Class

Actinobacteria

Subclass

Actinobacteridae

Order

Actinomycetales

Suborder

Micromonosporineae

Family

Micromonosporaceae

Genus

Spirilliplanes

The Genus Spirilliplanes

To the genus *Spirilliplanes* belongs one species *Sprilliplanes yamanashiensis.*

Gram positive, non-acid-fast, aerobic organism with branching hyphae. Nonfragmenting substrate mycelium is present. The aerial hyphae aggregate into clusters resembling coils, but true sporangia are not observed; 14-day-old cultures grown on organic salts-starch agar have hyphae arranged in spirals of 5 to 10 turns with several spores per spore chain. Spores are ovals or short rods (0,5 to 0,7 by 0,7 to 1,0 µm) with smooth surfaces and are motile when they are suspended in 0,01 M phosphate buffer (pH 7,0) containing 10 % soil extract or distilled water.

Strictly aerobic. Good growth occurs at temperatures between 25 and 30℃. The organism shows good growth on oatmeal aga r (5315), inorganic salts-starch agar (5317) and peptone-yeast extract-iron agar (5318). In general, the vegetative mycelium of the strain is yellow to orange, and aerial hyphae are white.

Cell walls contain glutamic acid, glucoseamine, glycine, alanine, and meso-diaminopimelic acid. The wall chemotype is type II and the peptidoglycan type is presumed to be type A1γ. Mannose, 3-O-methylmannose, glucose, xylose and galactose are detected in the whole-cell sugars. C 17:1, C 17:0, anteiso-C 15:0, iso-C 15:0 and iso-C 16:0 are present as major cellular fatty acids. The G+C contend of the DNA is 69 mol%. The major menaquinone is MK-10(H_4) and small amounts of MK-10(H_6) and MK-10(H_8) are also present. Phosphatidylethanolamine and phosphatidylinositol are diagnostic phospholipids (phospholipid pattern type II). The acyl type of the cell wall polysaccharides is glycolyl. Habitat: soil.

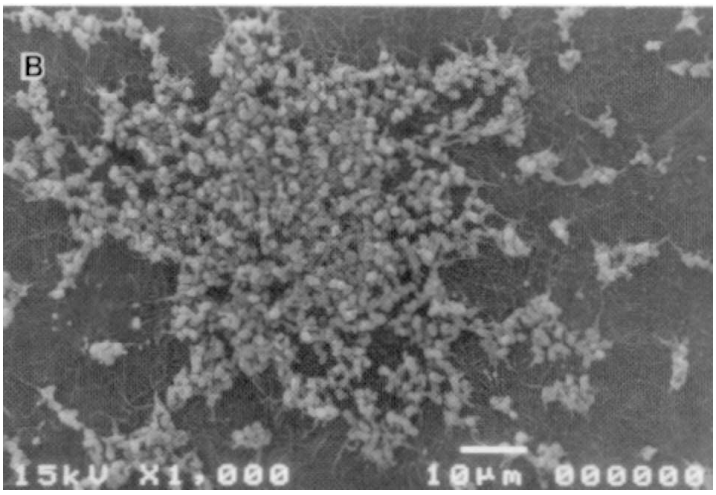
Type species is *Spirilliplanes yamanashiensis.*

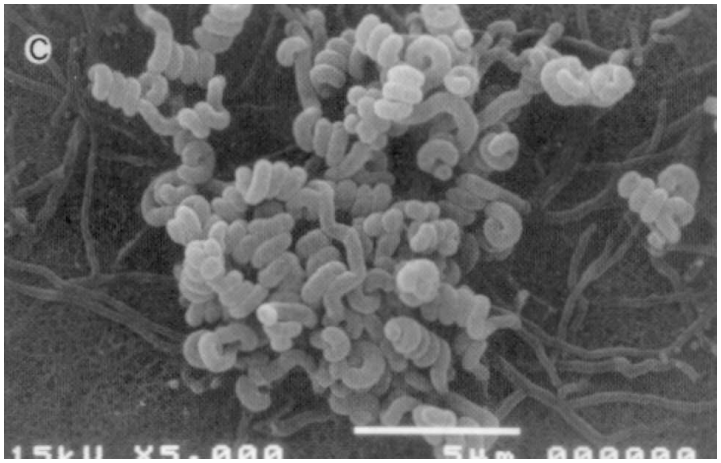
Lit.: Tamura T., M. Hayakawa and K. Hatano. 1997
A new genus of the order *Actinomycetales*, Spirilliplanes gen. nov., with description of *Spirilliplanes yamanashiensis* sp. nov.
Int . J. Syst. Bacteriol. 47: 97-102

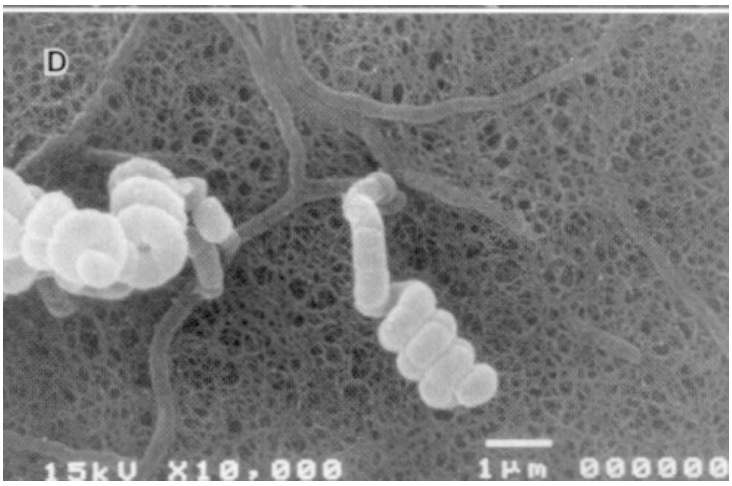
Genus Identity Card

Genus	***Spirilliplanes***
Wall chemotype	meso-DAP, glycine (type II)
Whole cell sugar pattern	xylose, glucose, galactose
Fatty acid pattern	C 17:1, C 17:0, anteiso C 15:0, iso C 15:0, iso C 16:0
Major menaquinone (MK)	-10(H_4)
Phospholipidtype	phosphatidylethanolamine, phosphatidylinositol
Mol% G+C of DNA	69
Morphology	branching substrate mycelium, aerial hyphae aggregate into clusters resembling coils
Type species	*Spirilliplanes yamanashiensis*

Spirilliplanes yamanashiensis
(Tamura et al. 1997/Int. J. System. Bacteriol.)







Name:	SPIRILLIPLANES
Authors:	Tamura et al. 1997
Status:	New Genus
Type species:	S. yamanashiensis
Literature:	Int. J. Syst. Bacteriol. 47:101

Name:	*Spirilliplanes yamanashiensis* **(Type species)**
Authors:	Tamura et al. 1997
Status:	New Species
Literature:	Int. J. Syst. Bacteriol. 47:102
Risk group:	1 (German classification)
Type strain:	DSM 44325, IFO 15828, YU127-1

Genus: ***Spirilliplanes*** **FH 6067**
Species: ***yamanashiensis***
Numbers in other collections: DSM 44325

Morphology:

	G	R
ISP 2	good	yellow orange
	A	SP
	none	none
	G	R
ISP 3	good	yellow orange
	A	SP
	none	none
	G	R
ISP 4	good	yellow orange
	A	SP
	none	none
	G	R
ISP 5	good	yellow orange
	A	SP
	none	none
	G	R
ISP 6	good	yellow orange
	A	SP
	none	none
	G	R
ISP 7	good	yellow orange
	A	SP
	none	red brown

Spore chains: Spore surface:
Sporangia: Fragmentation:

Melanoid pigment: **- (+) - -**
NaCl resistance: 0 %
Lysozyme resistance: 0
pH: Value- from - Optimum-
Temperature : Value- Optimum- 28 ℃

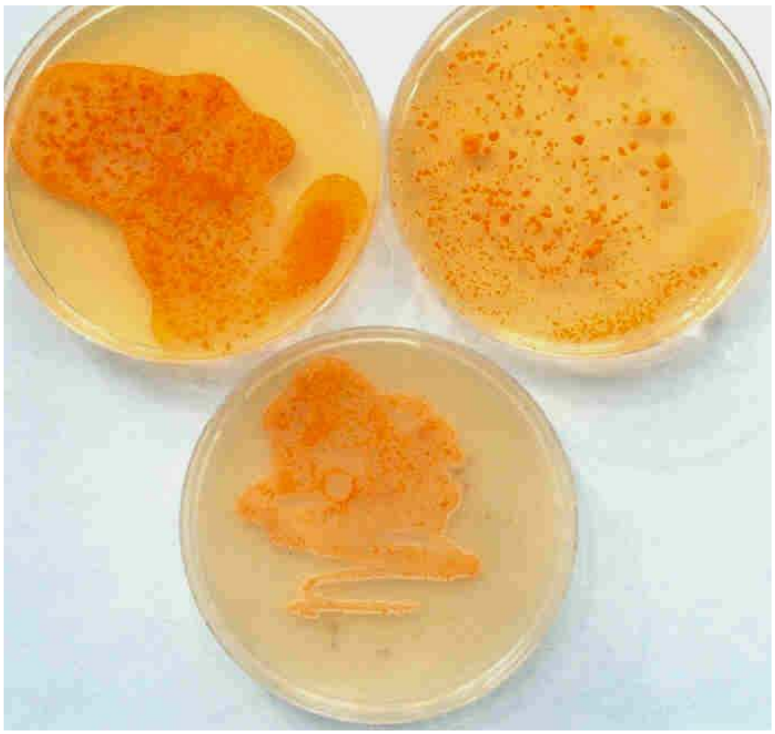
Carbon utilization:

Glu	Ara	Suc	Xyl	Ino	Man	Fru	Rha	Raf	Cel
+	(+)	+	+	-	+	+	+	+	+

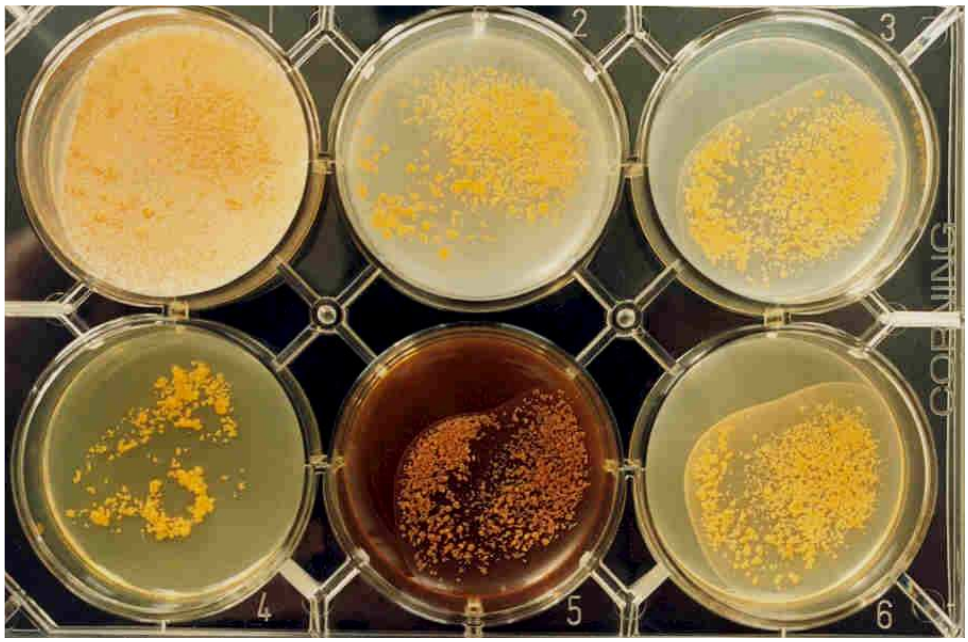
Enzymes:

Gel	Cit	Ure	Arg	Onp	Trp	Lys	Odc	VP	Ind	H2S
-	-	-	-	-	-	-	-	+	-	-

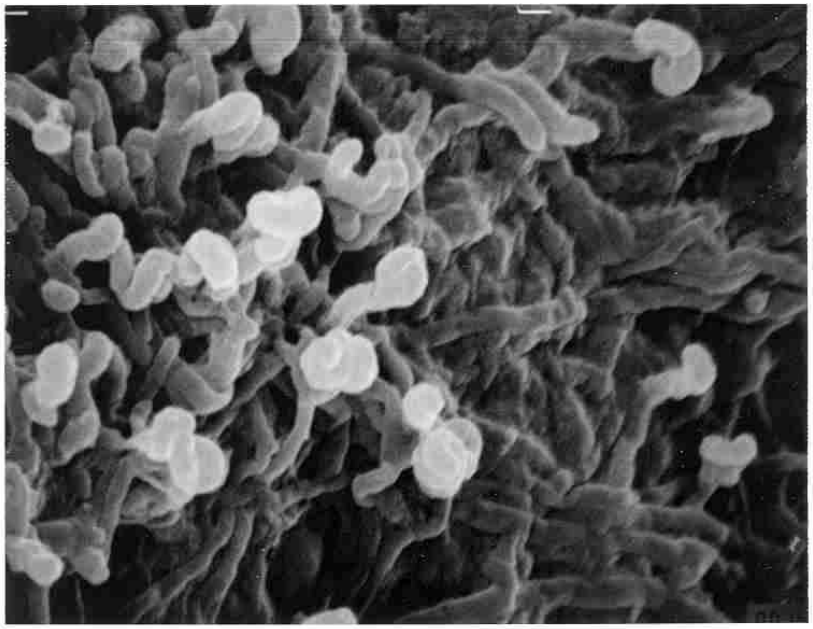
2+ 3- 4- 5- 6+ 7- 8- 9+ 10- 11+ 12- 13- 14- 15- 16+ 17+ 18+ 19- 20-



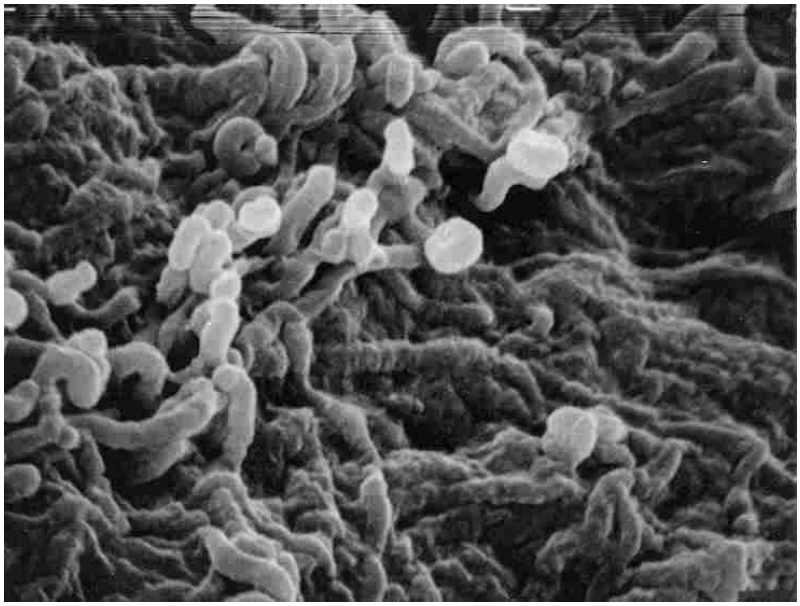
Sprilliplanes yamanashiensis
A and B – Agar plates medium 5006, 5265 and 5315

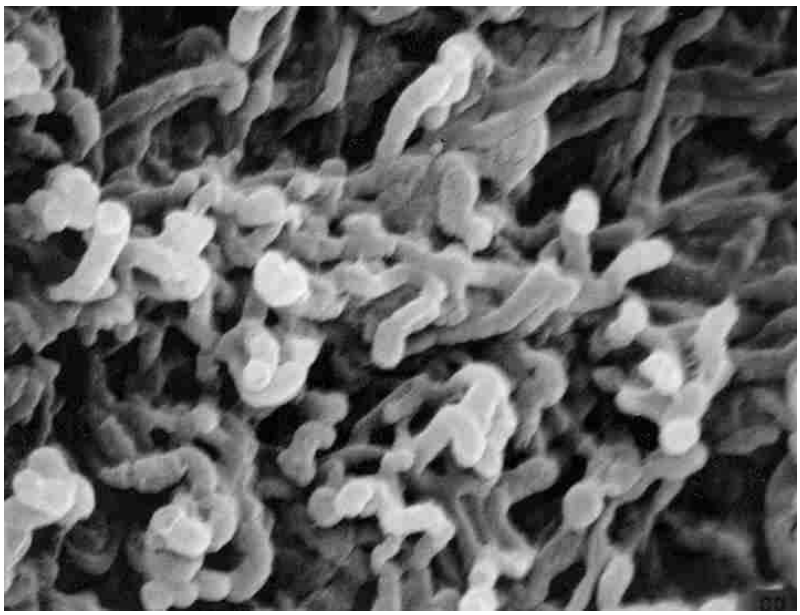


Sprilliplanes ymanashiensis
C – Microplate with ISP- and melanin media
D – Microplate for carbon utilization



Spirilliplanes yamanashiensis
Sporangia like spore chains
E – Light microscopy (x 250)
F – SEM (x 7.500)





Spirilliplanes yamanashiensis
Aerial hyphae aggregating into clusters resembling coils (SEM)
G and H x 7.500