8923, NCA 26, NCTC 10339, Smith T18. Status: no comment. Annotations: AMEND: Donk to NCA to Smith to ATCC to NCIB.
57. Bacillus thuringiensis Berliner 1915
Author's strain No. None. Culture collection Nos. ATCC 10792, CCEB 457, CN 3624, NCIB 9134. Private collection No. Smith 996. Status: no comment. Annotations: ADD: ATCC to NCIB.
58. DELETE: Bacteroides ruminicola Bryant et al. 1958
Author's strain No. 23. Annotations: Received by, but never accessioned to NCIB.
59. DELETE: Bacteroides ruminicola Bryant et al. 1958
Author's strain No. GA 33. Annotations: Received by, but never accessioned to NCIB.
60. ADD: Beijerinckia indica Starkey and De 1939, emend. Derx 1950
Author's strain No. Starkey 10.1. Culture collection Nos. ATCC 9037, HMS MB 5.1, NCIB 8597. Status: Cotype. Annotations: Starkey to ATCC; Lochhead to NCIB. Starkey and De (1939, 329) and Derx (1950, 140). Strain Starkey 11.1 (ATCC 9039, NCIB 8712) is also a cotype.
61. ADD: Beijerinckia lactiogenes Kauffmann and Toussaint, 1951 emend. Tchan 1953
Author's strain No. None. Culture collection No. NCIB 8846. Status: Cotype. Annotations: Kauffmann to Jensen to NCIB. Kauffmann and Toussaint (1951, 553). Tchan (1953, 85).
62. Beneckea hyperoptica (Campbell and Williams 1951) Campbell
Author's strain No. None. Culture collection Nos. NCMB 678, CCMDDB 251, ATCC 15803. Status: no comment. Annotations: AMEND: McCleskey to CCMDDB to Sneath to NCMB to ATCC.
63. Brevibacterium ammoniagenes (Cooke and Keith 1927) Breed 1953
Author's strain No. 9.6. Culture collection No. ATCC 6871, NCIB 8143. Status: no comment. Annotations: AMEND: Cooke to NCTC to ATCC to NCIB.

64. Brevibacterium leucinophagum Kinney and Werkman 1960
Author's strain No. None. Culture collection Nos. ATCC 13809, NCIB 9542. Status: no comment. Annotations: AMEND: Kinney to Werkman to ATCC to NCIB.
65. Brevibacterium stationis (ZoBell and Upham 1944) Breed 1953
Author's strain No. None. Culture collection Nos. CCMDB 317, NCMB 565. Status: no comment. Annotations: AMEND: ZoBell to CCMDB and Shewan to NCMB.
66. Butyribacterium rettgeri Barker and Haas 1944
Author's strain Nos. 32 of GR, A 2. Culture collection Nos. ATCC 10825, NCIB 9554. Status: Holotype. Annotations: AMEND: Barker to ATCC to NCIB. ADD: Now shown to be synonymous with Eubacterium limosum and renamed Butyribacterium limosum - Moore and Cato (1965, 69).
67. ADD: Butyribacterium limosum (Eggerth 1935) Moore and Cato 1965
Author's strain No. None. Culture collection Nos. ATCC 8486, NCIB 9763. Status: Holotype. Annotations: Eggerth to ATCC to NCIB. Eggerth (1935, 277), originally named Eubacterium limosum. Examined by Moore and Cato (1965, 69) who found it synonymous with Butyribacterium rettgeri and introduced the new combination Butyribacterium limosum (Eggerth) Moore and Cato.
68. DELETE: Butyrvibrio fibrissolvens Bryant and Small 1956
Annotations: Received by, but never acceded to NCIB.
69. ADD: Caryophanon latum Peshkoff 1940
Author's strain No. aa. Culture collection No. NCIB 9533. Status: no comment. Annotations: Kudriavzev to NCIB ? Cotype. NCIB 9534, strain Sa is similar.
70. Caulobacter vibrioides Henrici and Johnson 1935 emend. Bowers et al. 1954.
Author's strain No. None. Culture collection Nos. ATCC 11764, NCIB 9082. Status: no comment. Annotations: ADD: Grula to NCIB.
71. Cellulomonas fimi (McBeth and Scales 1913) Bergey et al. 1923
Author's strain No. 133. Culture collection Nos. ATCC 484, NCIB 8980, QM B 527. Private collection No. Smith 133. Status: no comment. Annotations: ADD: QM to NCIB.
72. Chromobacterium lividum (Eisenberg 1891) Bergey
Author's strain No. HB. Culture collection Nos. NCTC 9796, ATCC 12473, CCMDB 160, NCIB 9130. Sneath D-303. Status: no comment. Annotations: ADD: Sneath to NCIB.
73. Chromobacterium violaceum (Schroeter 1872) Bergonzini 1881
Author's strain No. MK. Culture collection Nos. NCTC 9757, ATCC 12472, NCIB 9131. Private collection No. Sneath D-252. Status: no comment. Annotations: ADD: Sneath to NCIB.
74. Chromobacterium viscosum Grimes 1927
Author's strain No. None. Culture collection Nos. NCTC 2416, ATCC 6918, NCDO 743, Canad-242B, B-150, NCIB 8180. Status: no comment. Annotations: ADD: Grimes to NCTC to ATCC to NCIB.
75. Clostridium butyricum Prazmowski 1880
Author's strain No. Rowett. Culture collection Nos. NCTC 7423, NCIB 7423. Annotations: AMEND: Howie to NCTC to NCIB. Status: no comment.

76. Clostridium felsineum (Carbone and Tombolato 1917) Bergey et al. 1930.
Authors strain No. None. Culture collection Nos. Canad 212a, A-7, DELETE NCIB 8656. Private collection No. McCoy A-41. Status: no comment. Annotations: ADD: Discarded from NCIB as stock found not to agree with description of C. felsineum. Similarly, NCIB 9338 (ATCC 13160) does not agree with original description being pink pigmented and not liquefying gelatin. Strains NCIB 9539 and 9540 (McClung to Vaughn to NCIB) are suggested as working types.
77. Clostridium histolyticum (Weinberg and Séguin 1916) Bergey et al. 1923.
Author's strain No. Weinberg. Culture collection Nos. NCTC 503, NCIB 503. Status: no comment. Annotations: ADD: NCTC to NCIB.
78. Clostridium pasteurianum Winogradsky 1895
Author's strain No. 5. Culture collection Nos. ATCC 6013, Canad 212A, A-5, NCIB 9486. Private collection No. McCoy 5. Status: no comment. Annotations: AMEND: Winogradsky to McCoy to Canad NRC (212) and ATCC to NCIB. Delete NCIB 8654.
79. Clostridium rubrum Ng and Vaughn 1963
Author's strain No. 34. Culture collection Nos. ATCC 14949, NCIB 9503. Status: no comment. Annotations: ADD: Vaughn to NCIB.
80. Clostridium septicum (Mace 1888) Ford 1927
Authors strain No. Pasteur III. Culture collection Nos. NCTC 547, ATCC 12464, NCIB 547. Status: no comment. Annotations: AMEND: Muriel Robertson to NCTC to NCIB and ATCC.
81. Clostridium sporogenes (Metchnikoff 1908) Bergey et al. 1923
Author's strain No. S. R. 5. Culture collection Nos. NCTC 532, NCIB 532. Status: no comment. Annotations: AMEND: Muriel Robertson to NCTC to NCIB.
82. Clostridium tertium (Henry 1916) Bergey et al. 1923
Author's strain No. P 11, Col 54. Culture collection Nos. NCTC 541, NCIB 541. Status: no comment. Annotations: AMEND: Petrie to Robertson to NCTC to NCIB.
83. Corynebacterium aquaticum Leifson
Author's strain No. 150. Culture collection Nos. ATCC 14665, NCIB 9460. Status: no comment. Annotations: AMEND: Leifson to ATCC to NCIB.
84. Corynebacterium rubrum Crowle 1962
Author's strain No. None. Culture collection Nos. ATCC 14898, NCIB 9433, NCTC 10391. Annotations: AMEND: Crowle to ATCC and NCIB.
85. Cytophaga hutchinsonii Winogradsky 1929
Author's strain No. None. Culture collection No. ADD: NCIB 9469. Private collection No. Sneath D 465. Status: no comment.
86. AMEND: Derrxia gummosa Jensen et al. 1960 (not 1959)
Author's strain No. De II. Culture collection No. NCIB 9064. Status: Paratype. Annotations: Jensen to NCIB. Paratype, Jensen et al. (1960, 182). Strain De I (NCIB 9063) is no longer available.
87. Desulfovibrio gigas LeGall 1963
Author's strain No. None. Culture Collection No. NCIB 9332. Status: Holotype. Annotations: AMEND: LeGall to Postgate to NCIB.

88. ADD: Enterobacter aerogenes Hormaeche and Edwards 1960
Author's strain No. 819-56. Culture collection Nos. NCTC 10006,
ATCC 13048. Status: Proposed neotype. Annotations: Proposed
neotype, Hormaeche and Edwards (1960, 71).
89. ADD: Enterobacter cloacae (Jordan 1890) Hormaeche and Edwards
1960.
Author's strain No. 279-56. Culture collection Nos. NCTC 10005,
ATCC 13047. Status: Proposed neotype. Annotations: Proposed
neotype, Hormaeche and Edwards (1960, 71).
90. Escherichia coli (Migula 1895) Castellani and Chalmers 1919
Author's strain No. Escherich. Culture collection Nos. NCTC 86,
ATCC 4157, NCIB 86. Status: Cotype. Annotations: ADD: Lister
Institute to NCTC to NCIB.
91. Escherichia intermedia (Werkman and Gillen 1932) Vaughn and
Levine 1942. Author's strain No. M8 BK.
Culture collection Nos. ATCC 6750, NCIB 8173. Status: no com-
ment. Annotations: AMEND: Werkman to ATCC to NCIB.
92. Eubacterium limosum (Eggerth 1935) Prevot 1938
Culture collection Nos. ATCC 8486, NCIB 9763.
Status: Holotype. Annotations: AMEND: Eggerth to ATCC
to NCIB. New combination Butyribacterium limosum q.v. Moore
and Cato (1965, 69).
93. DELETE: Eubacterium ruminantium Bryant 1959
Author's strain No. GA 195. Annotations: Received by, but never
acceded to NCIB.
94. Flavobacterium aquatile (Frankland and Frankland 1889) Bergey et
al. 1923. Author's strain No. F 36.
Culture collection Nos. ATCC 11947, NCIB 8694, NCMB 644,
DELETE NCIB 9758. Status: no comment. Annotations: ADD:
Taylor to Weeks to ATCC, NCIB and NCMB.
95. Flavobacterium marinotypicum ZoBell and Upham 1944
Author's strain No. None. Culture collection Nos. NCMB 1050,
CCMDB 319. Status: no comment. Annotations: AMEND: ZoBell
to CCMDDB to NCMB.
96. Flavobacterium okeanokoites ZoBell and Upham 1944
Author's strain No. None. Culture collection Nos. CCMDDB 320,
NCMB 1054. Status: no comment. Annotations: AMEND: Zobell
to CCMDDB to NCMB.
97. Flavobacterium resinovorum Delaporte and Daste 1956 (not Delapate)
Author's strain No. None. Culture collection Nos. ATCC 12524,
NCIB 8767. Status: no comment. Annotations: AMEND: Daste to
ATCC and NCIB. Cotype, Delaporte and Daste (1956, 831).
98. Halobacterium halobium (Petter 1931) Elazari-Volcani 1940
Author's strain No. EVG-32.1. Culture collection Nos. HMS EVG-
32.1, DELETE NCIB 8720. Status: no comment. Annotations:
AMEND: No longer held by NCIB.
99. Halobacterium halobium (Petter 1931) Elazari-Volcani 1940
Author's strain EV-6.31.1. Culture collection No. DELETE NCIB
8720. Status: no comment. Annotations: AMEND: No longer held
in NCIB. Other strains of Halobacterium halobium, originally
from Elazari-Volcani (to Hutner to NRC Ottawa to Shewan to NCMB)
are available from NCMB.

100. Halobacterium trapanicum (Petter 1931) Elazari-Volcani 1940
Author's strain No. EV. 32. 1. Culture collection No. DELETE
NCIB 8719. Annotations: AMEND: No longer held in NCIB.
101. Jensenia canicruria Bissett and Moore 1950
Author's strain No. None. Culture collection Nos. NCTC 8036,
ATCC 11048, NCIB 8147. Status: Holotype. Annotations: ADD:
NCTC to NCIB.
102. DELETE: Lachnospira multiparus Bryant and Small 1956
Annotations: Received by, but never accessioned to NCIB.
103. Lactobacillus caucasicus (Beijerinck 1889) Beijerinck 1901
Author's strain No. Ke 10. Culture collection Nos. ATCC 8007,
DELETE NCIB 8120. Annotations: ADD: Discarded by NCIB as
being a strain of L. brevis.
104. AMEND: Lactobacillus fermenti Beijerinck 1901 (not L. fermentum)
105. Lactobacillus frigidus Bhandari and Walker 1953
Author's strain No. None. Culture collection Nos. ATCC 11307,
NCIB 8518. Status: no comment. Annotations: ADD: Now listed
by NCIB as a strain of L. buchneri.
106. Lactobacillus malefermentans Russell and Walker 1953
Annotations: ADD: Discarded from NCIB, stock re-identified as
Bacillus circulans.
107. Leuconostoc citrovorum (Hammer 1920) Hucker and Pederson 1930
Author's strain No. 146. Culture collection Nos. ATCC 8082,
NCIB 8189, NCDO 516. Private collection No. Hammer 146.
Status: no comment. Annotations: AMEND: Hammer to ATCC to
NCIB. ADD: Now listed by NCIB as Leuconostoc mesenteroides.
108. Lineola longa Pringsheim 1950
Annotations: ADD: Shown to be a sporing rod—Bacillus macroides,
Bennett and Canale-Parola (1965, 197).
109. Microbacterium flavum Orla-Jensen 1919
Author's strain No. OJ. 8. Culture collection Nos. ATCC 10340,
NCIB 8707. Status: no comment. Annotations: AMEND: Orla-
Jensen to Doetsch to ATCC to NCIB.
110. Microbacterium lacticum Orla-Jensen 1919
Author's strain No. 6. Culture collection Nos. ATCC 8181, NCIB
8541 (not 8451). Private collection No. Pederson 6. Annotations:
AMEND: Orla-Jensen to Pederson to ATCC to NCIB.
111. AMEND: Microbispora rosea Nonomura and Ohara 1957 (not Micro-
biospora, based on bispora—two spored)
Culture collection Nos. ATCC 12950, NCIB 9560. Annotations:
Nonomura to ATCC to NCIB.
112. Micrococcus conglomeratus Migula 1900
Author's strain No. 349. Culture collection Nos. ATCC 401,
CCMDB 547, NCIB 2677, NCDO 761. Status: no comment.
Annotations: AMEND: Hucker to ATCC to NCTC to NCIB.
113. Micrococcus eucinetus Leifson 1964
Author's strain No. XQ 40. Culture collection Nos. ATCC 15234,
NCMB 1349. Annotations: AMEND: Leifson to ATCC to NCMB.
114. Micrococcus halodenitrificans Robinson and Gibbons 1952
Culture collection Nos. Canad-201 732, Canad-212 509, NCMB 700.
Annotations: AMEND: Robinson to Canad-201 and Canad-212 to
NCMB.

115. Micrococcus luteus (Schroeter 1872) Cohn 1872
Author's strain No. Hucker 426. Culture collection Nos. NCTC 8512, ATCC 398, NCIB 8165, CCMD 810. Status: no comment.
Annotations: ADD: Hucker to ATCC to NCTC to NCIB.
116. Micrococcus sodonensis Aaronson 1955
Author's strain No. B. Culture collection Nos. ATCC 11880, NCIB 8854. Status: Holotype. Annotations: AMEND: Aaronson to ATCC to NCIB.
117. Microellobosporia cinerea Cross et al. 1963
Author's strain No. None. Culture collection Nos. IMRU 3855, NCIB 9586. Status: Holotype. Annotations: AMEND: Cross to IMRU and NCIB.
118. Microellobosporia flava Cross et al. 1963
Author's strain No. None. Culture collection Nos. IMRU 3857, NCIB 9587. Status: Cotype. Annotations: AMEND: Cross to IMRU and NCIB. IMRU 3858 (NCIB 9588) is another cotype.
119. Moraxella nonliquefaciens Murray and Truant 1954
Author's strain No. 18522/51. Culture collection No. DELETE NCIB. Private collection No. Henriksen 18522/51. Status: no comment. Annotations: AMEND: Never accessioned to NCIB.
120. Mycoplana dimorpha Gray and Thornton 1928
Author's strain No. 103. Culture collection Nos. ATCC 4279, NCIB 9439. Private collection No. Gray 79. Status: Holotype. Annotations: AMEND: Gray to Shewan to NCIB and Conn to ATCC.
121. Neisseria haemolysans Thjøtta and Bøe 1938
Author's strain No. None. Culture collection Nos. ATCC 10379, NCIB 9331. Status: Cotype. Annotations: ADD: Berger to NCIB as Gemella haemolysans.
122. Pediococcus cerevisiae Balcke 1884
Author's strain No. Hammer 32. Culture collection Nos. ATCC 8081, NCIB 7837, NCDO 813. Status: no comment. Annotations: AMEND: ATCC to White and NCTC to NCIB. Formally proposed neotype, Gunther and White (1962, 185). Listed by NCIB as Pediococcus pentosaceus following classification of Nakagawa and Kitahara (1959, 95) and Whittenbury (1965, 97).
123. ADD: Pediococcus cerevisiae Balcke 1884
Author's strain No. None. Culture collection Nos. NCIB 8519, ATCC 11308. Status: no comment. Annotations: Sent by Walker to NCIB as P. damnosus var. salicinaceus. Isolated from beer. Classified as P. cerevisiae by criteria of Nakagawa and Kitahara (1959, 95) and Whittenbury (1965, 97). Suggested working type.
124. Photobacterium harveyi (Johnson and Shunk 1936) Breed and Lessel 1954. Author's strain No. None.
Culture collection Nos. ATCC 14126, NCMB 1280. Status: Holotype. Annotations: AMEND: Johnson to ATCC to NCMB.
125. Propionibacterium pentosaceum van Niel 1928
Author's strain No. 4. Culture collection Nos. ATCC 4875, NCIB 8070, NCDO 570, HMS E. 2.1. Status: no comment. Annotations: AMEND: van Niel to ATCC to NCIB
126. Propionibacterium peterssonii van Niel 1928
Author's strain No. 20. Culture collection Nos. ATCC 4870, NCIB 5962, NCDO 565. Annotations: AMEND: van Niel to ATCC and NCTC to NCIB to NCDO. Status: no comment.

127. Propionibacterium technicum van Niel 1928
Author's strain No. 22. Culture collection Nos. ATCC 4873, NCIB 5965, NCDO 567, HMS E. 6.1. Status: no comment.
Annotations: AMEND: van Niel to ATCC to NCTC to NCIB.
128. Propionibacterium thoenii van Niel 1928
Author's strain No. 19. Culture collection Nos. ATCC 4872, NCIB 8072. Status: no comment. Annotations: AMEND: van Niel to ATCC to NCIB.
129. Propionibacterium zeae Hitchner 1932
Author's strain No. None. Culture collection Nos. ATCC 4964, NCIB 5967, NCDO 569. Status: no comment. Annotations: AMEND: Hitchner to ATCC and NCTC to NCIB to NCDO.
130. Protaminobacter albobiflavus den Dooren de Jong 1926
Author's strain No. None. Culture collection Nos. ATCC 8458, NCIB 8167. Status: Cotype. Annotations: AMEND: den Dooren de Jong to NCTC to ATCC to NCIB (1927, 218).
131. Protaminobacter ruber den Dooren de Jong 1926
Author's strain No. ATC. Culture collection Nos. ATCC 8457, NCIB 2879. Status: Cotype. Annotations: AMEND: den Dooren de Jong to NCTC to NCIB (1927, 218).
132. Proteus morganii (Winslow et al. 1919) Rauss 1936
Author's strain No. 33M. Culture collection Nos. NCTC 235, ATCC 8075h, NCIB 235. Status: no comment. Annotations: ADD: Morgan to Lister Institute to NCTC to NCIB.
133. Proteus vulgaris Hauser 1885
Author's strain No. Lehmann. Culture collection Nos. NCTC 4175, ATCC 13315, NCIB 4175. Status: Neotype. Annotations: ADD: Lehmann to Pribram Collection, Vienna, to NCTC to NCIB.
134. Pseudomonas aeruginosa (Schroeter 1872) Migula 1900
Author's strain No. Radlett. Culture collection Nos. NCTC 6750, NCIB 6750. Status: no comment. Annotations: ADD: Schutze to NCTC to NCIB. N. B. This strain is nonmotile and therefore atypical.
135. Pseudomonas aeruginosa (Schroeter 1872) Migula 1900
Author's strain No. None. Culture collection Nos. ATCC 10145, CCEB 481, NCIB 8295, NCTC 10332. Status: Proposed neotype. AMEND: Merck to Kavanagh to ATCC to NCIB and CCEB.
136. Pseudomonas aeruginosa (Schroeter 1872) Migula 1900
Author's strain No. D. Culture collection Nos. ATCC 14216, NCIB 9685. Status: Proposed neotype. Annotations: AMEND: Van den Ende to Wood to ATCC to Liston et al. and NCIB.
137. Pseudomonas aureofaciens Kluyver 1957
Culture collection Nos. NRRL B-1576, CCEB 518, NCIB 9030. Private collection No. Sneath D297. Status: No comment. Annotations: AMEND: Kluyver to NRRL to Sneath. Kluyver to Delft collection to NCIB.
138. Pseudomonas azotocolligans Anderson 1955
Author's strain No. None. Culture collection Nos. ATCC 12417, NCIB 9391. Status: Holotype. Annotations: AMEND: Anderson to ATCC to NCIB.
139. Pseudomonas chlororaphis (Guignard and Sauvageau 1894) Bergey et al. 1930. Author's strain No. None. Status: no comment. Culture collection Nos. ATCC 9446, NCIB 9392, NRRL B-560, CCEB 292. Annotations: AMEND: NRRL to CCEB and ATCC to NCIB.

140. Pseudomonas diminuta Leifson and Hugh 1954
Author's strain No. RH 342. Culture collection Nos. NCTC 8545, CCEB 513, NCIB 9393, ATCC 11568. Status: no comment.
Annotations: AMEND: Leifson to NCTC and ATCC to NCIB.
141. Pseudomonas echinoides Heumann 1962
Author's strain No. None. Culture collection Nos. ATCC 14820, NCIB 9420. Status: no comment. Annotations: AMEND: Heumann to ATCC and NCIB.
142. Pseudomonas elongata Humm 1946
Author's strain No. None. Culture collection Nos. ATCC 10144, NCMB 1141, (Delete NCIB 8294). Status: no comment.
Annotations: AMEND: Humm to Levinson to ATCC to NCMB. Discarded from NCIB.
143. Pseudomonas fluorescens Migula 1895
Author's strain No. 28/5. Culture collection Nos. NCTC 10038, ATCC 13525, NCIB 9046. Status: no comment. Annotations: AMEND: Rhodes to NCTC, ATCC and NCIB.
144. Pseudomonas formicans Crawford 1954
Private collection No. R.Hugh 514. Culture collection Nos. ATCC 13137, NCMB 23, NCIB 9235. Status: no comment.
Annotations: AMEND: Crawford to Shewan (to NCMB) and Hugh to ATCC and NCIB.
145. Pseudomonas fragi (Eichholz 1902) Huss 1907 emend. Hussong et al. 1937. Author's strain No. None.
Culture collection Nos. ATCC 4973, NRRL B-25, CCEB 387, NCIB 8542. Status: no comment. Annotations: ADD: Hammer to NRRL and ATCC to NCIB
146. Pseudomonas geniculata (Wright 1895) Chester 1901
Author's strain No. None. Culture collection Nos. NCIB 9428, CCEB 338. Status: no comment. Annotations: ADD: Lysenko to NCIB.
147. Pseudomonas indoloxidans Gray 1928
Author's strain No. None. Culture collection Nos. ATCC 9355, NCIB 2760, ATCC 13751. Status: no comment.
Annotations: AMEND: Gray to ATCC and NCTC to NCIB. Gray to CCMDB.
148. Pseudomonas iodinum (Davis 1939) Tobie 1939
Author's strain No. None. Culture collection Nos. NCTC 9742, ATCC 9897, NRRL B-1537-40, NCDO 753, NCIB 8179, CCEB 512, NIRD 613. Status: no comment. Annotations: ADD: ATCC to NCIB.
149. Pseudomonas maltophilia Hugh 1960 (not maltophila)
Author's strain No. 810-2. Private collection Nos. Hugh 810-2. Culture collection Nos. NCTC 10257, ATCC 13637, NCIB 9203, NRC Canada 729. Status: no comment. Annotations: AMEND: Hugh to ATCC and NCIB.
150. Pseudomonas mucidolens Levine and Anderson 1932
Private collection No. Burns 37. Culture collection Nos. ATCC 4685, NCIB 9394. Status: no comment. Annotations: AMEND: Levine to Burns to ATCC to NCIB.
151. Pseudomonas natriegens Payne et al. 1961
Author's strain No. None. Culture collection Nos. ATCC 14048, NCMB 857. Status: no comment. Annotations: AMEND: Payne to ATCC and NCMB.

152. Pseudomonas oleovorans Lee and Chandler 1941
Author's strain No. None. Culture collection Nos. ATCC 8062, NCIB 6576, (DELETE NCMB 30). Status: no comment.
Annotations: AMEND: Chandler to ATCC to NCTC to NCIB.
153. Pseudomonas ovalis Chester 1901
Author's strain No. None. Culture collection Nos. ATCC 8209, NRRL B-1595, CCEB 380, NCIB 8296. Status: no comment.
Annotations: ADD: Smith to ATCC to NCIB.
154. Pseudomonas perlurida Kellerman et al. 1913
Author's strain No. None. Culture collection Nos. ATCC 490, NRRL B-1089, CCEB 526, NCIB 9325. Private collection No. Smith 131. Status: no comment. Annotations: AMEND: Smith to NRRL and ATCC to NCIB. NRRL to CCEB.
155. Pseudomonas pictorum Gray and Thornton 1928
Author's strain No. None. Culture collection Nos. CCMDB 284, CCEB 322, NCIB 9152. Status: no comment. Annotations: AMEND: Gray to CLIP and CCMDB to NCIB.
156. Pseudomonas pseudomallei (Whitmore 1913) Haynes comb. nov.
Author's strain No. None. Culture collection Nos. ATCC 15682, NRRL B-1112, CCEB 472, NCIB 9674, NCTC 4845. Status: no comment. Annotations: ADD: NCTC to NRRL to NCIB and CCEB.
157. Pseudomonas resinovorans Delaporte et al. 1961
Author's strain No. None. Culture collection Nos. ATCC 14235, NCIB 9280. Status: No comment. Annotations: ADD: Daste to NCIB.
158. Pseudomonas rhodos Heumann 1962
Author's strain No. None. Culture collection Nos. ATCC 14821, NCIB 9421. Status: no comment. Annotations: AMEND: Heumann to ATCC and NCIB.
159. Pseudomonas riboflavina Foster 1944
Private collection No. Foster (Merck) 4 R 3337. Culture collection Nos. ATCC 9526, NCIB 8177, IFO 3140. Status: no comment.
Annotations: AMEND: Foster to ATCC to NCIB.
160. Pseudomonas rubescens Pivnick 1955 (not 1944)
Author's strain No. None. Culture collection Nos. ATCC 12099, NCIB 8768. Status: no comment. Annotations: AMEND: Pivnick to ATCC to NCIB. Cotype. Pivnick (1955, 1).
161. Pseudomonas saccharophila Doudoroff 1940
Author's strain No. None. Culture collection Nos. ATCC 9114, NRRL B-1492, NCIB 8570. Status: no comment. Annotations: AMEND: Doudoroff to ATCC and NRRL. Doudoroff and Palleroni to NCIB.
162. Pseudomonas stutzeri (Lehmann and Neumann 1896) Kluver 1942
Author's strain No. M. D. 41.1. Private collection No. van Niel M. D. 41.1. Culture collection Nos. ATCC 11607, NCIB 9721. Status: no comment. Annotations: AMEND: van Niel to ATCC to NCIB.
163. Pseudomonas synxantha (Ehrenberg 1840) Holland 1920
Author's strain No. None. Culture collection Nos. ATCC 9890, NCIB 8178, NRRL B-780, CCEB 607. Status: no comment.
Annotations: AMEND: Hammer to Breed to ATCC to NCIB and CCEB. ADD: N. B. CCEB 293 was stated to be the same as ATCC 9890 (CCEB Catalogue, 1960; Lysenko 1961, 379). In the 1963 CCEB Catalogue, strain CCEB 293 (a contaminant, erroneously proposed as neotype) has been withdrawn from the genus Pseudomonas and placed in Serratia. CCEB 607 has been substituted as

being equivalent to ATCC 9890, Pseudomonas synxantha. As the proposal of the neotype was based on a contaminant, and not on the authentic culture, it is doubtful if it is now valid.

164. Pseudomonas taetrolens Haynes 1957
Author's strain No. None. Culture collection Nos. NRRL B-14, CCEB 381, ATCC 4683, NCIB 9396. Status: no comment.
Annotations: ADD: Levine to Anderson to Burns to ATCC to NCIB.
165. Rhodopseudomonas capsulata (Molisch 1907) van Niel 1944
Author's strain No. Ewart C 10. Culture collection No. HMS ATH 2.3.1, ATCC 11166, NCIB 8524 (not 8286). Status: no comment. Annotations: AMEND: van Niel (1944, 92).
166. Rhodopseudomonas gelatinosa (Molisch 1907) van Niel 1944
Author's strain No. ATH 2.2.1. Culture collection Nos. HMS ATH 2.2.1, NCIB 8290, ATCC 11169. Status: no comment. Annotations: AMEND: van Niel (1944, 98)
167. Rhodopseudomonas palustris (Molisch 1907) van Niel 1944
Author's strain No. ATH 2.1.6. Culture collection Nos. ATCC 11168, NCIB 8288, HMS ATH 2.1.6. Status: no comment. Annotations: AMEND: van Niel (1944, 89)
168. Rhodopseudomonas spheroides van Niel 1955
Author's strain No. ATH 2.4.1. Culture collection Nos. HMS ATH 2.4.1, ATCC 11167, NCIB 8253. Status: no comment. Annotations: AMEND: van Niel to Elsdon to NCIB to ATCC.
NCIB 8253 and NCIB 8287 are the same strain, the latter being received by NCIB direct from van Niel.
169. Sarcina ureae (Beijerinck 1901) Löhnis 1911
Private collection No. Smith 42. Culture collection Nos. ATCC 6473, NCIB 9251. Status: no comment. Annotations: ADD: Kluyver to Gibson to NCIB.
170. Serratia marcescens Bizio 1823
Author's strain No. Delft 137. Culture collection Nos. NCTC 1377, ATCC 274, NCDO 740, NCIB 1377. Status: no comment. Annotations: ADD: Kluyver to NCTC to NCIB.
171. Serratia marcescens Bizio 1823
Author's strain No. None. Culture collection Nos. NCTC 10211, ATCC 13880, NCIB 9155, CCMD 303. Status: no comment. Annotations: ADD: Kocur to NCIB.
172. Spirillum anulus Williams and Rittenberg 1957
Author's strain No. None. Culture collection Nos. ATCC 11879, NCIB 9012. Status: Holotype. Annotations: AMEND: Williams to ATCC and NCIB.
173. Spirillum beijerinckii Williams and Rittenberg 1957
Author's strain No. None. Culture collection Nos. ATCC 12754, NCMB 52. Status: Holotype. Annotations: AMEND: Williams to NCMB to ATCC.
174. DELETE: Spirillum curvatum Williams and Rittenberg 1957
Annotations: Culture no longer available.
175. Spirillum delicatum Leifson 1962
Author's strain No. 146. Culture collection Nos. ATCC 14667, NCIB 9419. Status: Holotype. Annotations: AMEND: Leifson to ATCC and NCIB. Holotype, Leifson (1962, 161).

176. Spirillum giesbergeri Williams and Rittenberg 1957
Author's strain No. None. Culture collection Nos. ATCC 11334, NCIB 9073. Status: Holotype. Annotations: AMEND: Williams to NCIB to ATCC.
177. Spirillum graniferum Williams and Rittenberg 1957
Author's strain No. None. Culture collection Nos. ATCC 9785, NCIB 8230. Status: Holotype. Annotations: ADD: ATCC to NCIB.
178. Spirillum itersonii var. vulgatum Williams and Rittenberg 1957
Culture collection Nos. ATCC 11441, NCIB 9071, NCMB 58, NRRL B-2054. Status: Holotype. Annotations: ADD Not S. itersonii Giesberger 1936 which is available as a reisolate by Giesberger (type cultures lost) as ATCC 12639, NCIB 9070, NRRL B-2053.
179. Spirillum linum Williams and Rittenberg 1957
Author's strain No. None. Culture collection Nos. ATCC 11336, NCMB 56. Status: Holotype. Annotations: AMEND: Williams to NCMB to ATCC.
180. Spirillum metamorphum Terasaki 1961 (not 1962)
Author's strain No. None. Culture collection Nos. ATCC 15280, IFO 12012, NCIB 9509. Status: Holotype. Annotations: AMEND: Terasaki to ATCC and NCIB. Holotype, Terasaki (1961, 200).
181. Spirillum polymorphum Williams and Rittenberg 1957
Author's strain No. None. Culture collection Nos. NCIB 9072, ATCC 11332, NCMB 51. Status: Holotype. Annotations: AMEND: Williams to NCIB to ATCC
182. Spirillum putridiconchylum Terasaki 1961 (not 1962)
Author's strain No. None. Culture collection Nos. ATCC 15279, IFO 12013, NCIB 9508. Status: Holotype. Annotations: ADD: Terasaki to NCIB and ATCC. AMEND: Terasaki (1961, 79).
183. Spirillum serpens var. azotum Williams and Rittenberg 1957 (not S. serpens (Müller) Winter)
Author's strain No. None. Culture collection Nos. ATCC 11335, NCIB 9011. Status: Holotype. Annotations: AMEND: Williams to NCIB to ATCC.
184. Spirillum sinuosum Williams and Rittenberg 1957
Author's strain No. None. Culture collection Nos. ATCC 9786, NCIB 9010, NCMB 59, CCMDB 558. Status: Holotype. Annotations: AMEND: Lewis to O. B. Williams to ATCC to Marion Williams to NCIB.
185. Staphylococcus saprophyticus Fairbrother 1940 emend. Shaw et al. 1951.
Author's strain No. S. 41. Culture collection Nos. NCTC 7292 (not 7297), NCIB 8711. Status: no comment. Annotations: AMEND: NCTC to NCIB.
186. DELETE: Streptococcus asalignus Frost, Gumm and Thomas 1927
Annotations: Discarded from NCIB (no streptococci present in all stock examined).
187. Streptococcus cremoris Orla-Jensen 1919
Author's strain No. HP. Culture collection Nos. NCDO 607, NCIB 8662. Status: no comment. Annotations: ADD: NIRD to NCIB.
188. Streptococcus faecalis Andrewes and Horder 1906
Author's strain No. None. Culture collection Nos. NCTC 775, NCDO 581, NCIB 775. Status: no comment. Annotations: ADD: NCTC to NCIB.

- 18 . Streptococcus mucilaginosus Kulka et al. 1949
Author's strain No. None. Culture collection No. ATCC 11304,
 (DELETE NCIB 8274). Annotations: ADD: Discarded from
 NCIB.
- 1 . Streptococcus thermophilus Orla-Jensen 1916
Author's strain No. B of R. Culture collection Nos. NCDO 573,
 NCIB 8510. Status: no comment. Annotations: ADD: Mattick
 to NCIB.
- 19 . Streptomyces albus (Rossi-Doria 1891, emend. Krainsky 1914)
 Waksman and Henrici 1943
Author's strain No. None. Culture collection Nos. ATCC 3004,
 IMRU 3004, NCIB 9558. Status: Neotype. Annotations: AMEND:
 ATCC to Pridham and NCIB.
- 19 . Streptomyces kentuckensis Barr and Carman 1956
Author's strain No. None. Culture collection Nos. ATCC 12691,
 PSA 99, NCIB 9624, NRRL B-1831. Status: Holotype. Annotations: ADD: NRRL to NCIB. Holotype, Barr and Carman (1956,
 286).
- 19 . Streptomyces olivaceus (Waksman 1923) Waksman and Henrici 1948
Author's strain No. None. Culture collection Nos. ATCC 11626,
 NRRL B-1125, PSA 137, NCIB 8238. Status: no comment.
Annotations: ADD: Lumb to NCIB.
- 19 . Streptomyces rimosus Sobin et al. 1950
Private collection No. Waksman 3558 Culture collection Nos.
 ATCC 10970, NRRL B-2234, NCIB 8229. Status: Holotype.
Annotations: ADD: NRRL to Lumb to NCIB.
- 19 . Streptomyces rubrericuli (Waksman and Henrici 1948 (not S.
rubreticulae)
- 19 . Streptomyces tendae Ettlinger et al.
Author's strain No. None. Culture collection Nos. PSA 92,
 NCIB 9614. Status: no comment. Annotations: ADD: Ettlinger
 to PSA to NCIB.
- 19 . DELETE: Succinivibrio dextrinosolvens Bryant and Small 1956
Author's strain No. 24. Annotations: Received by but never
 accessioned to NCIB.
- 19 . DELETE: Succinomonas amylolytica Bryant et al. 1958
Author's strain No. B₂4. Annotations: Received by but never
 accessioned to NCIB.
- 19 . Thiobacillus concretivorus Parker 1945
Author's strain No. None. Culture collection Nos. ADD: NCIB
 8345, DELETE: NCIB 8538. Status: Cotype. Annotations:
 Parker to Butlin to NCIB.
- Thiobacillus novellus Starkey 1934
Author's strain No. None. Culture collection Nos. ATCC 8093,
 NCIB 9113. Status: no comment. Annotations: AMEND:
 Starkey to ATCC to NCIB.
- 20 . Thiobacillus thiooxydans Happold et al. 1954
Author's strain No. None. Culture collection Nos. NCIB 5177,
 (DELETE: NCIB 8861). Status: no comment. Annotations:
 AMEND: Happold to NCIB (8861 no longer available).

201. Thiobacillus thioparus Beijerinck 1904
Author's strain No. None. Culture collection Nos. ATCC 8158, NCIB 8370. Status: no comment. Annotations: AMEND: Starkey to ATCC to NCIB.
202. Vibrio adaptatus ZoBell and Upham 1944
Author's strain No. None. Culture collection Nos. CCMDB 326, NCMB 1052. Status: Cotype. Annotations: AMEND: ZoBell to CCMDB to NCMB.
203. Vibrio auguillarum Bergman 1909
Author's strain No. None. Culture collection No. NCMB 6. Status: no comment. Annotations: AMEND: Bagge and Bagge to Shewan to NCMB.
204. Vibrio cholonicus Hayward and Stadtman 1959
Author's strain No. None. Culture collection Nos. ATCC 13541, NCIB 9467. Status: no comment. Annotations: AMEND: Hayward to ATCC and Postgate to NCIB.
205. Vibrio cuneatus Gray and Thornton 1928
Author's strain No. None. Culture collection Nos. ATCC 6972, NCIB 8194. Status: Holotype. Annotations: AMEND: Gray and Thornton to ATCC to NCIB.
206. Vibrio cyclosites Gray and Thornton 1928
Author's strain No. None. Culture collection Nos. NCIB 2581, ATCC 14635. Status: Holotype. Annotations: AMEND: Gray and Thornton to NCTC to NCIB to ATCC.
207. Vibrio neocistes Gray and Thornton 1928
Author's strain No. None. Culture collection Nos. NCIB 2582, ATCC 14636. Status: Cotype. Annotations: AMEND: Gray and Thornton to NCTC to NCIB to ATCC.
208. Vibrio percolans Mudd and Warren 1923
Author's strain No. None. Culture collection Nos. NCTC 1937, ATCC 8461, NCIB 8193. Status: Paratype.
209. Zymomonas mobilis (Lindner 1928) Kluyver and van Neil 1936
Author's strain No. None. Culture collection Nos. ATCC 10988, NRRL B-806, NCIB 8938. Status: Cotype. Annotations: AMEND: NRRL to ATCC to Elsden to NCIB. NCIB cultures are nonmotile.

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