Class

Actinobacteria

Subclass

Actinobacteridae

Order

Actinomycetales

Suborder

Glycomycineae

Family

Glycomycetaceae

Genus

Glycomyces

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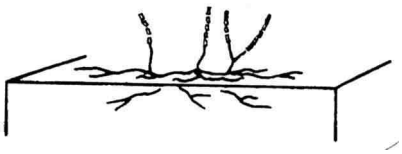
The Genus Glycomyces

To the genus *Glycomyces* belong 6 species *Glycomyces algeriensis, arizonensis, harbinensis, lechevalierae, rutgersensis* and *tenuis.*

The vegetative mycelium does not fragment, but short chains of conidia develop on the aerial hyphae or substrate mycelium in species lacking an aerial mycelium.

Cell wall contains major amounts of meso diaminopimelic acid (meso DAP) and glycine. Whole cell hydrolysates contain xylose and arabinose. Nitrogen-containing phospholipids are absent; significant amounts of phosphatidyl mannosides are present. Characteristic fatty acids are 15 : 0 iso, 15 : 0 anteiso, 16 : 1 iso G, 16 : 0 iso, 17 : 1 anteiso A and 17 : 0 anteiso.

This unique combination of spore chain morphology, cell wall chemistry, and phospholipid pattern is very diagnostic for this genus.



Type species is *Glycomyces harbinensis.*

Lit.: Labeda, D. P., R. T. Testa , M. P. Lechevallier and H. A. Lechevallier. 1985.
Glycomyces, a new genus of the *Actinomycetales*.
Int . J. Syst. Bacteriol. 35: 417-421

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Genus Identity Card

Genus	***Glycomyces***
Wall chemotype	meso-DAP, glycine (type II)
Whole cell sugar pattern	xylose, arabinose
Fatty acid pattern	iso C 15:0, anteiso C 15:0, C 16:1 iso G, iso C 16:0, anteiso A C 17:1, anteiso C 17:0
Major menaquinone (MK)	-9(H_4), 10(H_4)
Phospholipidtype	phosphatidyl mannoside
Mol% G+C of DNA	71-73
Morphology	vegetative mycelium does not fragment, short chains of conidia are developed on the aerial hyphae or substrate mycelium
Type species	*Glycomyces harbinensis*

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Name: GLYCOMYCES
Authors: Labeda et al. 1985
Status: New Genus
Type species: G. harbinensis
Literature: Int. J. Syst. Bacteriol. 35:419

Name: *Glycomyces algeriensis*
Authors: Labeda and Kroppenstedt 2004
Status: New Species
Literature: Int. J. Syst. Evol. Microbiol. 54:2345
Risk group: 1 (German classification)
Type strain: DSM 44727, NRRL B-16327

Name: *Glycomyces arizonensis*
Authors: Labeda and Kroppenstedt 2004
Status: New Species
Literature: Int. J. Syst. Evol. Microbiol. 54:2346
Risk group: 1 (German classification)
Type strain: DSM 44726, NRRL B-16153

Name: *Glycomyces harbinensis* **(Type species)**
Authors: Labeda et al. 1985
Status: New Species
Literature: Int. J. Syst. Bacteriol. 35:420
Risk group: 1 (German classification)
Type strain: DSM 46494, IMET 43812, LL-D-05139, NRRL 15337

Name: *Glycomyces lechevalierae*
Authors: Labeda and Kroppenstedt 2004
Status: New Species
Literature: Int. J. Syst. Evol. Microbiol. 54:2346
Risk group: 1 (German classification)
Type strain: DSM 44724, NRRL B-16149

Name: *Glycomyces rutgersensis*
Authors: Labeda et al. 1985
Status: New Species
Literature: Int. J. Syst. Bacteriol. 35:420
Risk group: 1 (German classification)
Type strain: DSM 43812, IMET 43813, LL-I-20, NRRL B-16106

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Name:	*Glycomyces tenuis*
Authors:	Evtushenko et al. 1991
Status:	New Species
Literature:	Int. J. Syst. Bacteriol. 41:155
Risk group:	1 (German classification)
Type strain:	DSM 44171, INA n-5888, VKM Ac-1250

Genus	*Glycomyces*
Species	*harbinensis*
Subspecies	
Author	Labeda et al. 1985

Reclassification

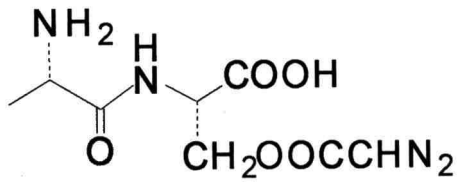
Status	New Species
Type species	ATCC 43155, DSM 46494, IMET 43812, NRRL 15337
Hazard group	1

Fatty acid pattern:

14 : 0Iso	2,0
15 : 0Iso	13,0
15 : 0Anteiso	19,0
15 : 0	2,0
16 : 1Iso G	10,0
16 : 0Iso	22,0
16 : 0	3,0
17 : 1Anteiso A	8,0
17 : 0Iso	2,0
17 : 0Anteiso	18,0

Secondary metabolites from *Glycomyces harbinensis*

N-L-Alanyl-L-serine diazoacetate, dipeptide antibiotic, active against gram-positive and –negative bacteria and tumors



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Genus: ***Glycomyces*** **FH 2417**
Species: ***harbinensis***
Numbers in other collections: ATCC 43155

Morphology:

	G	R
ISP 2	good	ivory
	A	SP
	none	none
	G	R
ISP 3	good	ivory
	A	SP
	none	none
	G	R
ISP 4	good	ivory
	A	SP
	white	none
	G	R
ISP 5	good	ivory
	A	SP
	white	none
	G	R
ISP 6	good	ivory
	A	SP
	none	none
	G	R
ISP 7	good	ivory
	A	SP
	white	brown

Spore chains: Spore surface:
Sporangia: Fragmentation:

Melanoid pigment: **-** - (+) **-**
NaCl resistance: 2,5 %
Lysozyme resistance:
pH: Value- 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-

Comments:

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Glycomyces harbinensis
A and B – Agar plates medium 5006, 5265, 5315 and 5323

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Glycomyces harbinensis
C and D – Agar plates medium 5318, 5322, 5337 with and without tyrosine

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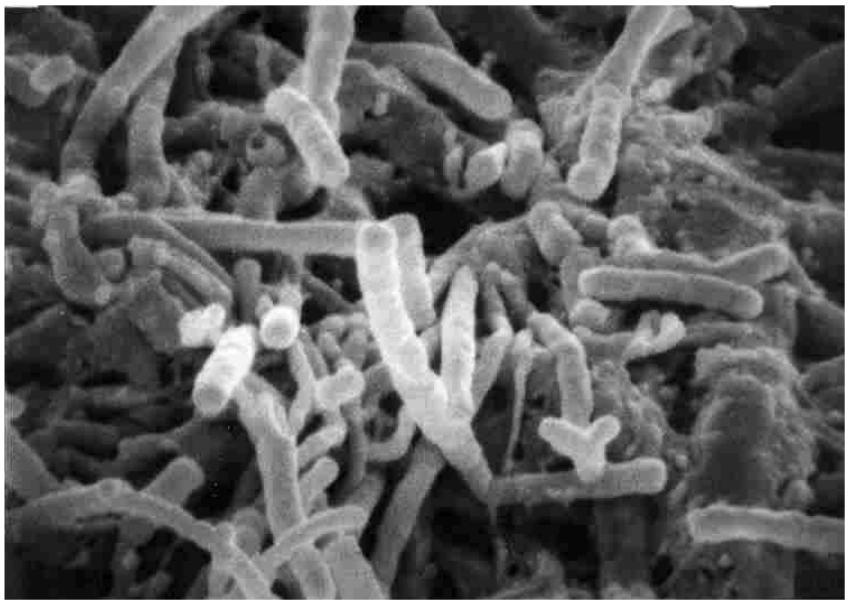

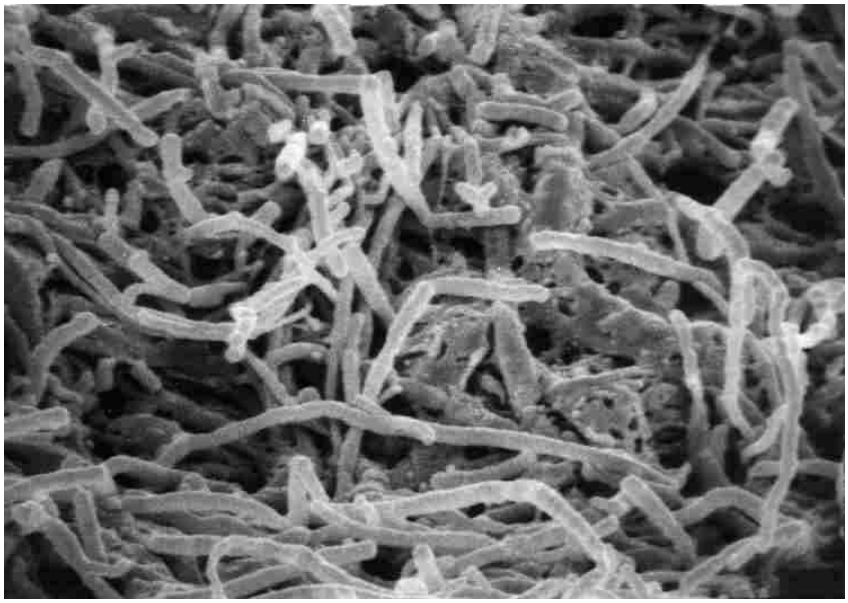

Glycomyces harbinensis
Vegetative aerial mycelium with chains of arthro spores in SEM
E x 10.000 F x 7.500

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