Names of Plant Pathogenic Bacteria, 1864–2004

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This list contains the names of all plant pathogenic bacteria that have been effectively and validly published in terms of the International Code of Nomenclature of Prokaryotes ('the Code' – hitherto the International Code of Nomenclature of Bacteria) (Lapage *et al*. 1992) and the Standards for Naming Pathovars (Dye *et al.* 1980), and their revision (Young *et al.* 1991a). Included are species names from the Approved Lists of Bacterial Names (Skerman *et al.* 1980), pathovar names listed by Dye *et al.* (1980), and names of pathogens reported since 1980.

In recent years, the taxonomy of plant pathogenic bacteria has been extensively revised. For several taxa, especially the Enterobacteriaceae, *Pseudomonas syringae* van Hall 1902 and *Xanthomonas campestris* (Pammel 1895) Dowson 1939, these revisions are incomplete. For some taxa there are several valid synonyms. The most recent name is used as the reference name (in ***bold italic***) to which all other synonyms are referred. This does not mean that the reference name is always to be preferred. Alternative selections of valid names may be considered to give a more coherent nomenclature (Young *et al*. 1996; Young *et al.* 2003). Alternative valid names are listed in *italic* and cross-referenced to their reference names; synonyms under a reference name are preceded by '='. Names that are not considered valid are in *italic* and enclosed in square brackets '[ ]'. Names published since 1980 that are not considered valid have been included for completeness, with an explanatory note. A few names that are not valid, published before 1980, have been included for continuity.

New species combinations are sometimes proposed in publications without the formal transfer of pathovars allocated to the species. For continuity, the Committee on Taxonomy of Plant Pathogenic Bacteria, International Society for Plant Pathology (the Committee), who are the authors of this paper, has created the new pathovar combination *Burkholderia gladioli* pv. *agaricicola* (see below).

Names that have been changed to accord with correct Latin usage (Trüper & De Clari 1997; Euzéby 1998) are listed here with their original spelling also indicated. Since these corrections were made, the Code has been amended to take account of the need for stability of names. Names that have been gazetted in the *International Journal of Systematic and Evolutionary Microbiology* are now the definitive names of the organism, regardless of orthographic errors in their Latin or Greek declension. The only exception involves correction of the gender of species epithets when they are proposed as new combinations (De Vos & Trüper 2000).

Where names are published outside the *International Journal of Systematic and Evolutionary Microbiology* (previously the *International Journal of Systematic Bacteriology*), the reference is to the validating publication followed by the reference in which the original description was published. Apparent discrepancies between the publication dates of some species and their pathovars arise because pathovars

are referred to the original publication but the species are referred to the validating publication in the *International Journal of Systematic Bacteriology*.

Some pathotype strains were originally so designated on the basis of earlier recommendation as a type strain (Sneath & Skerman 1966). It has subsequently been reported that some of these may be unsuitable because they do not reflect the pathogenic or other characteristics of the pathovar (Young *et al.* 1991a). These have been marked with an asterix '*'. Names reported after this list has been posted will be published annually in a secondary list at this website. It will be helpful if those publishing new names would send information to the Convenor of this Committee.

Revision: 31 December 2004

Abbreviations of Culture Collections

ATCC American Type Culture Collection, Manassas, Box 1549, Virginia 20108, USA
CBS Centralbureau voor Schimmelcultures, Oosterstraat 1, 3740 AG Baarn, The Netherlands
CFBP Collection Française de Bactèries Phytopathogènes, Unité de Pathologie Végétale, Institut National de la Recherche Agronomique, 49071 Angers, France
DSMZ Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH, Mascheroder Weg 1b, 38124 Braunschweig, Germany
HAMBI HAMBI Culture Collection, Department of Applied Chemistry and Microbiology, Box 56, 00014 University of Helsinki, Finland
ICMP International Collection of Micro-organisms from Plants, Landcare Research, Private Bag 92170, Auckland, New Zealand
LMG Collection of the Laboratorium voor Microbiologie en Microbiele Genetica, Rijksuniversiteit, Ledeganckstraat 35, B-9000 Gent, Belgium
MAFF Ministry of Agriculture, Forestry and Fisheries, Tsukuba, Ibaraki, Japan.
NCPPB National Collection of Plant Pathogenic Bacteria, Central Science Laboratory, Ministry of Agriculture, Fisheries and Food, Sand Hutton, York, YO4 1LW, England
NRRL Agricultural Research Service Culture Collection, Peoria, Illinois, USA

Acetobacter Beijerinck 1898

Acetobacter aceti (Pasteur 1864) Beijerinck 1898
ATCC 15973; ICMP 8807; LMG 1261

Acetobacter pasteurianus (Hansen 1879) Beijerinck & Folpmers 1916
= [*Pseudomonas pomi* Cole 1959] not valid – Dhanvantari *et al.* (1978) refers
Pathogenic reference strain: ATCC 19877; ICMP 3878; LMG 1805; NCPPB 463

Acidovorax Willems, Falsen, Pot, Jantzen, Hoste, Vandamme, Gillis, Kersters & De Ley 1990

Acidovorax anthurii Gardan, Dauga, Prior, Gillis & Saddler 2000
CFBP 3232, ICMP 13404

Acidovorax avenae (Manns 1909) Willems, Goor, Thielemans, Gillis, Kersters & De Ley 1992
= *Pseudomonas avenae* Manns 1909
= *Pseudomonas avenae* subsp. *avenae* Manns 1909
= *Pseudomonas rubrilineans* (Lee, Purdy, Barnum & Martin 1925) Stapp 1928
ATCC 19860; CFBP 2425; ICMP 3183; LMG 2117; NCPPB 1011

Acidovorax avenae subsp. ***avenae*** (Manns 1909) Willems, Goor, Thielemans, Gillis, Kersters & De Ley 1992
= *Pseudomonas avenae* Manns 1909

= *Pseudomonas avenae* subsp. *avenae* Manns 1909
= *Pseudomonas rubrilineans* (Lee, Purdy, Barnum & Martin 1925) Stapp 1928
ATCC 19860; CFBP 2425; ICMP 3183; LMG 2117; NCPPB 1011

Acidovorax avenae subsp. ***cattleyae*** (Pavarino 1911) Willems, Goor, Thielemans, Gillis, Kersters & De Ley 1992
= *Pseudomonas cattleyae* (Pavarino 1911) Săvulescu 1947
ATCC 33619; CFBP 2423; ICMP 2826; LMG 2364; NCPPB 961

Acidovorax avenae subsp. ***citrulli*** (Schaad, Sowell, Goth, Colwell & Webb 1978) Willems, Goor, Thielemans, Gillis, Kersters & De Ley 1992
= *Pseudomonas pseudoalcaligenes* subsp. *citrulli* Schaad, Sowell, Goth, Colwell & Webb 1978
= *Pseudomonas avenae* subsp. *citrulli* (Schaad, Sowell, Goth, Colwell & Webb 1978) Hu, Young & Triggs 1991
ATCC 29625; ICMP 7500; LMG 5376; NCPPB 3679

Acidovorax konjaci (Goto 1983b) Willems, Goor, Thielemans, Gillis, Kersters & De Ley 1992
= *Pseudomonas pseudoalcaligenes* subsp. *konjaci* Goto 1983b
= *Pseudomonas avenae* subsp. *konjaci* (Goto 1983b) Hu, Young & Triggs 1991
ATCC 33996; ICMP 7733; LMG 5691; NCPPB 3698

Acidovorax valerianellae Gardan, Stead, Dauga, & Gillis 2003
CFBP 4730; NCPPB 4238

Agrobacterium Conn 1942

The genus *Agrobacterium* is represented by species that are indistinguishable from members of *Rhizobium* except that they are pathogenic, producing rhizogenic growths or oncogenic galls rather than symbiotic nodules (Young *et al.* 2001a). Characterization of the genus is based on pathogenicity characters encoded by genes borne on transmissible elements. The nomenclature of the genus is validly published although its function as a special-purpose nomenclature should be understood (Young *et al.* 2003). The application of species names, *radiobacter, rhizogenes* and *tumefaciens*, may refer to the non-pathogenic, rhizogenic or tumorigenic species respectively (Kersters & De Ley 1984). Alternatively, they may be refer to the natural species, *A. rhizogenes* and *A. tumefaciens* (with *A. radiobacter* as a synonym) (Bradbury 1986; Holmes 1988; Holmes & Roberts 1981; Moore *et al*. 2001;Young *et al.* 2005), tumourigenic and rhizogenic capability of strains being indicated (Holmes & Roberts, 1981) by designation as Ti or Ri, respectively (Young *et al*. 2005).

see ***Rhizobium***

Agrobacterium larrymoorei Bouzar & Jones 2001
see ***Rhizobium larrymoorei***

Agrobacterium radiobacter (Beijerinck & van Delden 1902) Conn 1942
see ***Rhizobium radiobacter***

Agrobacterium rhizogenes (Riker, Banfield, Wright, Keitt & Sagen 1930) Conn 1942
see ***Rhizobium rhizogenes***

Agrobacterium rubi (Hildebrand 1940) Starr & Weiss 1943
see ***Rhizobium rubi***

Agrobacterium tumefaciens (Smith & Townsend 1907) Conn 1942
see ***Rhizobium radiobacter***

Agrobacterium vitis Ophel & Kerr 1990
see ***Rhizobium vitis***

Arthrobacter Conn & Dimmick 1947

Arthrobacter ilicis (Mandel, Guba & Litsky 1961) Collins, Jones & Kroppenstedt 1982

A. ilicis is a validly named species, but is probably not a plant pathogenic bacterium (Young *et al*. 2004).

see ***Curtobacterium flaccumfaciens*** pv. ***ilicis***

Bacillus Cohn 1872

Bacillus megaterium De Bary 1884

Bacillus megaterium* pv. *cerealis Hosford 1982

ATCC 35075; ICMP 8877

Bacillus pumilus Meyer & Gottheill 1901

Reported in Saleh *et al.* (1997). No pathogenic reference strain is recorded.

Brenneria Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999

= *Erwinia* Winslow, Broadhurst, Buchanan, Krumweide, Rogers & Smith 1920

The homogeneity of genera in the Enterobacteriaceae that contain pathogens of plants and animals and from other environments has been discussed (Brenner *et al.* 1984). There is no recorded phenotypic circumscription of *Brenneria* that distinguishes it from other genera in the Enterobacteriaceae. Recognition of the genus *Brenneria* is based solely on comparative analysis of 16S rDNA sequence data that shows sequences representing *Brenneria* spp. as a separate clade within the Enterobacteriaceae.

Brenneria alni (Surico, Mugnai, Pastorelli, Giovannetti & Stead 1996) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999

= *Erwinia alni* Surico, Mugnai, Pastorelli, Giovannetti & Stead 1996

ICMP 12481; NCPPB 3934

Brenneria nigrifluens (Wilson, Starr & Berger 1957) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999

= *Erwinia nigrifluens* Wilson, Starr & Berger 1957

ATCC 13028; ICMP 1578; LMG 2694; NCPPB 564

Brenneria paradisiaca (Fernandez-Borrero & Lopez-Duque 1970) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999

= *Erwinia chrysanthemi* pv. *paradisiaca* (Victoria & Barros 1969) Dickey & Victoria 1980

= *Erwinia paradisiaca* (Fernandez-Borrero & Lopez-Duque 1970) Dickey & Victoria 1980

ICMP 2811; ICMP 2349; LMG 2545; NCPPB 2511

Brenneria quercina (Hildebrand & Schroth 1967) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999

= *Erwinia quercina* Hildebrand & Schroth 1967

ATCC 29281; ICMP 1845; LMG 2724; NCPPB 1852

Brenneria rubrifaciens (Wilson, Zeitoun & Fredrickson 1967) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999

= *Erwinia rubrifaciens* Wilson, Zeitoun & Fredrickson 1967

ATCC 29291; CFBP 1283; ICMP 1915; LMG 2709; NCPPB 2020

Brenneria salicis (Day 1924) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999

ATCC 15712; CFBP 802; ICMP 1587; LMG 2698; NCPPB 447

Burkholderia Yabuuchi, Kosako, Oyaizu, Yano, Hotta, Hashimoto, Ezaki & Arakawa 1993 emend. Gillis, Van Van, Bardin, Goor, Hebbar, Willems, Segers, Kersters, Heulin & Fernandez 1995

Burkholderia andropogonis (Smith 1911) Gillis, Van Van, Bardin, Goor, Hebbar, Willems, Segers, Kersters, Heulin & Fernanadez 1995
= *Pseudomonas andropogonis* (Smith 1911) Stapp 1928
= *Pseudomonas woodsii* (Smith 1911) Stevens 1925
ATCC 23061; CFBP 2421; ICMP 2807; LMG 2129; NCPPB 934

Burkholderia caryophylli (Burkholder 1942) Yabuuchi, Kosako, Oyaizu, Yano, Hotta, Hashimoto, Ezaki & Arakawa 1993
= *Pseudomonas caryophylli* (Burkholder 1942) Starr & Burkholder 1942
ATCC 25418; CFBP 2429; ICMP 512; LMG 2155; NCPPB 2151
Yabuuchi *et al*. (1992) proposed the new combination, *B*. *caryophylli*, and this name was subsequently reported in the *International Journal of Systematic and Evolutionary Microbiology* (Yabuuchi *et al*. 1993), but they did not include the type strain in their investigation, thus raising doubts as to the validity of their proposal.

Burkholderia cepacia (Palleroni & Holmes 1981 ex Burkholder 1950) Yabuuchi, Kosako, Oyaizu, Yano, Hotta, Hashimoto, Ezaki & Arakawa 1993
= *Pseudomonas cepacia* (ex Burkholder 1950) Palleroni & Holmes 1981
ATCC 25416; CFBP 2227; ICMP 5796; LMG 1222; NCPPB 2993

Burkholderia gladioli (Severini 1913) Yabuuchi, Kosako, Oyaizu, Yano, Hotta, Hashimoto, Ezaki & Arakawa 1993
= *Pseudomonas gladioli* Severini 1913
ATCC 10248; CFBP 2427; ICMP 3950; LMG 2216; NCPPB 1891
Yabuuchi *et al*. (1992) proposed the new combination, *B*. *gladioli*, and this name was subsequently reported in the *International Journal of Systematic and Evolutionary Microbiology* (Yabuuchi *et al*. 1993), but they did not include the type strain in their investigation, thus raising doubts as to the validity of their proposal.

***Burkholderia gladioli* pv. *agaricicola* (**Lincoln, Fermor, Stead & Sellwood 1991) comb. nov.
= *Pseudomonas gladioli* pv. *agaricicola* Lincoln, Fermor, Stead & Sellwood 1991
ICMP 11096; NCPPB 3580
Consideration of the description of this pathovar shows that it is a member of *Burkholderia gladioli* and it is proposed here as a new combination of that species.

Burkholderia gladioli* pv. *alliicola (Burkholder 1942) Young, Saddler, Takikawa, De Boer, Vauterin, Gardan, Gvozdyak & Stead 1996.
= *Pseudomonas gladioli* pv. *alliicola* (Burkholder 1942) Young, Dye & Wilkie 1978
ATCC 19302; CFBP 2422; ICMP 2804; LMG 2121; NCPPB 947

Burkholderia gladioli* pv. *gladioli (Severini 1913) Yabuuchi, Kosako, Oyaizu, Yano, Hotta Hashimoto, Ezaki & Arakawa 1992
= *Pseudomonas gladioli* pv. *gladioli* Severini 1913
ATCC 10248; CFBP 2427; ICMP 3950; LMG 2216; NCPPB 1891

Burkholderia glumae (Kurita & Tabei 1967) Urakami, Ito-Yoshida, Araki, Kijima, Suzuki & Komagata 1994
= *Pseudomonas glumae* Kurita & Tabei 1967
ATCC 33617; CFBP 2430; ICMP 3655; LMG 2196; NCPPB 2981

Burkholderia plantarii (Azegami, Nishiyama, Watanabe, Kadota, Ohuchi & Fukazawa 1987) Urakami, Ito-Yoshida, Araki, Kijima, Suzuki & Komagata 1994
= *Pseudomonas plantarii* Azegami, Nishiyama, Watanabe, Kadota, Ohuchi & Fukazawa 1987
ATCC 43733; ICMP 9424; LMG 9035; NCPPB 3590

Burkholderia solanacearum (Smith 1896) Yabuuchi, Kosako, Oyaizu, Yano, Hotta, Hashimoto, Ezaki & Arakawa 1993
see ***Ralstonia solanacearum***

Clavibacter Davis, Gillaspie, Vidaver & Harris 1984

Clavibacter iranicus (ex Scharif 1961) Davis, Gillaspie, Vidaver & Harris 1984
see ***Rathayibacter iranicus***

Clavibacter michiganensis (Smith 1910) Davis, Gillaspie, Vidaver & Harris 1984
= *Corynebacterium michiganense* (Smith 1910) Jensen 1934
= *Corynebacterium michiganense* subsp. *michiganense* (Smith 1910) Jensen 1934
= *Corynebacterium michiganense* pv. *michiganense* (Smith 1910) Jensen 1934
CFBP 2352; ICMP 2550; LMG 7333; NCPPB 2979

Clavibacter michiganensis subsp. ***michiganensis*** (Smith 1910) Davis, Gillaspie, Vidaver & Harris 1984
= *Corynebacterium michiganense* subsp. *michiganense* (Smith 1910) Jensen 1934
= *Corynebacterium michiganense* pv. *michiganense* (Smith 1910) Jensen 1934
CFBP 2352; ICMP 2550; LMG 7333; NCPPB 2979

Clavibacter michiganensis subsp. ***insidiosus*** (McCulloch 1925) Davis, Gillaspie, Vidaver & Harris 1984
= *Corynebacterium insidiosum* (McCulloch 1925) Jensen 1934
= *Corynebacterium michiganense* subsp. *insidiosum* (McCulloch 1925) Carlson & Vidaver 1982
= *Corynebacterium michiganense* pv. *insidiosum* (McCulloch 1925) Dye & Kemp 1977
CFBP 2404; ICMP 2621; LMG 3663; NCPPB 1109

Clavibacter michiganensis subsp. ***nebraskensis*** (Vidaver & Mandel 1974) Davis, Gillaspie, Vidaver & Harris 1984
= *Corynebacterium michiganense* pv. *nebraskense* (Vidaver & Mandel 1974) Dye & Kemp 1977
= *Corynebacterium michiganense* subsp. *nebraskense* (Vidaver & Mandel 1974) Carlson & Vidaver 1982
= *Corynebacterium nebraskense* Vidaver & Mandel 1974
ATCC 27794; CFBP 2405; ICMP 3298; LMG 3700; NCPPB 2581

Clavibacter michiganensis subsp. ***sepedonicus*** (Spieckermann & Kotthoff 1914) Davis, Gillaspie, Vidaver & Harris 1984
= *Corynebacterium michiganense* subsp. *sepedonicum* (Spieckermann & Kotthoff 1914) Carlson & Vidaver 1982
= *Corynebacterium michiganense* pv. *sepedonicum* (Spieckermann & Kotthoff 1914) Dye & Kemp 1977
= *Corynebacterium sepedonicum* (Spieckermann & Kotthoff 1914) Skaptason & Burkholder 1942
ATCC 33113; CFBP 2049; ICMP 2535; LMG 2889; NCPPB 2137

Clavibacter michiganensis subsp. ***tessellarius*** (Carlson & Vidaver 1982) Davis, Gillaspie, Vidaver & Harris 1984
= *Corynebacterium michiganense* subsp. *tessellarium* Carlson & Vidaver 1982
ATCC 33566; ICMP 7221; LMG 7294; NCPPB 3664

Clavibacter rathayi (Smith 1913) Davis, Gillaspie, Vidaver & Harris 1984
see ***Rathayibacter rathayi***

Clavibacter toxicus Riley & Ophel 1992
ATCC 49908; ICMP 9525; NCPPB 3552

Clavibacter tritici (ex Hutchinson 1917) Davis, Gillaspie, Vidaver & Harris 1984
see ***Rathayibacter tritici***

Clavibacter xyli Davis, Gillaspie, Vidaver & Harris 1984
see ***Leifsonia xyli***

Clavibacter xyli subsp. *xyli* Davis, Gillaspie, Vidaver & Harris 1984
see ***Leifsonia xyli*** subsp. ***xyli***

Clavibacter xyli subsp. *cynodontis* Davis, Gillaspie, Vidaver & Harris 1984
see ***Leifsonia xyli*** subsp. ***cynodontis***

Clostridium Prazmowski 1880

Clostridium puniceum Lund, Brocklehurst & Wyatt 1981
ATCC 43978; ICMP 12529

Corynebacterium Lehmann & Neumann 1896

Corynebacterium betae Keyworth, Howell & Dowson 1956
see ***Curtobacterium flaccumfaciens* pv. *betae***

Corynebacterium beticola Abdou 1969 – Collins & Jones (1982) refers
see ***Erwinia herbicola / Pantoea agglomerans***

Corynebacterium fascians (Tilford 1936) Dowson 1942
see ***Rhodococcus fascians***

Corynebacterium flaccumfaciens (Hedges 1922) Dowson 1942
see ***Curtobacterium flaccumfaciens***

Corynebacterium flaccumfaciens pv. *betae* (Keyworth, Howell & Dowson 1956) Dye & Kemp 1977
see ***Curtobacterium flaccumfaciens* pv. *betae***

Corynebacterium flaccumfaciens pv. *flaccumfaciens* (Hedges 1922) Dowson 1942
see ***Curtobacterium flaccumfaciens* pv. *flaccumfaciens***

Corynebacterium flaccumfaciens pv. *oortii* (Saaltink & Maas Geesteranus 1969) Dye & Kemp 1977
see ***Curtobacterium flaccumfaciens* pv. *oortii***

Corynebacterium flaccumfaciens pv. *poinsettiae* (Starr & Pirone 1942) Dye & Kemp 1977
see ***Curtobacterium flaccumfaciens* pv. *poinsettiae***

Corynebacterium flaccumfaciens subsp. *betae* (Keyworth, Howell & Dowson 1956) Carlson & Vidaver 1982
see ***Curtobacterium flaccumfaciens* pv. *betae***

Corynebacterium flaccumfaciens subsp. *flaccumfaciens* (Hedges 1922) Dowson 1942
see ***Curtobacterium flaccumfaciens* pv. *flaccumfaciens***

Corynebacterium flaccumfaciens subsp. *oortii* (Saaltink & Maas Geesteranus 1969) Carlson & Vidaver 1982
see ***Curtobacterium flaccumfaciens* pv. *oortii***
Corynebacterium flaccumfaciens subsp. *poinsettiae* (Starr & Pirone 1942) Carlson & Vidaver 1982
see ***Curtobacterium flaccumfaciens* pv. *poinsettiae***
Corynebacterium ilicis Mandel, Guba & Litsky 1961
see ***Arthrobacter michiganensis***
Corynebacterium michiganense pv. *nebraskense* (Vidaver & Mandel 1974) Dye & Kemp 1977
see ***Clavibacter michiganensis* *subsp.* *nebraskensis***
Corynebacterium michiganense pv. *rathayi* (Smith 1913) Dye & Kemp 1977
see ***Rathayibacter rathayi***
Corynebacterium michiganense pv. sepedonicum (Spieckermann & Kotthoff 1914) Dye & Kemp 1977
see ***Clavibacter michiganensis* *subsp.* *sepedonicus***
Corynebacterium michiganense pv. *tritici* (Hutchinson 1917) Dye & Kemp 1977
see ***Rathayibacter tritici***
Corynebacterium michiganense subsp. *insidiosum* (McCulloch 1925) Carlson & Vidaver 1982
see ***Clavibacter michiganensis* *subsp.* *insidiosus***
Corynebacterium michiganense subsp. *michiganense* (Smith 1910) Jensen 1934
see ***Clavibacter michiganensis* *subsp.* *michiganensis***
Corynebacterium michiganense subsp. nebraskense (Vidaver & Mandel 1974) Carlson & Vidaver 1982
see ***Clavibacter michiganensis* *subsp.* *nebraskensis***
Corynebacterium michiganense subsp. *sepedonicum* (Spieckermann & Kotthoff 1914) Carlson & Vidaver 1982
see ***Clavibacter michiganensis*** subsp. ***sepedonicus***
Corynebacterium michiganense subsp. *tessellarius* Carlson & Vidaver 1982
see ***Clavibacter michiganensis*** subsp. ***tessellarius***
Corynebacterium nebraskense Vidaver & Mandel 1974
see ***Clavibacter michiganensis*** subsp. ***nebraskensis***
Corynebacterium oortii Saaltink & Maas Geesteranus 1969
see ***Curtobacterium flaccumfaciens* pv. *oortii***
Corynebacterium poinsettiae (Starr & Pirone 1942) Burkholder 1948b
see ***Curtobacterium flaccumfaciens* pv. *poinsettiae***
Corynebacterium rathayi (Smith 1913) Dowson 1942
see ***Rathayibacter rathayi***
Corynebacterium sepedonicum (Spieckermann & Kotthoff 1914) Skaptason & Burkholder 1942
see ***Clavibacter michiganensis* *subsp.* *sepedonicus***
[*Corynebacterium tritici* (Hutchinson 1917) Burkholder 1948b]
see ***Rathayibacter tritici***

Curtobacterium Yamada & Komagata 1972
Curtobacterium flaccumfaciens (Hedges 1922) Collins & Jones 1984
= *Corynebacterium flaccumfaciens* (Hedges 1922) Dowson 1942
ICMP 2584; LMG 3645; NCPPB 1446

Curtobacterium flaccumfaciens* pv. *betae (Keyworth, Howell & Dowson 1956) Collins & Jones 1983
= *Corynebacterium betae* Keyworth, Howell & Dowson 1956
= *Corynebacterium flaccumfaciens* pv. betae (Keyworth, Howell & Dowson 1956) Dye & Kemp 1977
= *Corynebacterium flaccumfaciens* subsp. *betae* (Keyworth, Howell & Dowson 1956) Carlson & Vidaver 1982
CFBP 2402; ICMP 2594; LMG 3596; NCPPB 374

Curtobacterium flaccumfaciens pv. flaccumfaciens (Hedges 1922) Collins & Jones 1983
= *Corynebacterium flaccumfaciens* pv. *flaccumfaciens* (Hedges 1922) Dowson 1942
= *Corynebacterium flaccumfaciens* subsp. *flaccumfaciens* (Hedges 1922) Dowson 1942
ICMP 2584; LMG 3645; NCPPB 1446

Curtobacterium flaccumfaciens pv. ***ilicis*** (Mandel, Guba & Litsky 1961) Young, Watson & Dye 2004
= *Corynebacterium ilicis* Mandel, Guba & Litsky 1961
ICMP 2608

Curtobacterium flaccumfaciens* pv. *oortii (Saaltink & Maas Geesteranus 1969) Collins & Jones 1983
= *Corynebacterium flaccumfaciens* pv. *oortii* (Saaltink & Maas Geesteranus 1969) Dye & Kemp 1977
= *Corynebacterium flaccumfaciens* subsp. *oortii* (Saaltink & Maas Geesteranus 1969) Carlson & Vidaver 1982
= *Corynebacterium oortii* Saaltink & Maas Geesteranus 1969
ATCC 25283; CFBP 1384; ICMP 2632; LMG 3702; NCPPB 2113

Curtobacterium flaccumfaciens* pv. *poinsettiae (Starr & Pirone 1942) Collins & Jones 1983
= *Corynebacterium flaccumfaciens* pv. poinsettiae (Starr & Pirone 1942) Dye & Kemp 1977
= *Corynebacterium flaccumfaciens* subsp. *poinsettiae* (Starr & Pirone 1942) Carlson & Vidaver 1982
= *Corynebacterium poinsettiae* (Starr & Pirone 1942) Burkholder 1948b
ATCC 9682; CFBP 2403; ICMP 2566; LMG 3715; NCPPB 854

Enterobacter Hormaeche & Edwards 1960

Enterobacter agglomerans (Beijerinck 1888) Ewing & Fife 1972
see ***Erwinia herbicola / Pantoea agglomerans***

Enterobacter cancerogenus (Urošević 1966) Dickey & Zumoff 1988
= *Erwinia cancerogena* Urošević 1966
= [*Erwinia carnegieana* Lightle, Standring & Brown 1942]
= [*Pectobacterium carnegieana* (Lightle, Standring & Brown 1942) Brenner, Steigerwalt, Miklos & Fanning 1973]
ATCC 33241; ICMP 5706; LMG 2693; NCPPB 2176

Enterobacter dissolvens (Rosen 1922) Brenner, McWhorter, Kai, Steigerwalt & Farmer 1988
= *Erwinia dissolvens* (Rosen 1922) Burkholder 1948c
Pathogenicity of strains associated with this species is doubtful (Bradbury 1986).
ATCC 23373; ICMP 1570; LMG 2683; NCPPB 1850

Enterobacter nimipressuralis (Carter 1945) Brenner, McWhorter, Kai, Steigerwalt & Farmer 1988

= *Erwinia nimipressuralis* Carter 1945
Pathogenicity of strains associated with this species is doubtful (Bradbury 1986).
ATCC 9912; ICMP 1577; LMG 10245; NCPPB 2045

Enterobacter pyrinus Chung, Brenner, Steigerwalt, Kim, Kim & Cho 1993
= [*Erwinia pirina* Chung, Kim, Kim & Cho 1990]
ATCC 49851; ICMP 12530

Erwinia Winslow, Broadhurst, Buchanan, Krumwiede, Rogers & Smith 1920
The homogeneity of genera in the Enterobacteriaceae that contain pathogens of plants and animals and from other environments has been discussed (Brenner *et al.* 1984). Recent divisions of *Erwinia* into several genera, *Brenneria, Pectobacterium* and *Samsonia,* are based solely on comparative analysis of 16S rDNA sequence data that show these as separate clades within the Enterobacteriaceae. There are no circumscriptions that differentiate these genera in phenotypic terms.

Erwinia alni (Surico, Mugnai, Pastorelli, Giovannetti & Stead 1996) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
see ***Brenneria alni***

Erwinia amylovora (Burrill 1882) Winslow, Broadhurst, Buchanan, Krumwiede, Rogers & Smith 1920
ATCC 15580; CFBP 1232; ICMP 1540; LMG 2024; NCPPB 683

[*Erwinia amylovora* pv. *pyri* Tanii 1983] not valid – Young *et al.* (1991a) refers

Erwinia ananatis (originally *ananas*) Serrano 1928
see ***Pantoea ananatis* pv. *ananatis***

Erwinia ananatis pv. *ananatis* Serrano 1928
see ***Pantoea ananatis* pv. *ananatis***

Erwinia ananas ananas pv. *uredovora* (Pon, Townsend, Wessmann, Schmitt & Kingsolver 1954) Dye 1978a
see ***Pantoea ananatis* pv. *uredovora***

Erwinia cacticida Alcorn, Orum Steigerwalt, Foster, Fogleman & Brenner 1991
ATCC 49481; ICMP 11136; NCPPB 3849

Erwinia cancerogena Urošević 1966
see ***Enterobacter cancerogenus***

[*Erwinia carnegieana* Lightle, Standring & Brown 1942]
= [*Pectobacterium carnegieana* (Lightle, Standring & Brown 1942) Brenner, Steigerwalt, Miklos & Fanning 1973]
Because there are anomalies between the description of the species and the characteristics of the type strain of *E. carnegieana*, which belongs in *Klebsiella pneumoniae*, a recommendation has been made to reject this name (Alcorn & Orum 1988).
see ***Enterobacter cancerogenus***

Erwinia carotovora (Jones 1901) Bergey, Harrison, Breed, Hammer & Huntoon 1923
see ***Pectobacterium carotovorum***

Erwinia carotovora subsp. *carotovora* (Jones 1901) Bergey, Harrison, Breed, Hammer & Huntoon 1923
see ***Pectobacterium carotovorum***

Erwinia carotovora pv. *atroseptica* (van Hall 1902) Dye 1978a
see ***Pectobacterium atrosepticum***

Erwinia carotovora pv. *carotovora* (Jones 1901) Bergey, Harrison, Breed, Hammer & Huntoon 1923
see ***Pectobacterium carotovorum***
Erwinia carotovora subsp. *atroseptica* (van Hall 1902) Dye 1969
see ***Pectobacterium atrosepticum***
Erwinia carotovora subsp. *betavasculorum* Thomson, Hildebrand & Schroth 1984
see ***Pectobacterium betavasculorum***
Erwinia carotovora subsp. *odorifera* Gallois, Samson, Ageron & Grimont 1992
see ***Pectobacterium carotovorum*** subsp. ***odoriferum***
Erwinia carotovora subsp. wasabiae Goto & Matsumoto 1987
see ***Pectobacterium carotovorum*** subsp. ***wasabiae***
Erwinia chrysanthemi Burkholder, McFadden & Dimock 1953
see ***Pectobacterium chrysanthemi***
Erwinia chrysanthemi pv. *chrysanthemi* Burkholder, McFadden & Dimock 1953
= [*Erwinia chrysanthemi* pv. *dianthi* Alivizatos 1979] not valid – Young *et al.* (1991a) refers
see ***Pectobacterium chrysanthemi* pv. *chrysanthemi***
Erwinia chrysanthemi pv. *dianthicola* (Hellmers 1958) Dickey 1979
= [*Erwinia chrysanthemi* pv. *dianthi* Alivizatos 1979] not valid – Young *et al.* (1991a) refers
see ***Pectobacterium chrysanthemi* pv. *dianthicola***
Erwinia chrysanthemi pv. *dieffenbachiae* (McFadden 1961) Dye 1978a
see ***Pectobacterium chrysanthemi* pv. *dieffenbachiae***
Erwinia chrysanthemi pv. *paradisiaca* (Victoria & Barros 1969) Dickey & Victoria 1980
see ***Brenneria paradisiaca***
Erwinia chrysanthemi pv. *parthenii* (Starr 1947) Dye 1978a
see ***Pectoacterium chrysanthemi* pv. *parthenii***
Erwinia chrysanthemi pv. *zeae* (Sabet 1954) Victoria, Arboleda & Muñoz 1975
see ***Pectobacterium chrysanthemi* pv. *zeae***
Erwinia cypripedii (Hori 1911) Bergey, Harrison, Breed, Hammer & Huntoon 1923
see ***Pectobacterium cypripedii***
Erwinia dissolvens (Rosen 1922) Burkholder 1948c
see ***Enterobacter dissolvens***
Erwinia herbicola (Löhnis 1911) Dye 1964
= *Corynebacterium beticola* Abdou 1969
= *Enterobacter agglomerans* (Beijerinck 1888) Ewing & Fife 1972
= *Erwinia millettiae* (Kawakami & Yoshida 1920) Magrou 1937
= *Pantoea agglomerans* (Beijerinck 1888) Gavini *et al.* 1989
ATCC 33243; ICMP 272; LMG 2565; NCPPB 2971
see ***Pantoea agglomerans***
Erwinia herbicola f.sp. *gypsophilae* (Brown 1934) Miller, Quinn & Graham 1981
see ***Erwinia herbicola* pv. *gypsophilae***
Erwinia herbicola pv. *gypsophilae* (Brown 1934) Miller, Quinn & Graham 1981
= *Erwinia herbicola* f.sp. *gypsophilae* (Brown 1934) Miller, Quinn & Graham 1981
ICMP 12531; NCPPB 3091

see ***Pantoea agglomerans* pv. *gypsophilae***

Erwinia herbicola pv. *millettiae* (Kawakami & Yoshida 1920) Goto, Takahashi & Okajima 1980
= *Enterobacter agglomerans* pv. *millettiae* (Kawakami & Yoshida 1920) Young, Saddler, Takikawa, De Boer, Vauterin, Gardan, Gvozdyak & Stead 1996 – Gavini *et al*. (1989) refers
= *Erwinia herbicola* pv. *millettiae* (Kawakami & Yoshida 1920) Goto, Takahashi & Okajima 1980
= *Erwinia millettiae* (Kawakami & Yoshida 1920) Magrou 1937
ATCC 33261; ICMP 6772; LMG 2660; NCPPB 2519
see ***Pantoea agglomerans* pv. *millettiae***

Erwinia mallotivora Goto 1976
ATCC 29573; CFBP 2503; ICMP 5705; LMG 2708; NCPPB 2851

Erwinia millettiae (Kawakami & Yoshida 1920) Magrou 1937
see ***Pantoea agglomerans* pv. *millettiae***

Erwinia nigrifluens Wilson, Starr & Berger 1957
see ***Brenneria nigrifluens***

Erwinia nimipressuralis Carter 1945
see ***Enterobacter nimipressuralis***

[*Erwinia nulandii* Schuster, Schuster & Nuland 1981] not valid – Brenner *et al.* (1994) refers
see ***Erwinia persicina***

Erwinia papayae Gardan, Christen, Achouak & Prior 2004
CFBP 5189; NCPPB 4294

Erwinia proteamaculans (Paine & Stansfield 1919) Dye 1966
see ***Serratia proteamaculans***

Erwinia persicinus Hao, Brenner, Steigerwalt, Kosako & Komagata 1990
= [*Erwinia nulandii* Schuster, Schuster & Nuland 1981] not valid – Brenner *et al.* (1994) refers
ATCC 35998; ICMP 12532; LMG 11254; NCPPB 3774

[*Erwinia pirina* Chung, Kim, Kim & Cho 1990]
Not validated in the *International Journal of Systematic Bacteriology*. This name has now been superseded by *Enterobacter pyrinus*.
see ***Enterobacter pyrinus***

Erwinia psidii Rodrigues Neto, Robbs & Yamashiro 1988
ATCC 49406; ICMP 8426; NCPPB 3555

Erwinia quercina Hildebrand & Schroth 1967
see ***Brenneria quercina***

Erwinia pyrifoliae Kim, Gardan, Rhim & Geider 1999
ICMP 14143

Erwinia rhapontici (Millard 1924) Burkholder 1948c
= *Pectobacterium rhapontici* (Millard 1924) Patel & Kulkarni 1951b
ATCC 29283; ICMP 1582; LMG 2688; NCPPB 1578

Erwinia rubrifaciens Wilson, Zeitoun & Fredrickson 1967
see ***Brenneria rubrifaciens***

Erwinia salicis (Day 1924) Chester 1939
see ***Brenneria salicis***

Erwinia stewartii (Smith 1898) Dye 1963c
see ***Pantoea stewartii***

Erwinia tracheiphila (Smith 1895) Bergey, Harrison, Breed, Hammer & Huntoon 1923
ATCC 33245; CFBP 2355; ICMP 5845; LMG 2707; NCPPB 2452

Erwinia uredovora (Pon, Townsend, Wessman, Schmitt & Kingsolver 1954) Dye 1963a
see ***Pantoea ananatis*** **pv.** ***uredovora***

Gluconobacter Asai 1935

Gluconobacter oxydans (Henneberg 1897) De Ley 1961
ATCC 19357; ICMP 12533; LMG 1408

Herbaspirillum Baldani, Baldani, Seldin & Döbereiner 1986

Herbaspirillum rubrisubalbicans (Christopher & Edgerton 1930) Baldani, Pot, Kirchhof, Falsen, Baldani, Olivares, Hoste, Kersters, Hartmann, Gillis & Döbereiner 1996
= *Pseudomonas rubrisubalbicans* (Christopher & Edgerton 1930) Krasil'nikov 1949
ATCC 19308; CFBP 1202; ICMP 5777; LMG 2286

Janthinobacterium De Ley Segers & Gillis 1978

Janthinobacterium agaricidamnosum Lincoln, Fermor & Tindall 1999
DSM 9628; NCPPB 3945

Leifsonia Evtushenko, Dorofeeva, Subbotin, Cole & Tiedje 2000

Leifsonia cynodontis (Davis, Gillaspie, Vidaver & Harris 1984) Suzuki, Suzuki, Sasaki, Park & Komagata 2000
Suzuki *et al*. (2000) proposed that *L. cynodontis* supplant *L. xyli*, a name they considered to be not valid because they could not obtain a culture of the type strain. However, the type strain of *L. xyli* is available, and other strains were available as possible neotypes of the species. *L. cynodontis* is probably a heterotypic synonym of *L. xyli*.

Leifsonia xyli (Davis, Gillaspie, Vidaver & Harris 1984) Evtushenko, Dorofeeva, Subbotin, Cole & Tiedje 2000
= *Clavibacter xyli* Davis, Gillaspie, Vidaver & Harris 1984
ICMP 7127

Leifsonia xyli subsp. ***xyli*** (Davis, Gillaspie, Vidaver & Harris 1984) Evtushenko, Dorofeeva, Subbotin, Cole & Tiedje 2000
= *Clavibacter xyli* subsp. *xyli* Davis, Gillaspie, Vidaver & Harris 1984
ICMP 7127

Leifsonia xyli subsp. ***cynodontis*** (Davis, Gillaspie, Vidaver & Harris 1984) Evtushenko, Dorofeeva, Subbotin, Cole & Tiedje 2000
= *Clavibacter xyli* subsp. *cynodontis* Davis, Gillaspie, Vidaver & Harris 1984
ATCC 33973, ICMP 8790

Nocardia Trevisan 1889

Nocardia vaccinii Demaree & Smith 1952
ATCC 11092; ICMP 17582; NCPPB 954
ICMP 5814, previously recorded as a representative of the type strain, is a *Staphylococcus* sp.

Pantoea Gavini, Mergaert, Beji, Mielcarek, Izard, Kersters & De Ley 1989

The homogeneity of genera in the Enterobacteriaceae that contain pathogens of plants and animals and from other environments has been discussed (Brenner *et al.* 1984). There is no recorded phenotypic circumscription of the genus that distinguishes it from other genera in the Enterobacteriaceae. Comparative analysis of 16S rDNA sequence data showed that sequences representing *Pantoea* spp. are part of the *Erwinia* clade. The classification of strains in *Pantoea* spp. is based on differences in DNA-DNA hybridization, although there appears to be a continuity of values between strains in *P. agglomerans, P. stewartii* and strains of *Enterobacter agglomerans–Erwinia herbicola* not included in the genus (Gavini *et al.* 1989). *Pantoea* appears not to be distinct from *Erwinia* (Young, 2001).

Pantoea agglomerans (Beijerinck 1888) Gavini, Mergaert, Beji, Mielcarek, Izard, Kersters & De Ley 1989
= *Corynebacterium beticola* Abdou 1969
= *Enterobacter agglomerans* (Beijerinck 1888) Ewing & Fife 1972
= *Erwinia herbicola* (Löhnis 1911) Dye 1964
ATCC 27155; ICMP 12534; LMG 1286

Pantoea agglomerans* pv. *gypsophilae (Brown 1934) comb. nov.
= *Erwinia herbicola* f.sp. *gypsophilae* (Brown 1934) Miller, Quinn & Graham 1981
= *Erwinia herbicola* pv. *gypsophilae* (Brown 1934) Miller, Quinn & Graham 1981
ICMP 12531; NCPPB 3091

Pantoea agglomerans* pv. *millettiae (Kawakami & Yoshida 1920) Young, Saddler, Takikawa, De Boer, Vauterin, Gardan, Gvozdyak & Stead 1996 – Gavini *et al*. (1989) refers
= *Enterobacter agglomerans* pv. *millettiae* (Kawakami & Yoshida 1920) Young, Saddler, Takikawa, De Boer, Vauterin, Gardan, Gvozdyak & Stead 1996 – Gavini *et al*. (1989) refers
= *Erwinia herbicola* pv. *millettiae* (Kawakami & Yoshida 1920) Goto, Takahashi & Okajima 1980
= *Erwinia millettiae* (Kawakami & Yoshida 1920) Magrou 1937
ATCC 33261; ICMP 6772; LMG 2660; NCPPB 2519

Pantoea ananatis (originally *ananas*) (Serrano 1928) Mergaert, Verdonck & Kersters 1993
ATCC 33244; ICMP 1850; LMG 2665; NCPPB 1846

Pantoea ananatis* pv. *ananatis (Serrano 1928) Mergaert, Verdonck & Kersters 1993
= *Erwinia ananas* Serrano 1928
= *Erwinia ananas* pv. *ananas* Serrano 1928
ATCC 33244; ICMP 1850; LMG 2665; NCPPB 1846

Pantoea ananatis* pv. *uredovora (Pon, Townsend, Wessmann, Schmitt & Kingsolver 1954) Young, Saddler, Takikawa, De Boer, Vauterin, Gardan, Gvozdyak & Stead 1996 – Mergaert *et al*. (1993) refers
= *Erwinia uredovora* (Pon, Townsend, Wessman, Schmitt & Kingsolver 1954) Dye 1963a
= *Erwinia ananas* pv. *uredovora* (Pon, Townsend, Wessmann, Schmitt & Kingsolver 1954) Dye 1978a
ATCC 19321; ICMP 351; LMG 2676; NCPPB 800

Pantoea stewartii (Smith 1898) Mergaert, Verdonck & Kersters 1993
ATCC 8199; CFBP 2349; ICMP 257; LMG 2715; NCPPB 2295

Pantoea stewartii subsp. ***stewartii*** (Smith 1898) Mergaert, Verdonck & Kersters 1993

= *Erwinia stewartii* (Smith 1898) Dye 1963c
ATCC 8199; CFBP 2349; ICMP 257; LMG 2715; NCPPB 2295

Pantoea stewartii subsp. ***indologenes*** Mergaert, Verdonck & Kersters 1993
ICMP 77; LMG 2632; NCPPB 2280

Pectobacterium (Waldee 1945) emend. Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
= *Erwinia* Winslow, Broadhurst, Buchanan, Krumweide, Rogers & Smith 1920
The homogeneity of genera in the Enterobacteriaceae that contain pathogens of plants and animals and from other environments has been discussed (Brenner *et al.* 1984). There is no recorded phenotypic circumscription of the genus that distinguishes it from other genera in the Enterobacteriaceae. Recognition of the genus *Pectobacterium* is based solely on comparative analysis of 16S rDNA sequence data that shows sequences representing *Pectobacterium* spp. as a separate clade within the Enterobacteriaceae.

Pectobacterium atrosepticum (van Hall 1902) Gardan, Gouy, Christen, & Samson 2003
= *Erwinia carotovora* subsp. *atroseptica* (van Hall 1902) Dye 1969
= *Erwinia carotovora* pv. *atroseptica* (van Hall 1902) Dye 1978a
= *Pectobacterium carotovorum* subsp. *atrosepticum* (van Hall 1902) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
ATCC 33260; CFBP 1526; ICMP 1526; LMG 2386; NCPPB 549

Pectobacterium betavasculorum (Thomson, Hildebrand & Schroth 1984) Gardan, Gouy, Christen, & Samson. 2003
= *Erwinia carotovora* subsp. *betavasculorum* Thomson, Hildebrand & Schroth 1984
= *Pectobacterium carotovorum* subsp. *betavasculorum* (Thomson, Hildebrand & Schroth 1984) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
ATCC 43762; CFBP 1539; ICMP 4226; LMG 2464; NCPPB 2795

Pectobacterium cacticida (Alcorn, Orum Steigerwalt, Foster, Fogleman & Brenner 1991) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
= *Erwinia cacticida* Alcorn, Orum Steigerwalt, Foster, Fogleman & Brenner 1991
ATCC 49481; ICMP 11136; NCPPB 3849

[*Pectobacterium carnegieana* (Lightle, Standring & Brown 1942) Brenner, Steigerwalt, Miklos & Fanning 1973]
see [*Erwinia carnegiana*]

Pectobacterium carotovorum (Jones 1901) Waldee 1945 emend. Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
= *Erwinia carotovora* (Jones 1901) Bergey, Harrison, Breed, Hammer & Huntoon 1923
= *Erwinia carotovora* subsp. *carotovora* (Jones 1901) Bergey, Harrison, Breed, Hammer & Huntoon 1923
= *Erwinia carotovora* pv. *carotovora* (Jones 1901) Bergey, Harrison, Breed, Hammer & Huntoon 1923
= *Pectobacterium carotovorum* (Jones 1901) Waldee 1945
ATCC 15713; CFBP 2046; ICMP 5702; LMG 2404; NCPPB 312

Pectobacterium carotovorum subsp. *atrosepticum* (van Hall 1902) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
see ***Pectobacterium atrosepticum***

Pectobacterium carotovorum subsp. *betavasculorum* (Thomson, Hildebrand & Schroth 1984) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999

see ***Pectobacterium betavasculorum***

Pectobacterium carotovorum subsp. ***carotovorum*** (Jones 1901) Waldee 1945 emend. Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
= *Erwinia carotovora* subsp. *carotovora* (Jones 1901) Bergey, Harrison, Breed, Hammer & Huntoon 1923
ATCC 15713; CFBP 2046; ICMP 5702; LMG 2404; NCPPB 312

Pectobacterium carotovorum subsp. ***odoriferum*** (Gallois, Samson, Ageron & Grimont 1992) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
= *Erwinia carotovora* subsp. *odorifera* Gallois, Samson, Ageron & Grimont 1992
CFBP 1878; ICMP 11533; NCPPB 3839

Pectobacterium carotovorum subsp. *wasabiae* (Goto & Matsumoto 1987) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
see ***Pectobacterium wasabiae***

Pectobacterium chrysanthemi (Burkholder, McFadden & Dimock 1953) Brenner, Steigerwalt, Miklos & Fanning 1973 emend. Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
= *Erwinia chrysanthemi* Burkholder, McFadden & Dimock 1953
ATCC 11663; CFBP 2048; ICMP 5703; LMG 2804; NCPPB 402

Pectobacterium chrysanthemi **pv. *chrysanthemi*** (Burkholder, McFadden & Dimock 1953) Brenner, Steigerwalt, Miklos & Fanning 1973 emend. Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
= *Erwinia chrysanthemi* pv. *chrysanthemi* (Burkholder, McFadden & Dimock 1953)
ATCC 11663; CFBP 2048; ICMP 5703; LMG 2804; NCPPB 402

Pectobacterium chrysanthemi **pv. *dianthicola*** (Hellmers 1958) comb. nov.
= *Erwinia chrysanthemi* pv. *dianthicola* (Hellmers 1958) Dickey 1979
= [*Erwinia chrysanthemi* pv. *dianthi* Alivizatos 1979] not valid – Young *et al.* (1991a) refers
CFBP 1200; ICMP 6427; LMG 2485; NCPPB 453

Pectobacterium chrysanthemi **pv. *dieffenbachiae*** (McFadden 1961) comb. nov.
= *Erwinia chrysanthemi* pv. *dieffenbachiae* (McFadden 1961) Dye 1978a
= *Erwinia dieffenbachiae* McFadden 1961
CFBP 2051; ICMP 1568; NCPPB 2976

Pectobacterium chrysanthemi **pv. *parthenii*** (Starr 1947) comb. nov.
= *Erwinia chrysanthemi* pv. *parthenii* (Starr 1947) Dye 1978a
CFBP 1270; ICMP 1547; LMG 2486; NCPPB 516

Pectobacterium chrysanthemi **pv. *zeae*** (Sabet 1954) comb. nov.
= *Erwinia chrysanthemi* pv. *zeae* (Sabet 1954) Victoria, Arboleda & Muñoz 1975
CFBP 2052; ICMP 5704; LMG 2505; NCPPB 2538

Pectobacterium cypripedii (Hori 1911) Brenner, Steigerwalt, Miklos & Fanning 1973 emend. Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
= *Erwinia cypripedii* (Hori 1911) Bergey, Harrison, Breed, Hammer & Huntoon 1923
ATCC 29267; ICMP 1591; LMG 2657; NCPPB 3004

Pectobacterium wasabiae (Goto & Matsumoto 1987) Gardan, Gouy, Christen, & Samson 2003
= *Erwinia carotovora* subsp. *wasabiae* Goto & Matsumoto 1987
= *Pectobacterium carotovorum* subsp. *wasabiae* (Goto & Matsumoto 1987) Hauben, Moore, Vauterin, Steenackers, Mergaert, Verdonck & Swings 1999
ATCC 43316; ICMP 9121; LMG 8444; NCPPB 3701

Pectobacterium rhapontici (Millard 1924) Burkholder 1948c
see ***Erwinia rhapontici***

Pseudomonas Migula 1894
Pseudomonas agarici Young 1970
ATCC 25941; CFBP 2063; ICMP 2656; LMG 2112; NCPPB 2289
Pseudomonas amygdali Psallidas & Panagopoulos 1975
ATCC 33614; ICMP 3918; LMG 2123; NCPPB 2607
Pseudomonas andropogonis (Smith 1911) Stapp 1928
see ***Burkholderia andropogonis***
[*Pseudomonas andropogonis* pv. *andropogonis* (Smith 1911) Stapp 1928] not valid – Young *et al.* (1991a) refers
[*Pseudomonas andropogonis* pv. *sojae* Stall & Kucharek 1982] not valid – Young *et al.* (1991a) refers
[*Pseudomonas andropogonis* pv. *stizolobii* (Wolf 1920) Palleroni 1984] not valid – Young *et al.* (1991a) refers
Pseudomonas asplenii (Ark & Tompkins 1946) Săvulescu 1947
ATCC 23835; ICMP 3944; LMG 2137; NCPPB 1947
Pseudomonas avellanae Janse, Rossi, Angelucci, Scortichini, Derks, Akkermans, De Vrijer & Psallidas 1997
= *Pseudomonas syringae* pv. *avellanae* Psallidas 1993
CFBP 10963; NCPPB 3487; ICMP 9746
Pseudomonas avenae Manns 1909
see ***Acidovorax avenae***
Pseudomonas avenae subsp. *avenae* Manns 1909
see ***Acidovorax avenae*** subsp. ***avenae***
Pseudomonas avenae subsp. *citrulli* (Schaad, Sowell, Goth, Colwell & Webb 1978) Hu, Young & Triggs 1991
see ***Acidovorax avenae*** subsp. ***citrulli***
Pseudomonas avenae subsp. *konjaci* (Goto 1983b) Hu, Young & Triggs 1991
see ***Acidovorax konjaci***
Pseudomonas betle (originally *betle*) (Ragunathan 1928) Săvulescu 1947
ATCC 19861; ICMP 2820; LMG 978; NCPPB 323
This strain has been reported as a member of *Xanthomonas* (De Vos *et al*. 1985) or *Stenotrophomonas* (Anzai *et al.* 2000). Singer *et al*. (1994) suggest that this strain is a member of *Stenotrophomonas maltophilia* (Hugh 1981) Bradbury & Palleroni 1993.
[*Pseudomonas blatchfordae* Schuster, Blatchford & Schuster 1980] not valid – Young *et al.* (1991a) refers
Pseudomonas cannabina (ex Šutič & Dowson 1959) Gardan, Shafik, Belouin, Brosch, Grimont & Grimont 1999
= *Pseudomonas syringae* pv. *cannabina* (ex Šutič & Dowson 1959) Young, Dye & Wilkie 1978
CFBP 2341; ICMP 2823; LMG 5096; NCPPB 1437
Pseudomonas costantinii Munsch, Alatossava, Marttinen, Meyer, Christen & Gardan 2002
CFBP 5705; HAMBI 2444
Pseudomonas caricapapayae Robbs 1956
ATCC 33615; CFBP 3204; ICMP 2855; LMG 2152; NCPPB 1873

Pseudomonas caryophylli (Burkholder 1942) Starr & Burkholder 1942
see ***Burkholderia caryophylli***
Pseudomonas cattleyae (Pavarino 1911) Săvulescu 1947
see ***Acidovorax avenae*** subsp. ***cattleyae***
Pseudomonas cepacia (ex Burkholder 1950) Palleroni & Holmes 1981
see ***Burkholderia cepacia***
Pseudomonas cichorii (Swingle 1925) Stapp 1928
ATCC 10857; CFBP 2101; ICMP 5707; LMG 2162; NCPPB 943
Pseudomonas cissicola (Takimoto 1939) Burkholder 1948a
ATCC 33616; CFBP 2432; ICMP 8561; LMG 2167; NCPPB 2982
The type strain is not a member of *Pseudomonas*. It was incorrectly identified as a member of *Agrobacterium* by Hu *et al.* (1991) (Goto 1992), but is a member of *Xanthomonas* (Anzai *et al.* 2000; Stead 1992; Young *et al.* 1992).
Pseudomonas corrugata (ex Scarlett, Fletcher, Roberts & Lelliott 1978) Roberts & Scarlett 1981
ATCC 29736; CFBP 2431; ICMP 5819; LMG 2172; NCPPB 2445
[*Pseudomonas dodoneae* Papdiwal 1980a] not valid – Young *et al.* (1991a) refers
Pseudomonas ficuserectae Goto 1983c
ATCC 35104; CFBP 3224; ICMP 7848; LMG 5694; NCPPB 3693
Pseudomonas flectens Johnson 1956
ATCC 12775; ICMP 745; LMG 2187; NCPPB 539
This strain is not considered to be a member of *Pseudomonas* (De Vos *et al.* 1985) but appears to be a member of the Enterobactericeae (Anzai *et al.* 2000).
Pseudomonas fuscovaginae (ex Tanii, Miyajima & Akita 1976) Miyajima, Tanii & Akita 1983
CFBP 2065; ICMP 5940; LMG 2158; NCPPB 3085
[*Pseudomonas gingeri* Preece & Wong 1982] not valid – Young *et al.* (1991a) refers
Pseudomonas gladioli Severini 1913
see ***Burkholderia gladioli***
Pseudomonas gladioli pv. *agaricicola* Lincoln, Fermor, Stead & Sellwood 1991
see ***Burkholderia gladioli*** **pv. *agaricicola***
Pseudomonas gladioli pv. *alliicola* (Burkholder 1942) Young, Dye & Wilkie 1978
see ***Burkholderia gladioli*** **pv. *alliicola***
Pseudomonas gladioli pv. *gladioli* Severini 1913
see ***Burkholderia gladioli*** **pv. *gladioli***
Pseudomonas glumae Kurita & Tabei 1967
see ***Burkholderia glumae***
Pseudomonas hibiscicola Moniz 1963
ATCC 19867; ICMP 3945; LMG 980; NCPPB 1683
This strain has been reported as a member of *Xanthomonas* (Anzai *et al.* 2000; De Vos *et al*. 1985). Singer *et al*. (1994) suggest that this strain is a member of S*tenotrophomonas maltophilia* (Hugh 1981) Bradbury and Palleroni 1993.
Pseudomonas marginalis (Brown 1918) Stevens 1925
ATCC 10844; CFBP 1387; ICMP 3553; LMG 2215; NCPPB 667
Pseudomonas marginalis **pv. *alfalfae*** (Shinde & Lukezic 1974) Young, Dye & Wilkie 1978
CFBP 2039; ICMP 5708; LMG 2214; NCPPB 2644
Pseudomonas marginalis **pv. *marginalis*** (Brown 1918) Stevens 1925
ATCC 10844; CFBP 1387; ICMP 3553; LMG 2215; NCPPB 667
Pseudomonas marginalis **pv. *pastinacae*** (Burkholder 1960) Young, Dye & Wilkie 1978

ATCC 13889; CFBP 2038; ICMP 5709; LMG 2238; NCPPB 806

Pseudomonas mediterranea Catara, Sutra, Morineau, Achouak, Christen, & Gardan 2002.
CFBP 5447; ICMP 14184

Pseudomonas palleroniana Gardan, Bella, Meyer, Christen, Rott, Achouak, & Samson 2002.
CFBP 4389

Pseudomonas meliae Ogimi 1981
ATCC 33050; ICMP 6289; LMG 2220; NCPPB 3033

[*Pseudomonas pallidae* Papdiwal 1980b] not valid – Young *et al.* (1991a) refers

Pseudomonas plantarii Azegami, Nishiyama, Watanabe, Kadota, Ohuchi & Fukazawa 1987
see ***Burkholderia plantarii***

[*Pseudomonas pomi* Cole 1959] not valid – Dhanvantari *et al.* (1978) refers
see ***Acetobacter pasteurianus***

Pseudomonas pseudoalcaligenes subsp. *citrulli* Schaad, Sowell, Goth, Colwell & Webb 1978
see ***Acidovorax avenae*** subsp. ***citrulli***

Pseudomonas pseudoalcaligenes subsp. *konjaci* Goto 1983b
see ***Acidovorax konjaci***

Pseudomonas rubrilineans (Lee, Purdy, Barnum & Martin 1925) Stapp 1928
see ***Acidovorax avenae*** subsp. ***avenae***

Pseudomonas salomonii Gardan, Bella, Meyer, Christen, Rott, Achouak, & Samson 2002.
CFBP 2202

Pseudomonas rubrisubalbicans (Christopher & Edgerton 1930) Krasil'nikov 1949
see ***Herbaspirillum rubrisubalbicans***

Pseudomonas savastanoi (ex Smith 1908) Gardan, Bollet, Abu Ghorrah, Grimont & Grimont 1992
= *Pseudomonas syringae* subsp. *savastanoi* (ex Smith 1908) Janse 1982
ATCC 13522; CFBP 1670; ICMP 4352; LMG 2209; NCPPB 639
Gardan *et al*. (1999) reported that *P. savastanoi* (Smith 1908) Gardan *et al*. 1992 is a member of the same genomic species as *P. amygdali* Psallidas and Panagopoulos 1975. If a formal proposal for amalgamation were to be made, *P. amygdali* would take priority because *P. savastanoi* is a later synonym.

Pseudomonas savastanoi **pv. *fraxini*** (Janse 1982) Young, Saddler, Takikawa, De Boer, Vauterin, Gardan, Gvozdyak & Stead 1996
= *Pseudomonas syringae* pv. *savastanoi* (Smith 1908) Young, Dye & Wilkie 1978
= [*Pseudomonas syringae* subsp. *savastanoi* pv. *fraxini* Janse 1982] not valid – Young *et al.* (1991a) refers
ICMP 7711

Pseudomonas savastanoi **pv. *glycinea*** (Coerper 1919) Gardan, Bollet, Abu Ghorrah, Grimont & Grimont 1992
= *Pseudomonas syringae* pv. *glycinea* (Coerper 1919) Young, Dye & Wilkie 1978
CFBP 2214; ICMP 2189; LMG 5066; NCPPB 2411

Pseudomonas savastanoi **pv. *nerii*** (Janse 1982) Young, Saddler, Takikawa, De Boer, Vauterin, Gardan, Gvozdyak & Stead 1996
= *Pseudomonas syringae* pv. *savastanoi* (Smith 1908) Young, Dye & Wilkie 1978
= [*Pseudomonas syringae* subsp. *savastanoi* pv. *neriii* Janse 1982] not valid – Young *et al.* (1991a) refers
NCPPB 3278

Pseudomonas savastanoi* pv. *phaseolicola (Burkholder 1926) Gardan, Bollet, Abu Ghorrah, Grimont & Grimont 1992
= *Pseudomonas syringae* pv. *phaseolicola* (Burkholder 1926) Young, Dye & Wilkie 1978
ATCC 19304; CFBP 1390; ICMP 2740; LMG 2245; NCPPB 52

Pseudomonas savastanoi* pv. *retacarpa Garcia de los Rios 1999
NCPPB 4050

Pseudomonas savastanoi* pv. *savastanoi (ex Smith 1908) Young, Saddler, Takikawa, De Boer, Vauterin, Gardan, Gvozdyak & Stead 1996
= *Pseudomonas syringae* pv. *savastanoi* (Smith 1908) Young, Dye & Wilkie 1978
= [Pseudomonas syringae subsp. savastanoi pv. oleae Janse 1982] not valid – Young *et al.* (1991a) refers
ATCC 13522; CFBP 1670; ICMP 4352; LMG 2209; NCPPB 639

Pseudomonas solanacearum (Smith 1896) Smith 1914
see ***Ralstonia solanacearum***

Pseudomonas syringae van Hall 1902
ATCC 19310; CFBP 1392; ICMP 3023; LMG 1247; NCPPB 281
= *Pseudomonas syringae* pv. *panici* (Elliott 1923) Young, Dye & Wilkie 1978.
It is probable that the name *panici* was originally applied to a 'non-fluorescent pseudomonad', possibly *Acidovorax avenae* (Bradbury1986; Young & Fletcher 1994).
Pseudomonas syringae, as it is presently circumscribed, is represented by eight genomic groups that may be considered to represent species. Most pathovars of *Pseudomonas syringae* are allocated to four of these groups (Gardan *et al*. 1999).

Pseudomonas syringae* pv. *aceris (Ark 1939) Young, Dye & Wilkie 1978
ATCC 10853; CFBP 2339; ICMP 2802; LMG 2106; NCPPB 958

Pseudomonas syringae* pv. *actinidiae Takikawa, Serizawa, Ichikawa, Tsuyumu & Goto 1989
ICMP 9617; NCPPB 3739

Pseudomonas syringae* pv. *aesculi (ex Durgapal & Singh 1980) Young, Bradbury, Davis, Dickey, Ercolani, Hayward & Vidaver 1991a
CFBP 2894; ICMP 8947; NCPPB 3681

Pseudomonas syringae* pv. *alisalensis Cintas, Koike & Bull 2002
ATCC BAA-566; ICMP 15200

Pseudomonas syringae* pv. *antirrhini (Takimoto 1920) Young, Dye & Wilkie 1978
CFBP 1620; ICMP 4303; LMG 5057; NCPPB 1817

Pseudomonas syringae* pv. *apii (Jagger 1921) Young, Dye & Wilkie 1978
ATCC 9654; CFBP 2103; ICMP 2814; LMG 2132; NCPPB 1626

Pseudomonas syringae* pv. *aptata (Brown & Jamieson 1913) Young, Dye & Wilkie 1978
CFBP 1617; ICMP 459; LMG 5059; NCPPB 871

Pseudomonas syringae* pv. *atrofaciens (McCulloch 1920) Young, Dye & Wilkie 1978
CFBP 2213; ICMP 4394; LMG 5095; NCPPB 2612

Pseudomonas syringae* pv. *atropurpurea (Reddy & Godkin 1923) Young, Dye & Wilkie 1978
CFBP 2340; ICMP 4457; LMG 5030; NCPPB 2397

[*Pseudomonas syringae* pv. *avellanae* Psallidas 1984] not valid – Young *et al.* (1991a) refers

Pseudomonas syringae pv. *avellanae* Psallidas 1993
see ***Pseudomonas avellanae***

Pseudomonas syringae* pv. *berberidis (Thornberry & Anderson 1931a) Young, Dye & Wilkie 1978

CFBP 1727; ICMP 4116; LMG 2147; NCPPB 2724

Pseudomonas syringae pv. *cannabina* (Šutić & Dowson 1959) Young, Dye & Wilkie 1978
see ***Pseudomonas cannabina***

Pseudomonas syringae* pv. *broussonetiae Takahashi, Nishiyama & Sato 1996
ICMP 13650

Pseudomonas syringae* pv. *castaneae Takanashi & Shimizu 1989
ICMP 9419

Pseudomonas syringae* pv. *ciccaronei (Ercolani & Caldarola 1972) Young, Dye & Wilkie 1978
CFBP 2342; ICMP 5710; LMG 5541; NCPPB 2355

Pseudomonas syringae* pv. *coriandricola Toben & Rudolph 1996
ICMP 12471

Pseudomonas syringae* pv. *cerasicola Kamiunten, Nakao & Oshida 2000
ICMP 13926

Pseudomonas syringae* pv. *coronafaciens (Elliott 1920) Young, Dye & Wilkie 1978
CFBP 2216; ICMP 3113; LMG 5060; NCPPB 600

[*Pseudomonas syringae* pv. *coriandricola* Toben, Mavridis & Rudolph 1994] not valid – no pathotype strain was proposed (Standard 17)

Pseudomonas syringae* pv. *coriandricola Toben & Rudolph 1996
ICMP 12471; NCPPB 3781

Pseudomonas syringae* pv. *cunninghamiae He & Goto 1995
ICMP 11894

Pseudomonas syringae* pv. *daphniphylli Ogimi, Kubo, Higuchi & Takikawa 1990
ATCC 49211; ICMP 9757; NCPPB 3617

Pseudomonas syringae* pv. *delphinii (Smith 1904) Young, Dye & Wilkie 1978
CFBP 2215; ICMP 529; LMG 5381; NCPPB 1879

Pseudomonas syringae* pv. *dendropanacis Ogimi, Higuchi & Takikawa 1988a
ATCC 43298; ICMP 9150; NCPPB 3464

Pseudomonas syringae* pv. *dysoxyli (Hutchinson 1949) Young, Dye & Wilkie 1978
ATCC 19863; CFBP 2356; ICMP 545; LMG 5062; NCPPB 225

Pseudomonas syringae* pv. *eriobotryae (Takimoto 1931) Young, Dye & Wilkie 1978
ICMP 4455; LMG 2184; NCPPB 2331

[*Pseudomonas syringae* pv. *fici* Durgapal & Singh 1980] not valid – Young *et al.* (1991a) refers

Pseudomonas syringae* pv. *garcae (Amaral, Teixeira & Pinheiro 1956) Young, Dye & Wilkie 1978
ATCC 19864; CFBP 1634; ICMP 4323; LMG 5064; NCPPB 588

Pseudomonas syringae pv. *glycinea* (Coerper 1919) Young, Dye & Wilkie 1978
see ***Pseudomonas savastanoi* pv. *glycinea***

Pseudomonas syringae* pv. *helianthi (Kawamura 1934) Young, Dye & Wilkie 1978
CFBP 2067; ICMP 4531; LMG 5067; NCPPB 2640

Pseudomonas syringae* pv. *hibisci (ex Jones, Chase, Raju & Miller 1986) Young, Bradbury, Davis, Dickey, Ercolani, Hayward & Vidaver 1991a
CFBP 2895; ICMP 9623; NCPPB 3682

Pseudomonas syringae pv. *japonica* (Mukoo 1955) Dye, Bradbury, Goto, Hayward, Lelliott & Schroth 1980
see ***Pseudomonas syringae* pv. *syringae***

Pseudomonas syringae* pv. *lachrymans (Smith & Bryan 1915) Young, Dye & Wilkie 1978

ATCC 7386; CFBP 2104*; ICMP 3988*; LMG 5070; NCPPB 537
This strain has been reported to be unsuitable as a pathotype strain (Young *et al.* 1991a) and is probably a member of *P. syringae* pv. *syringae*. The Committee proposes the following as that neopathotype strain: ICMP 3507; NCPPB 1436

Pseudomonas syringae* pv. *lapsa (Ark 1940) Young, Dye & Wilkie 1978
CFBP 1731; ICMP 3947; LMG 2206; NCPPB 2096

Pseudomonas syringae* pv. *maculicola (McCulloch 1911) Young, Dye & Wilkie 1978
CFBP 1657; ICMP 3935; LMG 5071; NCPPB 2039

Pseudomonas syringae* pv. *mellea (Johnson 1923) Young, Dye & Wilkie 1978
CFBP 2344; ICMP 5711; LMG 5072; NCPPB 2356

Pseudomonas syringae* pv. *mori (Boyer & Lambert 1893) Young, Dye & Wilkie 1978
ATCC 19873; CFBP 1642; ICMP 4331; LMG 5074; NCPPB 1034

Pseudomonas syringae* pv. *morsprunorum (Wormald 1931) Young, Dye & Wilkie 1978
ATCC 19322; CFBP 2351*; ICMP 5795*; LMG 5075; NCPPB 2995*
This strain has been reported to be unsuitable as a pathotype strain (Young *et al.* 1991a).

Pseudomonas syringae* pv. *myricae Ogimi & Higuchi 1981
ATCC 33544; ICMP 7118; LMG 5668; NCPPB 3143

Pseudomonas syringae* pv. *oryzae (ex Kuwata 1985) Young, Bradbury, Davis, Dickey, Ercolani, Hayward & Vidaver 1991a
ICMP 9088; LMG 10912; NCPPB 3683

Pseudomonas syringae pv. *panici* (Elliott 1923) Young, Dye & Wilkie 1978
see ***Pseudomonas syringae***

Pseudomonas syringae* pv. *papulans (Rose 1917) Dhanvantari 1977
ATCC 19875; CFBP 1754; ICMP 4048; LMG 5076; NCPPB 2848

Pseudomonas syringae* pv. *passiflorae (Reid 1938) Young, Dye & Wilkie 1978
CFBP 2346; ICMP 129; LMG 5185; NCPPB 1387

Pseudomonas syringae* pv. *persicae (Prunier, Luisetti & Gardan 1970) Young, Dye & Wilkie 1978
= *Pseudomonas morsprunorum* f.sp. *persicae* Prunier, Luisetti & Gardan 1970
CFBP 1573; ICMP 5846; LMG 5184; NCPPB 2761

Pseudomonas syringae pv. *phaseolicola* (Burkholder 1926) Young, Dye & Wilkie 1978
see ***Pseudomonas savastanoi* pv. *phaseolicola***

Pseudomonas syringae* pv. *philadelphi Roberts 1985
CFBP 2898; ICMP 8903; NCPPB 3257

Pseudomonas syringae* pv. *photiniae Goto 1983a
CFBP 2899; ICMP 7840; NCPPB 3688

Pseudomonas syringae* pv. *pisi (Sackett 1916) Young, Dye & Wilkie 1978
CFBP 2105; ICMP 2452; LMG 5079; NCPPB 2585

[*Pseudomonas syringae* pv. *porri* Samson, Poutier & Rat 1981] not valid – Young *et al.* (1991a) refers

Pseudomonas syringae* pv. *primulae (Ark & Gardner 1936) Young, Dye & Wilkie 1978
ATCC 19306; CFBP 1660; ICMP 3956; LMG 2252; NCPPB 133

[*Pseudomonas syringae* pv. *proteae* Moffett 1983] not valid – Young *et al.* (1991a) refers

Pseudomonas syringae* pv. *raphiolepidis Ogimi, Kawano, Higuchi & Takikawa 1992
ATCC 49212; ICMP 9756; NCPPB 3618

Pseudomonas syringae* pv. *ribicola (Bohn & Maloit 1946) Young, Dye & Wilkie 1978
ATCC 13456; CFBP 2348; ICMP 3882; LMG 2276; NCPPB 963

[*Pseudomonas syringae* pv. *ricini* Stăncescu & Zurini 1986] not valid – Young *et al.* (1991a) refers

Pseudomonas syringae pv. *savastanoi* (Smith 1908) Young, Dye & Wilkie 1978
see ***Pseudomonas savastanoi* pv. *savastanoi***

Pseudomonas syringae* pv. *sesami (Malkoff 1906) Young, Dye & Wilkie 1978
ATCC 19879; CFBP 1671; ICMP 763; LMG 2289; NCPPB 1016

Pseudomonas syringae* pv. *solidagae Sato, Watanabe & Sato 2001
MAFF 810053

Pseudomonas syringae* pv. *spinaceae Ozaki, Kimura & Matsumoto 1998
MAFF 211266

Pseudomonas syringae* pv. *striafaciens (Elliott 1927) Young, Dye & Wilkie 1978
ATCC 10730; CFBP 1674*; ICMP 3961*; LMG 2330; NCPPB 1898*
This strain has been reported to be unsuitable as a pathotype strain (Young *et al.* 1991a).

Pseudomonas syringae* pv. *syringae van Hall 1902
ATCC 19310; CFBP 1392; ICMP 3023; LMG 1247; NCPPB 281
= *Pseudomonas syringae* pv. *japonica* (Mukoo 1955) Dye, Bradbury, Goto, Hayward, Lelliott & Schroth 1980 (Young 1992 refers)

Pseudomonas syringae* pv. *tabaci (Wolf & Foster 1917) Young, Dye & Wilkie 1978
CFBP 2106; ICMP 2835; LMG 5393; NCPPB 1427

Pseudomonas syringae* pv. *tagetis (Hellmers 1955) Young, Dye & Wilkie 1978
CFBP 1694; ICMP 4091; LMG 5090; NCPPB 2488

Pseudomonas syringae* pv. *theae (Hori 1915) Young, Dye & Wilkie 1978
CFBP 2353; ICMP 3923; LMG 5092; NCPPB 2598

Pseudomonas syringae* pv. *tomato (Okabe 1933) Young, Dye & Wilkie 1978
CFBP 2212; ICMP 2844; LMG 5093; NCPPB 1106

Pseudomonas syringae pv. *tremae* Ogimi, Higuchi & Takikawa 1988b
see ***Pseudomonas tremae***

Pseudomonas syringae* pv. *ulmi (Šutić & Tešić 1958) Young, Dye & Wilkie 1978
ATCC 19883; CFBP 1407; ICMP 3962; LMG 2349; NCPPB 632

Pseudomonas syringae* pv. *viburni (Thornberry & Anderson 1931b) Young, Dye & Wilkie 1978
ATCC 13458; CFBP 1702; ICMP 3963; LMG 2351; NCPPB 1921

Pseudomonas syringae* pv. *zizaniae (ex Bowden & Percich 1983) Young, Bradbury, Davis, Dickey, Ercolani, Hayward & Vidaver 1991a
ATCC 35023; CFBP 11040; ICMP 8921; NCPPB 3690

Pseudomonas syringae subsp. *savastanoi* (ex Smith 1908) Janse 1982
see ***Pseudomonas savastanoi* pv. *savastanoi***

[*Pseudomonas syringae* subsp. *savastanoi* pv. *fraxini* Janse 1982] not valid – Young *et al.* (1991a) refers
see ***Pseudomonas savastanoi* pv. *fraxini***

[*Pseudomonas syringae* subsp. *savastanoi* pv. *myricae* (Ogimi & Higuchi 1981) Zhang & He 1991] not valid
This proposal was based on the examination of strains pathogenic to *Myrica rubra* L. [sic] without including the pathotype strain of *Pseudomonas syringae* pv. *myricae* Ogimi & Higuchi 1981.

[*Pseudomonas syringae* subsp. *savastanoi* pv. *nerii* Janse 1982] not valid – Young *et al.* (1991a) refers
see ***Pseudomonas savastanoi* pv. *nerii***

[*Pseudomonas syringae* subsp. *savastanoi* pv. *oleae* Janse 1982] not valid – Young *et al.* (1991a) refers
see ***Pseudomonas savastanoi*** pv. ***savastanoi***

Pseudomonas syzygii Roberts, Eden-Green, Jones & Ambler 1990
see ***Ralstonia syzygii***

Pseudomonas tolaasii Paine 1919
ATCC 33618; CFBP 2068; ICMP 2290; LMG 2342; NCPPB 2192

Pseudomonas tremae Gardan, Shafik, Belouin, Brosch Grimont & Grimont 1999
= *Pseudomonas syringae* pv. *tremae* Ogimi, Higuchi & Takikawa 1988b
ICMP 9151

Pseudomonas viridiflava (Burkholder 1930) Dowson 1939
ATCC 13223; CFBP 2107; ICMP 2848; LMG 2352; NCPPB 635

Pseudomonas woodsii (Smith 1911) Stevens 1925
see ***Burkholderia andropogonis***

Ralstonia Yabuuchi, Kosako, Yano, Hotta & Nishiuchi 1996

Ralstonia solanacearum (Smith 1896) Yabuuchi, Kosako, Yano, Hotta & Nishiuchi 1996
= *Burkholderia solanacearum* (Smith 1896) Yabuuchi, Kosako, Oyaizu, Yano, Hotta, Hashimoto, Ezaki & Arakawa 1993
= *Pseudomonas solanacearum* (Smith 1896) Smith 1914
ATCC 11696; CFBP 2047; ICMP 5712; LMG 2299; NCPPB 325

Ralstonia syzygii (Roberts, Eden-Green, Jones & Ambler 1990) Vaneechoutte, Kämpfer, De Baere, Falsen & Verschraegen 2004
= *Pseudomonas syzygii* Roberts, Eden-Green, Jones & Ambler 1990
ATCC 49543; ICMP 10915; LMG 10661; NCPPB 3446

Rathayibacter Zgurskaya, Evtushenko, Akimov & Kalakoutskii 1993

Rathayibacter iranicus (ex Scharif 1961) Zgurskaya, Evtushenko, Akimov & Kalakoutskii 1993
= *Clavibacter iranicus* (ex Scharif 1961) Davis, Gillaspie, Vidaver & Harris 1984
= [*Corynebacterium iranicus* (Scharif 1961) Dye & Kemp 1977]
= *Corynebacterium michiganense* pv. *iranicum* (Scharif 1961) Dye & Kemp 1977
CFBP 807; ICMP 3496; LMG 3677; NCPPB 2253

Rathayibacter rathayi (Smith 1913) Zgurskaya, Evtushenko, Akimov & Kalakoutskii 1993
= *Clavibacter rathayi* (Smith 1913) Davis, Gillaspie, Vidaver & Harris 1984
= *Corynebacterium michiganense* pv. *rathayi* (Smith 1913) Dye & Kemp 1977
= *Corynebacterium rathayi* (Smith 1913) Dowson 1942
CFBP 2406; ICMP 2574; LMG 7288; NCPPB 2980

Rathayibacter tritici (ex Hutchinson 1917) Zgurskaya, Evtushenko, Akimov & Kalakoutskii 1993
= *Clavibacter tritici* (ex Hutchinson 1917) Davis, Gillaspie, Vidaver & Harris 1984
= *Corynebacterium michiganense* pv. *tritici* (Hutchinson 1917) Dye & Kemp 1977
= [*Corynebacterium tritici* (Hutchinson 1917) Burkholder 1948b]
ATCC 11403; CFBP 1385; ICMP 2626; LMG 3728; NCPPB 1857

Rhizobacter Goto & Kuwata 1988

Rhizobacter dauci Goto & Kuwata 1988 (as *R. daucus*)

ATCC 43778; ICMP 9400; LMG 9036

Rhizobium Frank 1889; emend Young, Kuykendall, Martinez-Romero, Kerr & Sawada 2001a

The nomenclature of plant pathogenic *Agrobacterium* species as discussed in Holmes & Roberts (1981), Bradbury (1986) and Young *et al.* (1992) is interpreted here for the species in *Rhizobium*. The pathogenic state of strains, as 'rhizogenic', 'tumourigenic', or 'saprophytic' forms, is expressed at an infrasubspecific or informal level (Young *et al*. 2001; Young *et al*. 2005).

Rhizobium larrymoorei (Bouzar & Jones 2001) Young 2004

= *Agrobacterium larrymoorei* Bouzar & Jones 2001

ATCC 51759; CFBP 5473; ICMP 14256; NCPPB 4096.

Rhizobium radiobacter (Smith & Townsend 1907, 672) Young, Kuykendall, Martinez-Romero, Kerr & Sawada 2001a

= *Agrobacterium tumefaciens* (Smith & Townsend 1907, 672) Conn 1942)

= *Agrobacterium radiobacter* (Beijerinck & van Delden 1902) Conn 1942

Depending on the presence or absence of plasmids bearing tumour-inducing pathogenicity genes, strains of this species express in 'tumourigenic' and 'rhizogenic', or 'saprophytic' forms. Tumourigenic and rhizogenic capability of strains is indicated (Holmes & Roberts, 1981) by designation as Ti or Ri, respectively (Young *et al*. 2005).

ATCC 23308; DSMZ 30205; ICMP 5856; LMG 187; NCPPB 2437

Rhizobium rhizogenes (Riker, Banfield, Wright, Keitt & Sagen 1930) Young, Kuykendall, Martinez-Romero, Kerr & Sawada. 2001a

= *Agrobacterium rhizogenes* (Riker, Banfield, Wright, Keitt & Sagen 1930) Conn 1942)

Depending on the presence or absence of plasmids bearing tumour-inducing pathogenicity genes, strains of this species express in 'tumourigenic' and 'rhizogenic', or 'saprophytic' forms. Tumourigenic and rhizogenic capability of strains is indicated (Holmes & Roberts, 1981) by designation as Ti or Ri, respectively (Young *et al*. 2005).

ATCC 11325; DSMZ 30148; ICMP 5794; IFO 13257; LMG 150; NCPPB 2991

Rhizobium rubi (Hildebrand 1940) Young, Kuykendall, Martinez-Romero, Kerr & Sawada. 2001a

= *Agrobacterium rubi* (Hildebrand 1940) Starr & Weiss 1943)

ATCC 13335; CFBP 1317; ICMP 6428; IFO 13261; LMG 156; NCPPB 1854.

Rhizobium vitis (Ophel & Kerr 1990) Young, Kuykendall, Martinez-Romero, Kerr &H. Sawada. 2001a

= *Agrobacterium vitis* (Ophel & Kerr 1990)

ATCC 49767; ICMP 10752; LMG 10752; NCPPB 3554

Rhizomonas van Bruggen, Jochimsen & Brown 1990

The name *Rhizomonas* is illegitimate because it is a junior homonym of a name of a protozoan genus. The name *Rhizomonas* has been placed in the list of rejected bacterial names (*nomina rejicienda*) (Judicial Opinion 14) (Lapage *et al.* 1992). Comparative analysis of 16s rDNA sequences indicates that the genus *Rhizomonas* van Bruggen *et al*. 1990 is synonymous with *Sphingomonas* Yabuuchi *et al*. 1990. The type species of *Rhizomonas* van Bruggen *et al*. 1990 has been transferred into the genus *Sphingomonas* Yabuuchi *et al*. 1990.

Rhizomonas suberifaciens van Bruggen, Jochimsen & Brown 1990

see ***Sphingomonas suberifaciens***

Rhodococcus Zopf 1891

Rhodococcus fascians (Tilford 1936) Goodfellow 1984

= *Corynebacterium fascians* (Tilford 1936) Dowson 1942
ATCC 12974; CFBP 2401; ICMP 5833; LMG 3623; NCPPB 3067

Samsonia Sutra, Christen, Bollet, Simoneau P & Gardan 2001

There is no recorded phenotypic circumscription of the genus that distinguishes it from other genera in the Enterobacteriaceae. Recognition of the genus *Samsonia* is based solely on comparative analysis of 16S rDNA sequence data that shows that the single sequence representing the genus is not established at a reliable position in the Enterobacterial clade.

Samsonia erythrinae Sutra, Christen, Bollet, Simoneau P & Gardan 2001
CFBP 5236; ICMP 13937

Serratia Bizio 1823

Serratia proteamaculans (Paine & Stansfield 1919) Grimont, Grimont & Starr 1978
= *Erwinia proteamaculans* (Paine & Stansfield 1919) Dye 1966
ATCC 19323; ICMP 1724; NCPPB 245

Sphingomonas Yabuuchi, Yano, Oyaizu, Hashimoto, Ezaki &Yamamoto 1990: emend. Yabuuchi, Kosako, Oyaizu, Naka, Suzuki & Yanno 1999

Sphingomonas melonis Buonaurio, Stravato, Kosako, Fujiwara, Naka, Kobayashi, Cappelli, Yabuuchi 2002
DSMZ 14444; LMG 19484

Sphingomonas suberifaciens (van Bruggen, Jochimsen & Brown 1990) Yabuuchi, Kosako, Oyaizu, Naka, Suzuki & Yanno 1999
= [*Rhizomonas*] *suberifaciens* van Bruggen, Jochimsen & Brown 1990
ATCC 49355; ICMP 12535; NCPPB 3629

Spiroplasma Saglio, Lhospital, Laflèche, Dupont, Bové, Tully & Freundt 1973

Spiroplasma citri Saglio, Lhospital, Laflèche, Dupont, Bové, Tully & Freundt 1973
ATCC 27556; NCPPB 2647

Spiroplasma kunkelii Whitcomb, Chen, Williamson, Liao, Tully, Bové, Mouches, Rose, Coan & Clark 1986
ATCC 29320

Spiroplasma phoeniceum Saillard, Vignault, Bové, Raie, Tully, Williamson, Fos, Garnier, Gadeau, Carle & Whitcomb 1987
ATCC 43115

Streptomyces Waksman & Henrici 1943

Many *Streptomyces* spp. have been associated with scabbing of potato (Bradbury 1986) and with other plant disorders. Old reports of some of these associations were not authenticated in recent literature, although names were included in the Approved Lists and in a previous list (Young *et al*. 1996). The relationships between pathogenic strains and the population represented by the type of the species have not always been established. Only where recent records indicate that there is a presumption of a pathogenic association are names listed here.

Streptomyces acidiscabies Lambert & Loria 1989b
ATCC 49003; ICMP 12536

Streptomyces albidoflavus (Rossi-Doria 1891) Waksman & Henrici 1948
ATCC 25422; ICMP 12537

Streptomyces candidus (ex Krasil'nikov 1941) Sveshnikova 1986
= [*Actinomyces candidus* Krasil'nikov 1941]
ATCC 19891; ICMP 12538
Streptomyces caviscabies Goyer, Faucher & Beaulieu 1996
ATCC 51928
Streptomyces collinus Lindenbein 1952
ATCC 19743; ICMP 12539
Streptomyces europaeiscabiei Bouchek-Mechiche, Gardan, Normand & Jouan 2000
CFBP 4497; ICMP 13714; NCPPB 4039
Streptomyces intermedius (Krüger 1904) Waksman 1953
ATCC 3329; ICMP 12540
Streptomyces ipomoeae (Person & Martin 1940) Waksman & Henrici 1948
ATCC 25462; ICMP 12541
Streptomyces luridiscabiei Park, Kim, Kwon, Wilson, Yu, Hur & Lim (2003)
KACC 20252; LMG 21390
Streptomyces niveiscabiei Park, Kim, Kwon, Wilson, Yu, Hur & Lim (2003)
KACC 20253; LMG 21391
Streptomyces puniciscabiei Park, Kim, Kwon, Wilson, Yu, Hur & Lim (2003)
KACC 20254; LMG 21392
Streptomyces reticuliscabei Bouchek-Mechiche, Gardan, Normand & Jouan 2000
CFBP 4531; ICMP 13715;NCPPB 4041
Streptomyces scabiei (originally *scabies*) (ex Thaxter 1892) Lambert & Loria 1989a
ATCC 49173; ICMP 12542
Streptomyces setonii (Millard & Burr 1926) Waksman 1953
ATCC 25497; ICMP 12543
Streptomyces steliiscabiei Bouchek-Mechiche, Gardan, Normand & Jouan 2000
CFBP 4521; ICMP 13716; NCPPB 4040
Streptomyces turgidiscabies Miyajima, Tanaka, Takeuchi & Kuninaga 1998
ATCC 700248
Streptomyces wedmorensis (Millard & Burr 1926) Preobrazhenskaya 1986
ATCC 21239; ICMP 12544

Xanthomonas Dowson 1939

Xanthomonas albilineans (Ashby 1929) Dowson 1943
ATCC 33915; CFBP 2523; ICMP 196; LMG 494; NCPPB 2969
Xanthomonas ampelina Panagopoulos 1969
see ***Xylophilus ampelinus***
Xanthomonas arboricola Vauterin, Hoste, Kersters & Swings 1995
ATCC 49083; CFBP 2528; ICMP 35; LMG 747; NCPPB 411
Vauterin *et al.* (1995) chose the pathotype strain of *X. arboricola* pv. *juglandis* as the type strain of the species. If this causes uncertainty, then it may be necessary to select a new pathotype strain for the pathovar.
Xanthomonas arboricola* pv. *celebensis (Gäumann 1923) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *celebensis* (Gäumann 1923) Dye 1978b
ATCC 19045; ICMP 1488; LMG 677; NCPPB 1832

Xanthomonas arboricola* pv. *corylina (Miller, Bollen, Simmons, Gross & Barss 1940) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *corylina* (Miller, Bollen, Simmons, Gross & Barss 1940) Dye 1978b
ATCC 19313; CFBP 1159; ICMP 5726; LMG 689; NCPPB 935

Xanthomonas arboricola* pv. *juglandis (Pierce 1901) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *juglandis* (Pierce 1901) Dye 1978b
ATCC 49083; CFBP 2528; ICMP 35; LMG 747; NCPPB 411
Vauterin *et al.* (1995) chose the pathotype strain of *X. arboricola* pv. *juglandis* as the type strain of the species. If this causes uncertainty, it may be necessary to select a new pathotype strain for the pathovar.

[*Xanthomonas arboricola* pv. *poinsettiicola* Vauterin, Hoste, Kersters & Swings 1995] not valid (Standard 5).
see ***Xanthomonas axonopodis* pv. *poinsettiicola*** and note at *Xanthomonas campestris* pv. *poinsettiicola*

Xanthomonas arboricola* pv. *populi (ex de Kam 1984) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *populi* (ex de Kam 1984) Young, Bradbury, Davis, Dickey, Ercolani, Hayward & Vidaver 1991
ICMP 8923; LMG 12141

Xanthomonas arboricola* pv. *pruni (Smith 1903) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *pruni* (Smith 1903) Dye 1978b
ATCC 19316; CFBP 2535; ICMP 51; LMG 852; NCPPB 416

Xanthomonas axonopodis Starr & Garcés 1950
ATCC 19312; ICMP 50; LMG 538; NCPPB 457

Xanthomonas axonopodis* pv. *axonopodis Starr & Garcés 1950
ATCC 19312; ICMP 50; LMG 538; NCPPB 457

Xanthomonas axonopodis* pv. *alfalfae (Riker, Jones & Davis 1935) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *alfalfae* (Riker, Jones & Davis 1935) Dye 1978b
ICMP 5718; LMG 497; NCPPB 2062

[*Xanthomonas axonopodis* pv. *aurantifolii* (Gabriel, Kingsley, Hunter & Gottwald 1989) Vauterin, Hoste, Kersters & Swings 1995] not valid – see [*Xanthomonas campestris* pv. *aurantifolia*]

Xanthomonas axonopodis* pv. *allii (Kadota, Uehara, Shinohara & Nishiyama 2000) Roumagnac, Gagnevin, Gardan, Sutra, Manceau, Dickstein, Jones, Rott & Pruvost 2004
= *Xanthomonas campestris* pv. *allii* Kadota, Uehara, Shinohara & Nishiyama 2000
MAFF 311173; CFBP 6107

Xanthomonas campestris pv. *allii* Kadota, Uehara, Shinohara & Nishiyama 2000
see ***Xanthomonas axonopodis* pv. *allii***

Xanthomonas axonopodis* pv. *bauhiniae (Padhya, Patel & Kotasthane 1965a) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *bauhiniae* (Padhya, Patel & Kotasthane 1965a) Dye 1978b
ICMP 5720; LMG 548; NCPPB 1335

Xanthomonas axonopodis* pv. *begoniae (Takimoto 1934) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *begoniae* (Takimoto 1934) Dye 1978b

ATCC 49082; CFBP 2524; ICMP 194; LMG 7303; NCPPB 1926

Xanthomonas axonopodis* pv. *betlicola (Patel, Kulkarni & Dhande 1951) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *betlicola* (Patel, Kulkarni & Dhande 1951) Dye 1978b
ATCC 11677; ICMP 312; LMG 555; NCPPB 2972

Xanthomonas axonopodis* pv. *biophyti (Patel, Chauhan, Kotasthane & Desai 1969) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *biophyti* (Patel, Chauhan, Kotasthane & Desai 1969) Dye 1978b
ICMP 2780; LMG 556; NCPPB 2228

Xanthomonas axonopodis* pv. *cajani (Kulkarni, Patel & Abhyankar 1950) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *cajani* (Kulkarni, Patel & Abhyankar 1950) Dye 1978b
ATCC 11639; ICMP 444; LMG 558; NCPPB 573

[*Xanthomonas axonopodis* pv. *cassavae* Vauterin, Hoste, Kersters & Swings 1995] not valid (Standard 5) – see ***Xanthomonas cassavae*** and note at *Xanthomonas campestris* pv. *cassavae*

Xanthomonas axonopodis* pv. *cassiae (Kulkarni, Patel & Dhande 1951) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *cassiae* (Kulkarni, Patel & Dhande 1951) Dye 1978b
ATCC 11638; ICMP 358; LMG 675; NCPPB 2973

Xanthomonas axonopodis* pv. *citri (Hasse 1915) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas citri* (ex Hasse 1915) Gabriel, Kingsley, Hunter & Gottwald 1989
= *Xanthomonas campestris* pv. *citri* (Hasse 1915) Dye 1978b
CFBP 2525; ICMP 24; LMG 682; NCPPB 409

[*Xanthomonas axonopodis* pv. *citrumelo* (Gabriel, Kingsley, Hunter & Gottwald 1989) Vauterin, Hoste, Kersters & Swings 1995] not valid – see *Xanthomonas campestris* pv. *citrumelo*

Xanthomonas axonopodis* pv. *clitoriae (Pandit & Kulkarni 1979) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *clitoriae* (Pandit & Kulkarni 1979) Dye, Bradbury, Goto, Hayward, Lelliott & Schroth 1980
ICMP 6574; LMG 9045; NCPPB 3092

Xanthomonas axonopodis* pv. *coracanae (Desai, Thirumalachar & Patel 1965) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *coracanae* (Desai, Thirumalachar & Patel 1965) Dye 1978b
ICMP 5724; LMG 686; NCPPB 1786

Xanthomonas axonopodis* pv. *cyamopsidis (Patel, Dhande & Kulkarni 1953) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *cyamopsidis* (Patel, Dhande & Kulkarni 1953) Dye 1978b
ICMP 616; LMG 691; NCPPB 637

Xanthomonas axonopodis* pv. *desmodii (Patel 1949) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *desmodii* (Patel 1949) Dye 1978b
ATCC 11640; ICMP 315; LMG 692; NCPPB 481

Xanthomonas axonopodis* pv. *desmodiigangetici (Patel & Moniz 1948) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *desmodiigangetici* (Patel & Moniz 1948) Dye 1978b
ATCC 11671; ICMP 577; LMG 693; NCPPB 577

Xanthomonas axonopodis* pv. *desmodiilaxiflori (Pant & Kulkarni 1976a) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *desmodiilaxiflori* Pant & Kulkarni 1976a
ICMP 6502; LMG 9046; NCPPB 3086

Xanthomonas axonopodis* pv. *desmodiirotundifolii (Desai & Shah 1960) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *desmodiirotundifolii* (Desai & Shah 1960) Dye 1978b
ICMP 168; LMG 694; NCPPB 885

Xanthomonas axonopodis* pv. *dieffenbachiae (McCulloch & Pirone 1939) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *dieffenbachiae* (McCulloch & Pirone 1939) Dye 1978b
ICMP 5727; LMG 695; NCPPB 1833

Xanthomonas axonopodis* pv. *erythrinae (Patel, Kulkarni & Dhande 1952b) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *erythrinae* (Patel, Kulkarni & Dhande 1952b) Dye 1978b
ATCC 11679; ICMP 446; LMG 698; NCPPB 578

Xanthomonas axonopodis* pv. *fascicularis (Patel & Kotasthane 1969b) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *fascicularis* (Patel & Kotasthane 1969b) Dye 1978b
ICMP 5731; LMG 9047; NCPPB 2230

Xanthomonas axonopodis* pv. *glycines (Nakano 1919) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *glycines* (Nakano 1919) Dye 1978b
ATCC 43911; CFBP 2526; ICMP 5732; LMG 712; NCPPB 554

Xanthomonas axonopodis* pv. *khayae (Sabet 1959) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *khayae* (Sabet 1959) Dye 1978b
ICMP 671; LMG 753; NCPPB 536

Xanthomonas axonopodis* pv. *lespedezae (Ayers, Lefebvre & Johnson 1939) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *lespedezae* (Ayres, Lefebvre & Johnson 1939) Dye 1978b
ATCC 13463; ICMP 439; LMG 757; NCPPB 993

Xanthomonas axonopodis* pv. *maculifoliigardeniae (Ark & Barrett 1946) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *maculifoliigardeniae* (Ark & Barrett 1946) Dye 1978b
CFBP 1155; ICMP 318; LMG 758; NCPPB 971

Xanthomonas axonopodis* pv. *malvacearum (Smith 1901) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *malvacearum* (Smith 1901) Dye 1978b
CFBP 2530; ICMP 5739; LMG 761; NCPPB 633

Xanthomonas axonopodis* pv. *manihotis (Bondar 1915) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *manihotis* (Bondar 1915) Dye 1978b
ATCC 49073; CFBP 2603; ICMP 5741; LMG 773; NCPPB 1834

Xanthomonas axonopodis* pv. *martyniicola (Moniz & Patel 1958) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *martyniicola* (Moniz & Patel 1958) Dye 1978b
ICMP 82; LMG 9049; NCPPB 1148

Xanthomonas axonopodis* pv. *melhusii (Patel, Kulkarni & Dhande 1952b) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *melhusii* (Patel, Kulkarni & Dhande 1952b) Dye 1978b
ATCC 11644; ICMP 619; LMG 9050; NCPPB 994

Xanthomonas axonopodis* pv. *nakataecorchori (Padhya & Patel 1963b) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *nakataecorchori* (Padhya & Patel 1963b) Dye 1978b
ICMP 5742; LMG 786; NCPPB 1337

Xanthomonas axonopodis* pv. *patelii (Desai & Shah 1959) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *patelii* (Desai & Shah 1959) Dye 1978b
ICMP 167; LMG 811; NCPPB 840

Xanthomonas axonopodis* pv. *pedalii (Patel & Jindal 1972) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *pedalii* (Patel & Jindal 1972) Dye 1978b
ICMP 3030; LMG 812; NCPPB 2368

Xanthomonas axonopodis* pv. *phaseoli (Smith 1897) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas phaseoli* (ex Smith 1897) Gabriel, Kingsley, Hunter & Gottwald 1989
= *Xanthomonas campestris* pv. *phaseoli* (Smith 1897) Dye 1978b
ATCC 9563; CFBP 2534; ICMP 5834; LMG 7455; NCPPB 3035

[*Xanthomonas axonopodis* pv. *phaseoli* var. *fuscans* Vauterin, Hoste, Kersters & Swings 1995]
not valid. This combination is an incidental mention which does not conform either to the Code (Rule 28b) or the Standards (Standard 18.1)

Xanthomonas axonopodis* pv. *phyllanthi (Sabet, Ishag & Khalil 1969) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *phyllanthi* (Sabet, Ishag & Khalil 1969) Dye 1978b
ICMP 5745; LMG 844; NCPPB 2066

Xanthomonas axonopodis* pv. *physalidicola (Goto & Okabe 1958) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *physalidicola* (Goto & Okabe 1958) Dye 1978b
ATCC 49077; ICMP 586; LMG 845; NCPPB 761

Xanthomonas axonopodis* pv. *poinsettiicola (Patel, Bhatt & Kulkarni 1951) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *pointsettiicola* (Patel, Bhatt & Kulkarni 1951) Dye 1978b
ATCC 11643; ICMP 5779; LMG 849; NCPPB 581
see note at *Xanthomonas campestris* pv. *poinsettiicola*

Xanthomonas axonopodis* pv. *punicae (Hingorani & Singh 1959) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *punicae* (Hingorani & Singh 1959) Dye 1978b
ICMP 360; LMG 859; NCPPB 466

Xanthomonas axonopodis* pv. *rhynchosiae (Sabet, Ishag & Khalil 1969) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *rhynchosiae* (Sabet, Ishag & Khalil 1969) Dye 1978b

ICMP 5748; LMG 8021; NCPPB 1827

Xanthomonas axonopodis* pv. *ricini (Yoshii & Takimoto 1928) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *ricini* (Yoshii & Takimoto 1928) Dye 1978b
ATCC 19317; ICMP 5747; LMG 861; NCPPB 1063

Xanthomonas axonopodis* pv. *sesbaniae (Patel, Kulkarni & Dhande 1952a) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *sesbaniae* (Patel, Kulkarni & Dhande 1952a) Dye 1978b
ATCC 11675; ICMP 367; LMG 867; NCPPB 582

Xanthomonas axonopodis* pv. *tamarindi (Patel, Bhatt & Kulkarni 1951) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *tamarindi* (Patel, Bhatt & Kulkarni 1951) Dye 1978b
ATCC 11673; ICMP 572; LMG 955; NCPPB 584

Xanthomonas axonopodis* pv. *vasculorum (Cobb 1894) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *vasculorum* (Cobb 1894) Dye 1978b
ATCC 35938; CFBP 2602; ICMP 5757; LMG 901; NCPPB 796
see note at *Xanthomonas campestris* pv. *vasculorum*

[*Xanthomonas axonopodis* pv. *vesicatoria* Vauterin, Hoste, Kersters & Swings 1995] not valid (Standard 5)
see ***Xanthomonas vesicatoria*** and note at *Xanthomonas campestris* pv. *vesicatoria*

Xanthomonas axonopodis* pv. *vignaeradiatae (Sabet, Ishag & Khalil 1969) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *vignaeradiatae* (Sabet, Ishag & Khalil 1969) Dye 1978b
ICMP 5759; LMG 936; NCPPB 2058

Xanthomonas axonopodis* pv. *vignicola (Burkholder 1944) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *vignicola* (Burkholder 1944) Dye 1978b
ATCC 11648; ICMP 333; LMG 8752; NCPPB 1838

Xanthomonas axonopodis* pv. *vitians (Brown 1918) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *vitians* (Brown 1918) Dye 1978b
ATCC 19320; CFBP 2538; ICMP 336; LMG 937; NCPPB 976
This strain may originally have been inappropriately chosen as the pathotype strain (Vauterin *et al.* 1995)
– see note at *Xanthomonas campestris* pv. *vitians*

Xanthomonas bromi Vauterin, Hoste, Kersters & Swings 1995
CFBP 1976; ICMP 12545; LMG 947

Xanthomonas campestris (Pammel 1895) Dowson 1939
ATCC 33913; CFBP 2350; ICMP 13; LMG 568; NCPPB 528
The pathovars listed below are members of the species *X. campestris* as emended by Vauterin *et al.* (1995).

Xanthomonas campestris* pv. *aberrans (Knösel 1961) Dye 1978b
ICMP 4805; LMG 9037; NCPPB 2986

Xanthomonas campestris* pv. *armoraciae (McCulloch 1929) Dye 1978b
ICMP 7; LMG 535; NCPPB 347

Xanthomonas campestris* pv. *barbareae (Burkholder 1941) Dye 1978b
ATCC 13460; ICMP 438; LMG 547; NCPPB 983

Xanthomonas campestris* pv. *campestris (Pammel 1895) Dowson 1939
ATCC 33913; CFBP 2350; ICMP 13; LMG 568; NCPPB 528
Xanthomonas campestris* pv. *incanae (Kendrick & Baker 1942) Dye 1978b
ATCC 13462; CFBP 2527; ICMP 574; LMG 7490; NCPPB 937
Xanthomonas campestris* pv. *plantaginis (Thornberry & Anderson 1937) Dye 1978b
ATCC 23382; ICMP 1028; LMG 848; NCPPB 1061
Xanthomonas campestris* pv. *raphani (White 1930) Dye 1978b
ATCC 49079; ICMP 1404; LMG 860; NCPPB 1946

In the following list of pathovars of *X. campestris*, those examined by Vauterin *et al.* (1995) are referred to their appropriate species as indicated.

Xanthomonas campestris* pv. *alangii (Padhya & Patel 1962) Dye 1978b
ICMP 5717; LMG 470; NCPPB 1336
Xanthomonas campestris pv. *alfalfae* (Riker, Jones & Davis 1935) Dye 1978b
see ***Xanthomonas axonopodis* pv. *alfalfae***
Xanthomonas campestris pv. ***allii*** Kadota, Uehara, Shinohara & Nishiyama 2000
see ***Xanthomonas axonopodis*** pv. ***allii***
MAFF 311173; CFBP 6107
Xanthomonas campestris* pv. *amaranthicola (Patel, Wankar & Kulkarni 1952) Dye 1978b
ATCC 11645 ICMP 441; LMG 498; NCPPB 570
Xanthomonas campestris* pv. *amorphophalli (Jindal, Patel & Singh 1972) Dye 1978b
ICMP 3033; LMG 499; NCPPB 2371
Xanthomonas campestris* pv. *aracearum (Berniac 1974) Dye 1978b
ICMP 5381; LMG 532; NCPPB 2832
Xanthomonas campestris* pv. *arecae (Rao & Mohan 1970) Dye 1978b
ICMP 5719; LMG 533; NCPPB 2649
Xanthomonas campestris* pv. *argemones (Srinivasan, Patel & Thirumalachar 1961a) Dye 1978b
ICMP 1617; LMG 534; NCPPB 1593
Xanthomonas campestris* pv. *arracaciae (Pereira, Paradella & Zagatto 1971) Dye 1978b
ICMP 3158; LMG 536; NCPPB 2436
Xanthomonas campestris pv. *arrhenatheri* Egli & Schmidt 1982
see ***Xanthomonas translucens* pv. *arrhenatheri***
[*Xanthomonas campestris* pv. *asclepiadis* Flynn & Vidaver 1990] not valid – the name was proposed without a pathotype strain being designated (Standard 17,2)
[*Xanthomonas campestris* pv. *aurantifolii* Gabriel, Kingsley, Hunter & Gottwald 1989] not valid – Young *et al.* (1991b) refers
Xanthomonas campestris* pv. *azadirachtae (Desai, Gandhi, Patel & Kotasthane 1966) Dye 1978b
ICMP 3102; LMG 543; NCPPB 2388
Xanthomonas campestris* pv. *badrii (Patel, Kulkarni & Dhande 1950) Dye 1978b
ATCC 11672; ICMP 571; LMG 546; NCPPB 571
Xanthomonas campestris pv. *bauhiniae* (Padhya, Patel & Kotasthane 1965a) Dye 1978b
see ***Xanthomonas axonopodis* pv. *bauhiniae***
Xanthomonas campestris pv. *begoniae* (Takimoto 1934) Dye 1978b
see ***Xanthomonas axonopodis* pv. *begoniae***
Xanthomonas campestris* pv. *betae Robbs, Kimura & Ribeiro 1981

ICMP 8917; LMG 9040; NCPPB 2592

Xanthomonas campestris pv. *betlicola* (Patel, Kulkarni & Dhande 1951) Dye 1978b
see ***Xanthomonas axonopodis* pv. *betlicola***

Xanthomonas campestris* pv. *bilvae Chakravarti, Sarma, Jain & Prasad 1984
ICMP 8918; NCPPB 3213

Xanthomonas campestris pv. *biophyti* (Patel, Chauhan, Kotasthane & Desai 1969) Dye 1978b
see ***Xanthomonas axonopodis* pv. *biophyti***

Xanthomonas campestris* pv. *blepharidis (Srinivasan & Patel 1956) Dye 1978b
ATCC 17995; ICMP 5722; LMG 557; NCPPB 1757

Xanthomonas campestris* pv. *boerhaaviae (Mathur, Swarup & Sinha 1964) Bradbury 1986
ICMP 9423; LMG 9041; NCPPB 1612

Xanthomonas campestris* pv. *brunneivaginae (Luo, Liao & Chen 1988) Young, Saddler, Takikawa, De Boer, Vauterin, Gardan, Gvozdyak & Stead 1996
ICMP 9991

Xanthomonas campestris pv. *cajani* (Kulkarni, Patel & Abhyankar 1950) Dye 1978b
see ***Xanthomonas axonopodis* pv. *cajani***

Xanthomonas campestris* pv. *cannabis Severin 1978
ICMP 6570; LMG 9042; NCPPB 2877

Xanthomonas campestris* pv. *cannae Easwaramurthy, Kaviyarasan & Gnanamanickam 1984
ICMP 8306; LMG 9043

Xanthomonas campestris* pv. *carissae (Moniz, Sabley & More 1964) Dye 1978b
ICMP 3034; LMG 669; NCPPB 2373

Xanthomonas campestris pv. *carotae* (Kendrick 1934) Dye 1978b
see ***Xanthomonas hortorum* pv. *carotae***

Xanthomonas campestris pv. *cassavae* (Wiehe & Dowson 1953) Maraite & Weyns 1979
X. campestris pv. *cassavae* is represented by two phenetically and genomically distinct bacterial populations (Vauterin *et al.* 1995). The pathotype and related strains are referred to *X. cassavae.* The other strains are referred to *X. axonopodis*, but evidence is lacking that these represent a distinct pathovar.
see ***Xanthomonas cassavae***

X*anthomonas campestris* pv. *cassiae* (Kulkarni, Patel & Dhande 1951) Dye 1978b
see ***Xanthomonas axonopodis* pv. *cassiae***

Xanthomonas campestris pv. *celebensis* (Gäumann 1923) Dye 1978b
see ***Xanthomonas arboricola* pv. *celebensis***

Xanthomonas campestris* pv. *centellae Basnyat & Kulkarni 1979
ICMP 6746; LMG 9044; NCPPB 3245

Xanthomonas campestris pv. *cerealis* (Hagborg 1942) Dye 1978b
see ***Xanthomonas translucens* pv. *cerealis***

Xanthomonas campestris pv. *citri* (Hasse 1915) Dye 1978b
see ***Xanthomonas axonopodis* pv. *citri***

[*Xanthomonas campestris* pv. *citrumelo* Gabriel, Kingsley, Hunter & Gottwald 1989] not valid – Young *et al.* (1991b) refers

Xanthomonas campestris* pv. *clerodendri (Patel, Kulkarni & Dhande 1952a) Dye 1978b
ATCC 11676; ICMP 445; LMG 684; NCPPB 575

Xanthomonas campestris pv. *clitoriae* (Pandit & Kulkarni 1979) Dye, Bradbury, Goto, Hayward, Lelliott & Schroth 1980
see ***Xanthomonas axonopodis* pv. *clitoriae***

Xanthomonas campestris* pv. *convolvuli (Nagarkoti, Banerjee & Swarup 1973) Dye 1978b
ICMP 5380; LMG 685; NCPPB 2498

Xanthomonas campestris pv. *coracanae* (Desai, Thirumalachar & Patel 1965) Dye 1978b
see ***Xanthomonas axonopodis* pv. *coracanae***

[*Xanthomonas campestris* pv. cordiae Robbs, Batista & Almeida 1983] not valid – proposed in abstract (Standard 15 (1)) and without designation of a pathotype strain (Standard 9).

Xanthomonas campestris* pv. *coriandri (Srinivasan, Patel & Thirumalachar 1961b) Dye 1978b
ATCC 17996; ICMP 5725; LMG 687; NCPPB 1758

Xanthomonas campestris pv. *corylina* (Miller, Bollen, Simmons, Gross & Barss 1940) Dye 1978b
see ***Xanthomonas arboricola* pv. *corylina***

Xanthomonas campestris pv. *cucurbitae* (Bryan 1926) Dye 1978b
see ***Xanthomonas cucurbitae***

Xanthomonas campestris pv. *cyamopsidis* (Patel, Dhande & Kulkarni 1953) Dye 1978b
see ***Xanthomonas axonopodis* pv. *cyamopsidis***

Xanthomonas campestris* pv. *daturae (Jain, Dange & Siradhana 1975) Bradbury 1986
ICMP 12546; NCPPB 2932

Xanthomonas campestris pv. *desmodii* (Patel 1949) Dye 1978b
see ***Xanthomonas axonopodis* pv. *desmodii***

Xanthomonas campestris pv. *desmodiigangetici* (Patel & Moniz 1948) Dye 1978b
see ***Xanthomonas axonopodis* pv. *desmodiigangetici***

Xanthomonas campestris pv. *desmodiilaxiflori* Pant & Kulkarni 1976a
see ***Xanthomonas axonopodis* pv. *desmodiilaxiflori***

Xanthomonas campestris pv. *desmodiirotundifolii* (Desai & Shah 1960) Dye 1978b
see ***Xanthomonas axonopodis* pv. *desmodiirotundifolii***

Xanthomonas campestris pv. *dieffenbachiae* (McCulloch & Pirone 1939) Dye 1978b
see ***Xanthomonas axonopodis* pv. *dieffenbachiae***

Xanthomonas campestris* pv. *durantae (Srinivasan & Patel 1957) Dye 1978b
ICMP 5728; LMG 696; NCPPB 1456

Xanthomonas campestris pv. *erythrinae* (Patel, Kulkarni & Dhande 1952b) Dye 1978b
see ***Xanthomonas axonopodis* pv. *erythrinae***

Xanthomonas campestris* pv. *esculenti (Rangaswami & Easwaran 1962) Dye 1978b
ICMP 5729; LMG 699; NCPPB 2190

Xanthomonas campestris* pv. *eucalypti (Truman 1974) Dye 1978b
ICMP 5382; LMG 700; NCPPB 2337

Xanthomonas campestris* pv. *euphorbiae (Sabet, Ishag & Khalil 1969) Dye 1978b
ICMP 5730; LMG 863; NCPPB 1828

Xanthomonas campestris pv. *fascicularis* (Patel & Kotasthane 1969b) Dye 1978b
see ***Xanthomonas axonopodis* pv. *fascicularis***

Xanthomonas campestris* pv. *fici (Cavara 1905) Dye 1978b
ICMP 3036; LMG 701; NCPPB 2372

Xanthomonas campestris pv. *glycines* (Nakano 1919) Dye 1978b
see ***Xanthomonas axonopodis* pv. *glycines***

Xanthomonas campestris pv. *graminis* (Egli, Goto & Schmidt 1975) Dye 1978b
see ***Xanthomonas translucens* pv. *graminis***

Xanthomonas campestris* pv. *guizotiae (Yirgou 1964) Dye 1978b
ICMP 5734; LMG 731; NCPPB 1932

Xanthomonas campestris* pv. *gummisudans (McCulloch 1924) Dye 1978b
ICMP 5780; LMG 732; NCPPB 2182
Xanthomonas campestris pv. *hederae* (Arnaud 1920) Dye 1978b
see ***Xanthomonas hortorum* pv. *hederae***
Xanthomonas campestris* pv. *heliotropii (Sabet, Ishag & Khalil 1969) Dye 1978b
ICMP 5778; LMG 735; NCPPB 2057
Xanthomonas campestris pv. *holcicola* (Elliott 1930) Dye 1978b
see ***Xanthomonas vasicola* pv. *holcicola***
[*Xanthomonas campestris* pv. *hordei* (Hagborg 1942) Dye 1978b] not valid – Bradbury (1986) refers
see ***Xanthomonas translucens* pv. *translucens***
Xanthomonas campestris pv. *hyacinthi* (Wakker 1883) Dye 1978b
see ***Xanthomonas hyacinthi***
Xanthomonas campestris* pv. *ionidii (Padhya & Patel 1963a) Dye 1978b
ICMP 5736; LMG 744; NCPPB 1334
Xanthomonas campestris pv. *juglandis* (Pierce 1901) Dye 1978b
see ***Xanthomonas arboricola* pv. *juglandis***
Xanthomonas campestris pv. *khayae* (Sabet 1959) Dye 1978b
see ***Xanthomonas axonopodis* pv. *khayae***
Xanthomonas campestris* pv. *lantanae (Srinivasan & Patel 1957) Dye 1978b
ICMP 5737; LMG 754; NCPPB 1455
Xanthomonas campestris* pv. *laureliae (Dye 1963b) Dye 1978b
ICMP 84; LMG 755; NCPPB 1155
Xanthomonas campestris* pv. *lawsoniae (Patel, Bhatt & Kulkarni 1951) Dye 1978b
ATCC 11674; ICMP 319; LMG 756; NCPPB 579
Xanthomonas campestris* pv. *leeana (Patel & Kotasthane 1969a) Dye 1978b
ICMP 5738; LMG 9048; NCPPB 2229
Xanthomonas campestris* pv. *leersiae (ex Fang, Ren, Chen, Chu, Faan & Wu 1957) Young, Bradbury, Davis, Dickey, Ercolani, Hayward & Vidaver 1991
ICMP 8788
Xanthomonas campestris pv. *lespedezae* (Ayres, Lefebvre & Johnson 1939) Dye 1978b
see ***Xanthomonas axonopodis* pv. *lespedezae***
Xanthomonas campestris pv. *maculifoliigardeniae* (Ark & Barrett 1946) Dye 1978b
see ***Xanthomonas axonopodis* pv. *maculifoliigardeniae***
Xanthomonas campestris* pv. *malloti Goto 1993
ATCC 51262; ICMP 11536
Xanthomonas campestris pv. *malvacearum* (Smith 1901) Dye 1978b
see ***Xanthomonas axonopodis* pv. *malvacearum***
Xanthomonas campestris* pv. *mangiferaeindicae (Patel, Moniz & Kulkarni 1948) Robbs, Ribeiro & Kimura 1974
ATCC 11637; CFBP 1716; ICMP 5740; LMG 941; NCPPB 490
Xanthomonas campestris pv. *manihotis* (Bondar 1915) Dye 1978b
see ***Xanthomonas axonopodis* pv. *manihotis***
Xanthomonas campestris pv. *martyniicola* (Moniz & Patel 1958) Dye 1978b
see ***Xanthomonas axonopodis* pv. *martyniicola***
Xanthomonas campestris pv. *melhusii* (Patel, Kulkarni & Dhande 1952b) Dye 1978b
see ***Xanthomonas axonopodis* pv. *melhusii***

Xanthomonas campestris pv. *melonis* Neto, Sugimori & Oliveira 1984
see ***Xanthomonas melonis***

Xanthomonas campestris* pv. *merremiae (Pant & Kulkarni 1976b) Dye, Bradbury, Goto, Hayward, Lelliott & Schroth 1980
ICMP 6747; LMG 9051; NCPPB 3114

Xanthomonas campestris* pv. *mirabilis (Durgapal & Trivedi 1976) Young, Bradbury, Davis, Dickey, Ercolani, Hayward & Vidaver 1991
ICMP 8949

Xanthomonas campestris* pv. *musacearum (Yirgou & Bradbury 1968) Dye 1978b
ATCC 49084; ICMP 2870; LMG 785; NCPPB 2005

Xanthomonas campestris pv. *nakataecorchori* (Padhya & Patel 1963b) Dye 1978b
see ***Xanthomonas axonopodis* pv. *nakataecorchori***

Xanthomonas campestris* pv. *nigromaculans (Takimoto 1927) Dye 1978b
ATCC 23390; ICMP 80; LMG 787; NCPPB 1935

[*Xanthomonas campestris* pv. *obscurae* Chand & Singh 1994] not valid
The strain reported as the pathotype for this pathovar, NCPPB 3359 (Chand & Singh 1994), is not a xanthomonad (D. Stead, personal communication).

Xanthomonas campestris* pv. *olitorii (Sabet 1957) Dye 1978b
ICMP 359; LMG 9052; NCPPB 464

Xanthomonas campestris pv. *oryzae* (Ishiyama 1922) Dye 1978b
see ***Xanthomonas oryzae* pv. *oryzae***

Xanthomonas campestris pv. *oryzicola* (Fang, Ren, Chen, Chu, Faan & Wu 1957) Dye 1978b
see ***Xanthomonas oryzae* pv. *oryzicola***

Xanthomonas campestris* pv. *papavericola (Bryan & McWhorter 1930) Dye 1978b
ATCC 14179; ICMP 220; LMG 809; NCPPB 2970

Xanthomonas campestris* pv. *parthenii Chand, Singh, Singh & Singh 1995
ICMP 12476; NCPPB 3888

Xanthomonas campestris* pv. *passiflorae (Pereira 1969) Dye 1978b
ICMP 3151; LMG 810; NCPPB 2346

Xanthomonas campestris pv. *patelii* (Desai & Shah 1959) Dye 1978b
see ***Xanthomonas axonopodis* pv. *patelii***

Xanthomonas campestris* pv. *paulliniae Robbs, Medeiros & Kimura 1982
ICMP 8919; LMG 9053; NCPPB 3079

Xanthomonas campestris pv. *pedalii* (Patel & Jindal 1972) Dye 1978b
see ***Xanthomonas axonopodis* pv. *pedalii***

Xanthomonas campestris pv. *pelargonii* (Brown 1923) Dye 1978b
see ***Xanthomonas hortorum* pv. *pelargonii***

Xanthomonas campestris* pv. *pennamericanum Qhobela & Claflin 1988
ATCC 49152; ICMP 9627

Xanthomonas campestris pv. *phaseoli* (Smith 1897) Dye 1978b
see ***Xanthomonas axonopodis* pv. *phaseoli***

[*Xanthomonas campestris* pv. *phaseoli* var. *fuscans* Vauterin, Hoste, Kersters & Swings 1995] not valid – this combination is an incidental mention that does not conform to the Code (Rule 28b) or to the Standards (Standard 18.1)

Xanthomonas campestris pv. *phlei* Egli & Schmidt 1982
see ***Xanthomonas translucens* pv. *phlei***

Xanthomonas campestris pv. *phleipratensis* (Wallin & Reddy 1945) Dye 1978b

see ***Xanthomonas translucens*** pv. ***phleipratensis***

Xanthomonas campestris **pv. *phormiicola*** (Takimoto 1933) Dye 1978b
ICMP 4294; LMG 702; NCPPB 2983

Xanthomonas campestris pv. *phyllanthi* (Sabet, Ishag & Khalil 1969) Dye 1978b
see ***Xanthomonas axonopodis*** **pv. *phyllanthi***

Xanthomonas campestris pv. *physalidicola* (Goto & Okabe 1958) Dye 1978b
see ***Xanthomonas axonopodis*** **pv. *physalidicola***

Xanthomonas campestris **pv. *physalidis*** (Srinivasan, Patel & Thirumalachar 1962) Dye 1978b
ATCC 17994; ICMP 5746; LMG 846; NCPPB 1756

Xanthomonas campestris pv. *pisi* (Goto & Okabe 1958) Dye 1978b
see ***Xanthomonas pisi***

Xanthomonas campestris pv. *poae* Egli & Schmidt 1982
see ***Xanthomonas translucens*** **pv. *poae***

Xanthomonas campestris pv. *poinsettiicola* (Patel, Bhatt & Kulkarni 1951) Dye 1978b
X. campestris pv. *poinsettiicola* is represented by three phenetically and genomically distinct bacterial populations (Vauterin *et al.* 1995). The pathotype strain is referred to *X. axonopodis* pv. *poinsettiicola*. Other strains are referred to *X. arboricola* but evidence is lacking that these represent a distinct pathovar. Two other strains form the basis of the description of *X. codiaei.*
see ***Xanthomonas axonopodis*** **pv. *poinsettiicola***

Xanthomonas campestris pv. *populi* (ex de Kam 1984) Young, Bradbury, Davis, Dickey, Ercolani, Hayward & Vidaver 1991
see ***Xanthomonas arboricola*** **pv. *populi***

Xanthomonas campestris pv. *pruni* (Smith 1903) Dye 1978b
see ***Xanthomonas arboricola*** **pv. *pruni***

Xanthomonas campestris pv. *punicae* (Hingorani & Singh 1959) Dye 1978b
see ***Xanthomonas axonopodis*** **pv. *punicae***

Xanthomonas campestris pv. *rhynchosiae* (Sabet, Ishag & Khalil 1969) Dye 1978b
see ***Xanthomonas axonopodis*** **pv. *rhynchosiae***

Xanthomonas campestris pv. *ricini* (Yoshii & Takimoto 1928) Dye 1978b
see ***Xanthomonas axonopodis*** **pv. *ricini***

Xanthomonas campestris pv. *secalis* (Reddy, Godkin & Johnson 1924) Dye 1978b
see ***Xanthomonas translucens*** **pv. *secalis***

Xanthomonas campestris **pv. *sesami*** (Sabet & Dowson 1960) Dye 1978b
ICMP 621; LMG 865; NCPPB 631

Xanthomonas campestris pv. *sesbaniae* (Patel, Kulkarni & Dhande 1952a) Dye 1978b
see ***Xanthomonas axonopodis*** **pv. *sesbaniae***

Xanthomonas campestris **pv. *spermacoces*** (Srinivasan & Patel 1956) Dye 1978b
ATCC 17998; ICMP 5751; LMG 868; NCPPB 1760

Xanthomonas campestris **pv. *syngonii*** Dickey & Zumoff 1987
ICMP 9154; LMG 9055; NCPPB 3586

Xanthomonas campestris pv. *tamarindi* (Patel, Bhatt & Kulkarni 1951) Dye 1978b
see ***Xanthomonas axonopodis*** **pv. *tamarindi***

Xanthomonas campestris pv. *taraxaci* (Niederhauser 1943) Dye 1978b
see ***Xanthomonas hortorum*** **pv. *taraxaci***

Xanthomonas campestris **pv. *tardicrescens*** (McCulloch 1937) Dye 1978b
ICMP 4295; LMG 9056; NCPPB 2984

Xanthomonas campestris pv. *theicola* Uehara, Arai, Nonaka & Sano 1980

see ***Xanthomonas theicola***

Xanthomonas campestris* pv. *thespesiae Patil & Kulkarni 1981
ICMP 7466; LMG 9057

Xanthomonas campestris* pv. *thirumalacharii (Padhya & Patel 1964) Dye 1978b
ATCC 23577; ICMP 5852; LMG 872; NCPPB 1452

Xanthomonas campestris pv. *translucens* (Jones, Johnson & Reddy 1917) Dye 1978b
see ***Xanthomonas translucens* pv. *translucens***

Xanthomonas campestris* pv. *tribuli (Srinivasan & Patel 1956) Dye 1978b
ICMP 5753; LMG 873; NCPPB 1454

Xanthomonas campestris* pv. *trichodesmae (Patel, Kulkarni & Dhande 1952b) Dye 1978b
ATCC 11678; ICMP 5754; LMG 874; NCPPB 585

Xanthomonas campestris pv. *undulosa* (Smith, Jones & Reddy 1919) Dye 1978b
see ***Xanthomonas translucens* pv. *undulosa***

Xanthomonas campestris* pv. *uppalii (Patel 1948) Dye 1978b
ATCC 11641; ICMP 5756; LMG 893; NCPPB 586

Xanthomonas campestris pv. *vasculorum* (Cobb 1893) Dye 1978b
X. campestris pv. *vasculorum* is represented by two phenetically and genomically distinct bacterial populations (Vauterin *et al.* 1995). The pathotype and related strains are referred to *X. axonopodis* pv. *vasculorum*. The other strains are referred to *X. vasicola*, but evidence is lacking that these form a distinct pathovar.
see ***Xanthomonas axonopodis* pv. *vasculorum***

Xanthomonas campestris* pv. *vernoniae (Patel, Desai & Patel 1968) Dye 1978b
ICMP 5758; LMG 9058; NCPPB 1787

Xanthomonas campestris pv. *vesicatoria* (Doidge 1920) Dye 1978b
X. campestris pv. *vesicatoria* is represented by two phenetically and genomically distinct bacterial populations (Stall *et al.* 1994, Vauterin *et al.* 1995). The pathotype and related strains are referred to *X. vesicatoria.* The other strains are referred to *X. axonopodis*, but evidence is lacking that that these represent a distinct pathovar.
see ***Xanthomonas vesicatoria***

Xanthomonas campestris* pv. *viegasii Robbs, Rodrigues Neto, Malavolta, Kimura 1989
ICMP 9261

Xanthomonas campestris pv. *vignaeradiatae* (Sabet, Ishag & Khalil 1969) Dye 1978b
see ***Xanthomonas axonopodis* pv. *vignaeradiatae***

[*Xanthomonas campestris* pv. *vignaeunguiculatae* Patel & Jindal 1982] not valid – Young *et al.* (1991a) refers

Xanthomonas campestris pv. *vignicola* (Burkholder 1944) Dye 1978b
see ***Xanthomonas axonopodis* pv. *vignicola***

Xanthomonas campestris pv. *vitians* (Brown 1918) Dye 1978b
X. campestris pv. *vitians* is represented by two phenetically and genomically distinct bacterial populations (Vauterin *et al.* 1995). The pathotype is referred to *Xanthomonas axonopodis* pv. *vitians*, but the fact that this single strain differs uniquely from the other strains from lettuce (*Lactuca sativa* L.) suggests that it may be mis-labelled, or may have been inappropriately selected as the pathotype strain. All other strains are referred to *X. hortorum*, but evidence is lacking that these represent a distinct pathovar.
see ***Xanthomonas axonopodis* pv. *vitians***

Xanthomonas campestris* pv. *viticola (Nayudu 1972) Dye 1978b
ICMP 3867; LMG 965; NCPPB 2475

Xanthomonas campestris* pv. *vitiscarnosae (Moniz & Patel 1958) Dye 1978b

ICMP 90; LMG 939; NCPPB 1149

Xanthomonas campestris* pv. *vitistrifoliae (Padhya, Patel & Kotasthane 1965b) Dye 1978b
ICMP 5761; LMG 940; NCPPB 1451

Xanthomonas campestris* pv. *vitiswoodrowii (Patel & Kulkarni 1951a) Dye 1978b
ATCC 11636; ICMP 3965; LMG 954; NCPPB 1014

Xanthomonas campestris* pv. *zantedeschiae (Joubert & Truter 1972) Dye 1978b
ICMP 2372; LMG 9059; NCPPB 2978

Xanthomonas campestris* pv. *zingibericola (Ren & Fang 1981) Bradbury 1986
ICMP 8787; LMG 9060

Xanthomonas campestris* pv. *zinniae (Hopkins & Dowson 1949) Dye 1978b
ICMP 5762; LMG 8692; NCPPB 2439

Xanthomonas cassavae (ex Wiehe & Dowson 1953) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *cassavae* (Wiehe & Dowson 1953) Maraite & Weyns 1979
ICMP 204; LMG 673; NCPPB 101
see note at *Xanthomonas campestris* pv. *cassavae*

Xanthomonas chrysopogonis Papdiwal 1981] not valid – Young *et al.* (1991a) refers

Xanthomonas citri (ex Hasse 1915) Gabriel, Kingsley, Hunter & Gottwald 1989
see ***Xanthomonas axonopodis* pv. *citri***

Xanthomonas codiaei Vauterin, Hoste, Kersters & Swings 1995
ICMP 9513; LMG 8678
see note at *Xanthomonas campestris* pv. *poinsettiicola*

Xanthomonas cucurbitae (ex Bryan 1926) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *cucurbitae* (Bryan 1926) Dye 1978b
CFBP 2542; ICMP 2299; LMG 690; NCPPB 2597

Xanthomonas cynarae Trebaol, Gardan, Manceau, Tanguy, Tirilly & Boury 2000.
CFBP 4188

[*Xanthomonas exitiosa* Schaad, Vidaver, Lacy, Rudolph & Jones, 2000]
= *Xanthomonas vesicatoria* (ex Doidge 1920) Vauterin, Hoste, Kersters & Swings 1995
The epithet was proposed as a synonym of *X. vesicatoria* based on a misunderstanding of the Code (Rule 28a) and without a description or a type strain. It must therefore be invalid according to the Code (Rule 15; Rule 24a) (Young *et al*. 2001b). It has not been validated by publication in the *International Journal of Systematic and Evolutionary Microbiology*.
see ***Xanthomonas vesicatoria***

Xanthomonas euvesicatoria Jones, Lacy, Bouzar, Stall & Schaad 2004
Proposed type strain: ATCC 11633; ICMP 109; ICMP 98; NCPPB 2968
Not validated at time of publication

Xanthomonas fragariae Kennedy & King 1962
ATCC 33239; CFBP 2157; ICMP 5715; LMG 708; NCPPB 1469

Xanthomonas gardneri (ex Šutić1957) Jones, Lacy, Bouzar, Stall & Schaad 2004
Proposed type strain: strain ATCC 19865; NCPPB 881
Not validated at time of publication

Xanthomonas hortorum Vauterin, Hoste, Kersters & Swings 1995
ICMP 453; LMG 733; NCPPB 939
Vauterin *et al.* (1995) chose the pathotype strain of *X. hortorum* pv. *hederae* as the type strain of this species.

Xanthomonas hortorum* pv. *carotae (Kendrick 1934) Vauterin, Hoste, Kersters & Swings 1995

= *Xanthomonas campestris* pv. *carotae* (Kendrick 1934) Dye 1978b
ICMP 5723*; LMG 8646*; NCPPB 1422*
This strain has been reported to be unsuitable as a pathotype strain (Young *et al.* 1991).

Xanthomonas hortorum* pv. *hederae (Arnaud 1920) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *hederae* (Arnaud 1920) Dye 1978b
ICMP 453; LMG 733; NCPPB 939
Vauterin *et al.* (1995) chose the pathotype strain of *X. hortorum* pv. *hederae* as the type strain of the species. If this causes uncertainty, it may be necessary to select a new pathotype strain for the pathovar.

Xanthomonas hortorum* pv. *pelargonii (Brown 1923) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *pelargonii* (Brown 1923) Dye 1978b
CFBP 2533; ICMP 4321; LMG 7314; NCPPB 2985

Xanthomonas hortorum* pv. *taraxaci (Niederhauser 1943) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *taraxaci* (Niederhauser 1943) Dye 1978b
ATCC 19318; CFBP 410; ICMP 579; LMG 870; NCPPB 940

[*Xanthomonas hortorum* pv. *vitians* Vauterin, Hoste, Kersters & Swings 1995] not valid – Standard 5
see ***Xanthomonas axonopodis* pv. *vitians*** and note at *Xanthomonas campestris* pv. *vitians*

Xanthomonas hyacinthi (Wakker 1883) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *hyacinthi* (Wakker 1883) Dye 1978b
ATCC 19314; CFBP 1156; ICMP 189; LMG 739; NCPPB 599

[*X. hederae* (Arnaud 1920) Schaad Schaad, Vidaver, Lacy, Rudolph, Jones, 2000]
The epithet was proposed as the senior homotypic synonym of *X. hortorum* pv. *hederae* based on a misunderstanding of the Code (Rule 28a) and without a description or a type strain. It must therefore be invalid according to the Code (Rule 27) (Young *et al*. 2001b). It has not been validated by publication in the *International Journal of Systematic and Evolutionary Microbiology*.
see ***Xanthomonas hortorum* pv. *hederae***

[*X. juglandis* (Pierce 1901) Schaad Schaad, Vidaver, Lacy, Rudolph, Jones, 2000]
The epithet was proposed as the senior homotypic synonym of *X. arboricola* pv. *juglandis* based on a misunderstanding of the Code (Rule 28a) and without a description or a type strain. It must therefore be invalid according to the Code (Rule 27) (Young *et al*. 2001b). It has not been validated by publication in the *International Journal of Systematic and Evolutionary Microbiology*.
see ***Xanthomonas arboricola* pv. *juglandis***

Xanthomonas melonis Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *melonis* Neto, Sugimori & Oliveira 1984
ICMP 8682; LMG 8670; NCPPB 3434

Xanthomonas oryzae (Ishiyama 1922) Swings, Van den Mooter, Vauterin, Hoste, Gillis, Mew & Kersters 1990
ATCC 35933; CFBP 2532; ICMP 3125; LMG 5047; NCPPB 3002

Xanthomonas oryzae* pv. *oryzae (Ishiyama 1922) Swings, Van den Mooter, Vauterin, Hoste, Gillis, Mew & Kersters 1990
= *Xanthomonas campestris* pv. *oryzae* (Ishiyama 1922) Dye 1978b
ATCC 35933; CFBP 2532; ICMP 3125; LMG 5047; NCPPB 3002

Xanthomonas oryzae* pv. *oryzicola (Fang, Ren, Chen, Chu, Faan & Wu 1957) Swings, Van den Mooter, Vauterin, Hoste, Gillis, Mew & Kersters 1990
= *Xanthomonas campestris* pv. *oryzicola* (Fang, Ren, Chen, Chu, Faan & Wu 1957) Dye 1978b
ATCC 49072; CFBP 2286; ICMP 5743; LMG 797; NCPPB 1585

Xanthomonas phaseoli (ex Smith 1897) Gabriel, Kingsley, Hunter & Gottwald 1989
see ***Xanthomonas axonopodis* pv. *phaseoli***

Xanthomonas perforans Jones, Lacy, Bouzar, Stall & Schaad 2004
Proposed type strain: strain: ATCC BAA-983; NCPPB 4321
Not validated at time of publication

Xanthomonas pisi (ex Goto & Okabe 1958) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *pisi* (Goto & Okabe 1958) Dye 1978b
ATCC 35936; ICMP 570; LMG 847; NCPPB 762

[*Xanthomonas phyllovora* Schaad Schaad, Vidaver, Lacy, Rudolph, Jones, 2000]
The epithet was proposed explicitly without a description or a type strain. It must therefore be invalid according to the Code (Rule 27) (Young *et al*. 2001b). It has not been validated by publication in the *International Journal of Systematic and Evolutionary Microbiology*.

Xanthomonas populi (ex Ridé 1958) van den Mooter and Swings 1990
ATCC 51165; CFBP 1817; ICMP 5816; LMG 5743; NCPPB 2959

Xanthomonas sacchari Vauterin, Hoste, Kersters & Swings 1995
LMG 471

Xanthomonas theicola (Uehara, Arai, Nonaka & Sano 1980) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *theicola* Uehara, Arai, Nonaka & Sano 1980
ICMP 6774; LMG 8684

Xanthomonas translucens (ex Jones, Johnson &Reddy 1917) Vauterin, Hoste, Kersters & Swings 1995
= [*Xanthomonas campestris* pv. *hordei* (Hagborg 1942) Dye 1978b]
ATCC 19319; CFBP 2054; ICMP 5752; LMG 876; NCPPB 973

Xanthomonas translucens* pv. *arrhenatheri (Egli & Schmidt 1982) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *arrhenatheri* Egli & Schmidt 1982
ATCC 33803 CFBP 2056; ICMP 7727; LMG 727; NCPPB 3229

Xanthomonas translucens* pv. *cerealis (Hagborg 1942) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *cerealis* (Hagborg 1942) Dye 1978b
CFBP 2541; ICMP 1409; LMG 679; NCPPB 1944

Xanthomonas translucens* pv. *graminis (Egli, Goto & Schmidt 1975) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *graminis* (Egli, Goto & Schmidt 1975) Dye 1978b
ATCC 29091; CFBP 2053; ICMP 5733; LMG 726; NCPPB 2700

[*Xanthomonas translucens* pv. *hordei* (Egli, Goto & Schmidt 1975) Vauterin, Hoste, Kersters & Swings 1995] not valid – Bradbury (1986) refers

Xanthomonas translucens* pv. *phlei (Egli & Schmidt 1982) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *phlei* Egli & Schmidt 1982
ATCC 33805; CFBP 2062; ICMP 7725; LMG 730; NCPPB 3231

Xanthomonas translucens* pv. *phleipratensis (Wallin & Reddy 1945) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *phleipratensis* (Wallin & Reddy 1945) Dye 1978b
CFBP 2540; ICMP 5744; LMG 843; NCPPB 1837

Xanthomonas translucens* pv. *poae (Egli & Schmidt 1982) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *poae* Egli & Schmidt 1982
ATCC 33804; CFBP 2057; ICMP 7726; LMG 728; NCPPB 3230

Xanthomonas translucens* pv. *secalis (Reddy, Godkin & Johnson 1924) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *secalis* (Reddy, Godkin & Johnson 1924) Dye 1978b
CFBP 2539; ICMP 5749; LMG 883; NCPPB 2822

Xanthomonas translucens* pv. *translucens (Jones, Johnson & Reddy 1917) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *translucens* (Jones, Johnson & Reddy 1917) Dye 1978b
ATCC 19319; CFBP 2054; ICMP 5752; LMG 876; NCPPB 973

Xanthomonas translucens* pv. *undulosa (Smith, Jones & Reddy 1919) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *undulosa* (Smith, Jones & Reddy 1919) Dye 1978b
ATCC 35935; CFBP 2055; ICMP 5755; LMG 892; NCPPB 2821

Xanthomonas vasicola Vauterin, Hoste, Kersters & Swings 1995
CFBP 2543; ICMP 3103; LMG 736; NCPPB 2417
Vauterin *et al.* (1995) chose the pathotype strain of *X. vasicola* pv. *holcicola* as the type strain of this species.

Xanthomonas vasicola* pv. *holcicola (Elliott 1930) Vauterin, Hoste, Kersters & Swings 1995
CFBP 2543; ICMP 3103; LMG 736; NCPPB 2417
Vauterin *et al.* (1995) chose the pathotype strain of *X. vasicola* pv. *holcicola* as the type strain of the species. If this causes uncertainty, it may be necessary to select a new pathotype strain for the pathovar.

[*Xanthomonas vasicola* pv. *vasculorum* Vauterin, Hoste, Kersters & Swings 1995] not valid (Standard 5)
see ***Xanthomonas axonopodis* pv. *vasculorum*** and note at *Xanthomonas campestris* pv. *vasculorum*

Xanthomonas vesicatoria (ex Doidge 1920) Vauterin, Hoste, Kersters & Swings 1995
= *Xanthomonas campestris* pv. *vesicatoria* (Doidge 1920) Dye 1978b
ATCC 35937; ICMP 63; LMG 911; NCPPB 422
see note at *Xanthomonas campestris* pv. *vesicatoria*

Xylella Wells, Raju, Hung, Weisburg, Mandelco-Paul & Brenner 1987

Xylella fastidiosa Wells, Raju, Hung, Weisburg, Mandelco-Paul & Brenner 1987
ATCC 35879; ICMP 11140

Xylella fastidiosa subsp. ***fastidiosa*** Wells, Raju, Hung, Weisburg, Mandelco-Paul & Brenner 1987

= [*X. fastidiosa* subsp. *piercei* Shaad, Postnikova, Lacy, Fatmi & Chang 2004a]
ATCC 35879; ICMP 11140

Xylella fastidiosa subsp. ***multiplex*** Shaad, Postnikova, Lacy, Fatmi & Chang 2004a
ATCC 35871; ICPB 50039
Not validated at time of publication

[*X. fastidiosa* subsp. *piercei* Shaad, Postnikova, Lacy, Fatmi & Chang 2004a]
The type strain designated for this subspecies is the type strain of the species and therefore the name *X. fastidiosa* subsp. *fastidiosa* takes priority (Rule 13d; Rule 45; Rule 46). The authors provide a correction (Schaad *et al*. 2004b).
see ***Xylella fastidiosa*** subsp. ***fastidiosa***

Xylella fastidiosa subsp. ***pauca*** Shaad, Postnikova, Lacy, Fatmi & Chang 2004a
ICPB 50031
A culture of the type strain is recorded as ICMP 15198 but was not deposited with this collection. The name can not be validated until a culture of that type strain is deposited in at least two publicly accessible service collections in two countries (Rule 30).

Xylophilus Willems, Gillis, Kersters, Van den Broecke & De Ley 1987

Xylophilus ampelinus (Panagopoulos 1969) Willems, Gillis, Kersters, Van den Broecke & De Ley 1987
= *Xanthomonas ampelina* Panagopoulos 1969
ATCC 33914; CFBP 1192; ICMP 8920; LMG 5856; NCPPB 2217

'*Candidatus*' Plant Pathogenic Bacteria

'*Candidatus* Liberibacter'

'***Candidatus* Liberibacter asiaticus**' Jagoueix, Bové, & Garnier 1994

'***Candidatus* Liberibacter asiaticus subsp. capensis**' Garnier, Jagoueix-Eveillard, Cronje, Le Roux & Bové 2000

'***Candidatus* Liberibacter africanus**' Jagoueix, Bové, & Garnier 1994

'*Candidatus* Phytoplasma'

'***Candidatus* Phytoplasma allocasuarinae**' Marcone, Gibb, Streten & Schneider 2004

'***Candidatus* Phytoplasma asteris**' Lee, Gundersen-Rindal, Davis, Bottner, Marcone & Seemüller 2004

'***Candidatus* Phytoplasma aurantifolia**' Zreik, Carle, Bové & Garnier 1995

'***Candidatus* Phytoplasma australiense**' Davis, Dally, Gundersen, Lee & Habili 1997

'***Candidatus* Phytoplasma australasia**' White, Blackall, Scott & Walsh 1998

'***Candidatus* Phytoplasma brasiliense**' Montano, Davis, Dally, Hogenhout, Pimentel & Brioso 2001

'***Candidatus* Phytoplasma castaneae**' Jung, Sawayanagi, Kakizawa, Nishigawa, Miyata, Oshima, Ugaki, Lee, Hibi, Namba 2002

'***Candidatus* Phytoplasma cynodontis**' Marcone, Schneider & E. Seemüller 2004

'***Candidatus* Phytoplasma fraxini**' Griffiths, Sinclair, Smart & Davis 1999

'***Candidatus* Phytoplasma japonicum**' Sawayanagi, Horikoshi, Kanehira, Shinohara, Bertaccini, Cousin, Hiruki & Namba 1999

'***Candidatus* Phytoplasma mali**' Seemüller & Schneider 2004

'***Candidatus* Phytoplasma oryzae**' Jung, Sawayanagi, Wongkaew, Kakizawa, Nishigawa, Wei, Oshima, Miyata, Ugaki, Hibi, & Namba 2003
'***Candidatus* Phytoplasma phoenicium**' Verdin, Salar, Danet, Choueiri, Jreijiri, El Zammar, Gélie, Bové & Garnier 2003
'***Candidatus* Phytoplasma prunorum**' Seemüller & Schneider 2004
'***Candidatus* Phytoplasma pyri**' Seemüller & Schneider 2004
'***Candidatus* Phytoplasma rhamni**' Marcone, Gibb, Streten & Schneider 2004
'***Candidatus* Phytoplasma spartii**' Marcone, Gibb, Streten & Schneider 2004
'***Candidatus* Phytoplasma trifolii**' Hiruki & Keri Wang 2004
'***Candidatus* Phytoplasma ulmi**' Lee, Martini, Marcone & Zhu 2004
'***Candidatus* Phytoplasma ziziphi**' Jung, Sawayanagi, Kakizawa, Nishigawa, Wei, Oshima, Miyata, Ugaki, Hibi & Namba 2003

'*Candidatus* Phlomobacter'

'***Candidatus* Phlomobacter fragariae**' Zreik, Bové, & Garnier 1998.

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