

Class

Actinobacteria

Subclass

Actinobacteridae

Order

Actinomycetales

Suborder

Micromonosporineae

Family

Micromonosporaceae

Genus

Verrucosispora

The Genus Verrucosispora

To the genus *Verrucosispora* belong one species *Verrucosispora gifhornensis*.

Gram positive, non-acid-fast, aerobic organism with branching hyphae. Well developed septate mycelium averaging 0,4 µm in diameter. Non-motile spores borne singly, sessile, or on short or long sporophores. Warty spore surface changes to a hairy appearance with increasing age. Aerial mycelium absent.

The peptide side chain of peptidoglycan contains meso-diaminipimelic acid, glycine, alanine and glutamic acid. The peptide side-chains are directly cross-linked (type A1γ). The acyl type of the muramyl residue is glycolyl. Mannose, xylose and minor amounts of ribose are present in whole-cell hydrolysates. Characteristic phospholipids are phosphatidylethanolamine, diphosphatidylglycerol, phosphatidylinositol mannosides, phosphatidylserine. The major menaquinone is MK-9(H₄), with minor amounts of MK-9(H₆), MK-10(H₄) and MK-9(H₂). Major fatty acids (> 15% of total) are iso C 15:0, iso C 16:0 and anteiso C 17:0 with minor amounts (>4 to < 15%) of iso C 17:0, iso C 17:1 and iso C 18:0.

Strictly aerobic. Chemo-organotroph. Good growth occurs at temperatures between 30 and 40 °C. The G + C content of the DNA is 70 mol %. A member of the family *Micromonosporaceae*.

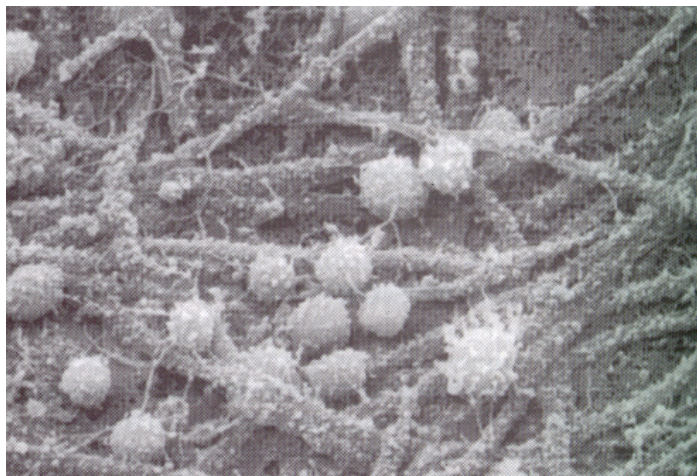
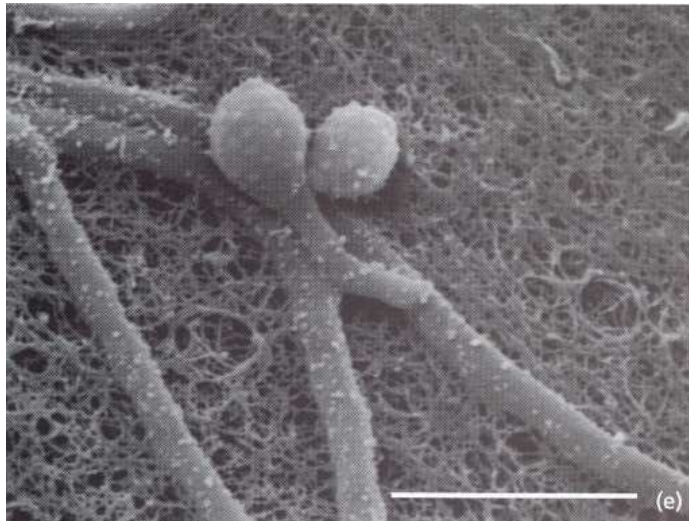
Type species is *Verrucosispora gifhornensis*.

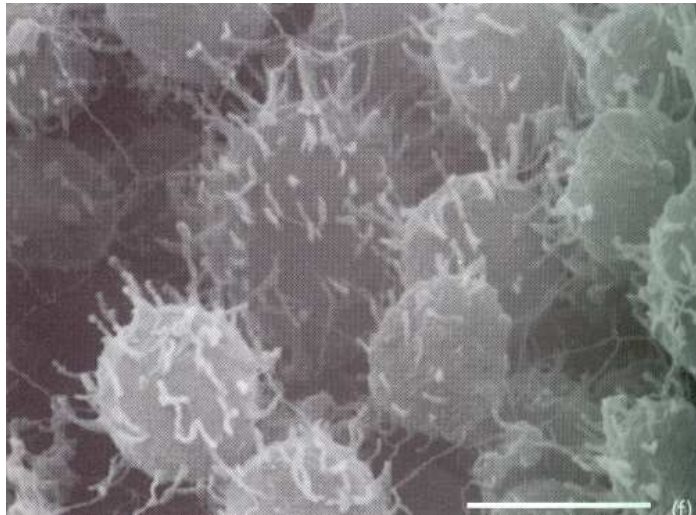
Lit.: Rheims H., P. Schumann, M. Rhode and E. Stackebrandt. 1998
Verrucosispora gifhornensis gen. nov., sp. nov., a new member of
the actinobacterial family *Micromonosporaceae*.
Int. J. Syst. Bacteriol. 48: 1119-1127

Genus Identity Card

Genus	<i>Verrucosispora</i>
Wall chemotype	meso-DAP, glycine, alanine, glutamic acid (type II)
Whole cell sugar pattern	xylose, mannose, ribose
Fatty acid pattern	C 15:0, iso C 16:0, anteiso C 17:0
Major menaquinone (MK)	-9(H ₆), 10(H ₄) 9(H ₂)
Phospholipidtype	phosphatidylethanolamine, phosphatidylinositol mannoside, diphosphatidylglycerol, phosphatidylserine
Mol% G+C of DNA	70
Morphology	branching substrate mycelium, spores born singly, sessile, or on short or long sporophores, spore surface warty, getting hairy with increasing age
Type species	<i>Verrucosispora gifhornensis</i>

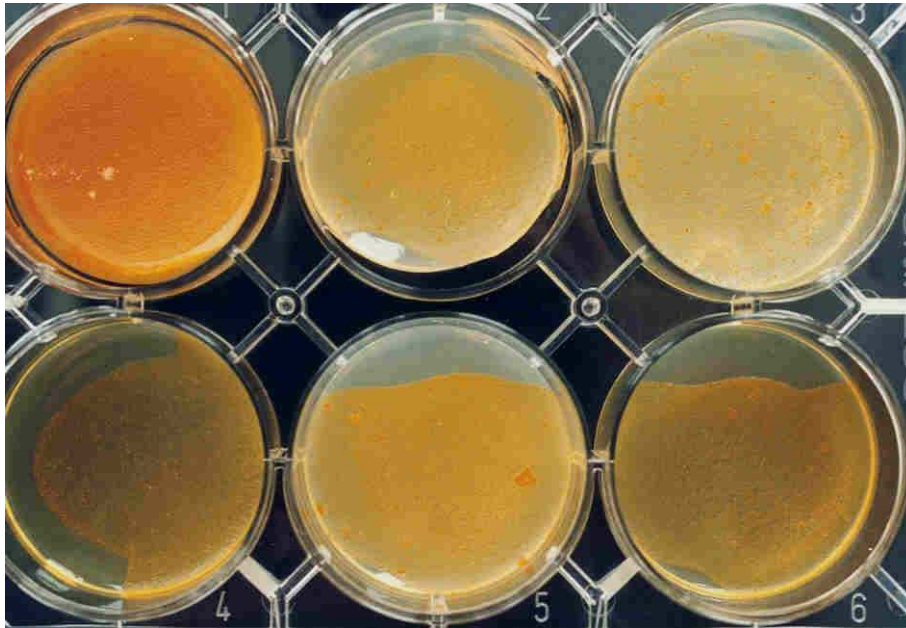
Verrucosispora gifhornensis
(Rheims et al 1998, Int. Syst. Bacteriol. 48)





Name: VERRUCOSISPORA
Authors: Rheims et al. 1998
Status: New Genus
Type species: *V. gifhornensis*
Literature: Int. J. Syst. Bacteriol. 48:1125

Name: *Verrucosispora gifhornensis* (**Type species**)
Authors: Rheims et al. 1998
Status: New Species
Literature: Int. J. Syst. Bacteriol. 48:1126
Risk group: 1 (German classification)
Type strain: DSM 44337, HR1-2



Verrucosipora gifhornensis

Microplate with ISP- and melanin media

Genus: *Verrucosipora*

FH 6066

Species: *gifhornensis*

Numbers in other collections: **DSM 44377**

Morphology:

	G	R
<u>ISP 2</u>	good	red orange
	A	SP
	none	none
	G	R
<u>ISP 3</u>	good	bright red orange
	A	SP
	none	none
	G	R
<u>ISP 4</u>	good	bright red orange
	A	SP
	none	none
	G	R
<u>ISP 5</u>	good	deep orange
	A	SP

	none	none
	G	R
<u>ISP 6</u>	good	deep orange
	A	SP
	none	none
	G	R
<u>ISP 7</u>	good	deep orange
	A	SP
	none	none

Spore chains:

Spore surface:

Sporangia:

Fragmentation:

Melanoid pigment: - - - -

NaCl resistance: 2,5 %

Lysozyme resistance: 0

pH: Value- from -

Optimum-

Temperature : Value-

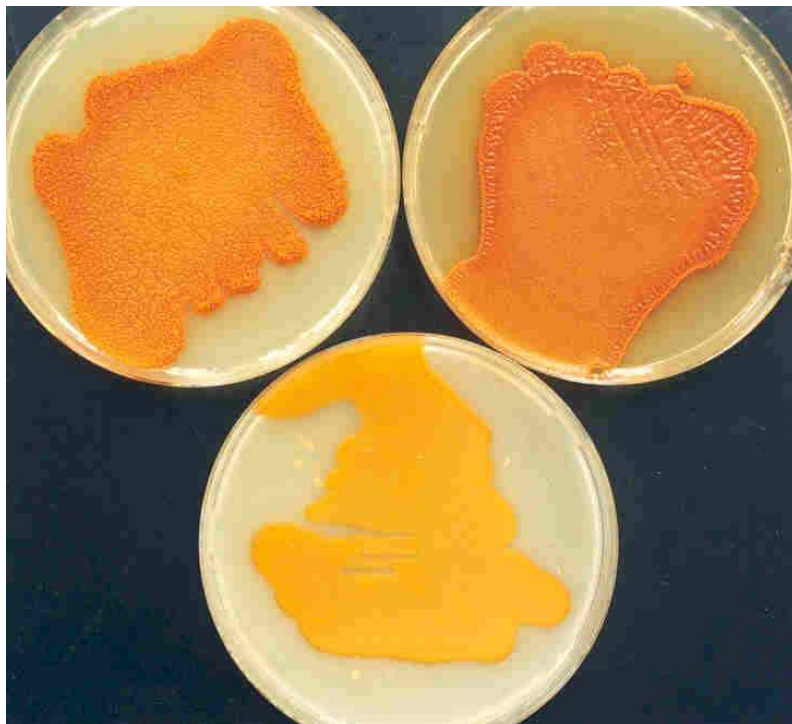
Optimum- 28 °C

Carbon utilization:

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

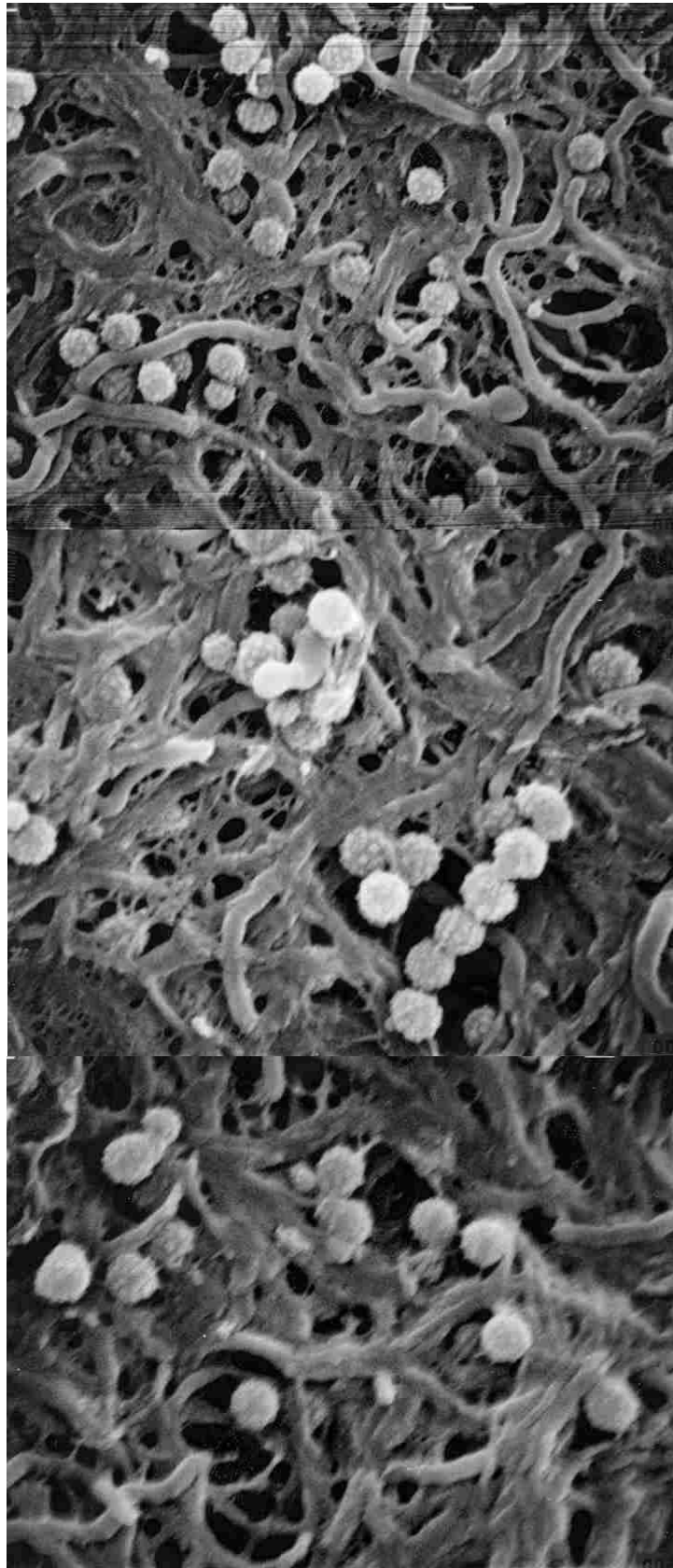
Enzymes:

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-			



Verrucosispora gifhornensis

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



Verrucosipora gifhornensis

Spores singly and in sporophores (D) in SEM
C x 7.500, D and E x 10.000