

Class

*Actinobacteria*

Subclass

*Actinobacteridae*

Order

*Actinomycetales*

Suborder

*Micromonosporineae*

Family

*Micromonosporaceae*

Genus

*Couchioplanes*

## **The Genus Couchioplanes**

To the genus *Couchioplanes* belongs only one species *Couchioplanes caeruleus* with the subspecies *caeruleus* and *azureus*..

Non-fragmenting, yellowish orange to blue mycelium is formed. Oval to short rod-shaped spores are formed in chains and are motile. The spore chains and aerial mycelia often aggregate into clusters resembling sporangia, but true sporangia are not observed.

Cell wall contains L-lysine as diaminoacid, and xylose as sugar component. Major menaquinones are MK-9(H<sub>4</sub>). Characteristic fatty acids are 15 : 0 iso, 15 : 0 anteiso, 16 : 0 iso, 16 : 0, 17 : 0, 18 : 1 cis 9 and 18 : 0.

Secondary metabolites have not been described

Type species is *Couchioplanes caeruleus*.

Lit.: Tamura, T., Y. Nakagaito, T. Nishii, T. Hasegawa, E. Stackebrandt and A. Yokota. 1994.

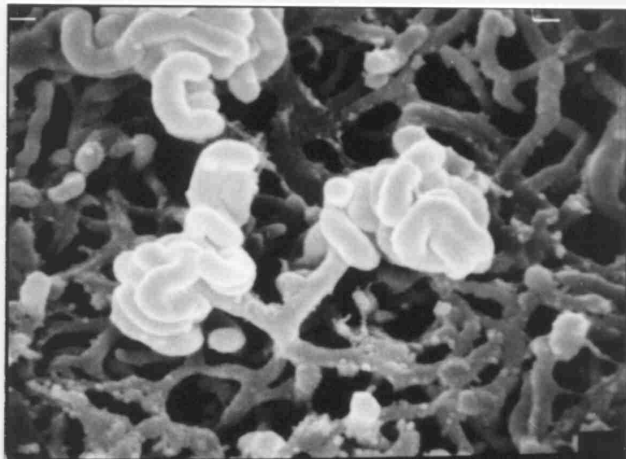
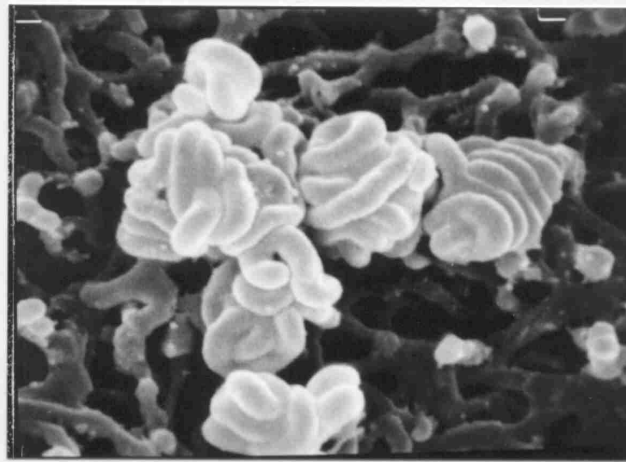
A new genus of the order *Actinomycetales*, *Couchioplanes* gen.nov., with description of *Couchioplanes caeruleus* Horan and Brodsky 1986 comb. nov., and *Couchioplanes caeruleus* subsp. *azureus* subsp. nov.

Int. J. Syst. Bacteriol. 44: 193-203

## Genus Identity Card

<b>Genus</b>	<b><i>Couchioplanes</i></b>
Wall chemotype	lysine (type VI)
Whole cell sugar pattern galactose	xylose, arabinose,
Fatty acid pattern	iso C 15:0, anteiso C 15:0, iso C 16:0, C 16:0, anteiso C 17:0
Major menaquinone (MK)	-9(H <sub>4</sub> )
Phospholipidtype	phosphatidylglycerol, phosphatidylethanolamine
Mol% G+C of DNA	69,9-70,5
Morphology	branched substrate mycelium, spores are formed in chains, spore chains and aerial mycelium often aggregate into clusters resembling sporangia
Type species	<i>Couchioplanes caeruleus</i>

# *Couchioplanes caeruleus*



Name: COUCHIOPLANES  
Authors: Tamura et al. 1994  
Status: New Genus  
Type species: *C. caeruleus*  
Literature: Int. J. Syst. Bacteriol. 44:199

Name: *Couchioplanes caeruleus* subsp. *azureus*  
Authors: Tamura et al. 1994  
Status: New Subspecies  
Literature: Int. J. Syst. Bacteriol. 44:201  
Risk group: 1 (German classification)  
Type strain: ATCC 31157, DSM 43900, DSM 44103,  
IFO 13993

Name: *Couchioplanes caeruleus* subsp. *caeruleus*  
**(Type species)**  
Authors: (Horan and Brodsky 1986) Tamura et al. 1994  
Status: New Combination  
Literature: Int. J. Syst. Bacteriol. 44:201  
Risk group: 1 (German classification)  
Type strain: ATCC 33937, DSM 43634, IFO 13939,  
MET 9248, SCC 1014  
Synonyms: *Actinoplanes caeruleus* (basonym)

Genus *Couchioplanes*  
Species *caeruleus*  
Subspecies *caeruleus*  
Author (Horan and Brodsky 1986) Tamura et al. 1994

Reclassification ← *Actinoplanes caeruleus*

Status New Combination

Fatty acid pattern:

14 : 0 Iso	2,0		
14 : 0	2,0		
15 : 0 Iso	13,0	18 : 1 cis 9	9,0
15 : 0 Anteiso	8,0	18 : 0	14,0
15 : 0	2,0		
16 : 0 Iso	14,0		
16 : 1 cis 9	4,0		
16 : 0	11,0		
17 : 0 Iso	4,0		
17 : 0 Anteiso	9,0		
17 : 1 cis 9	5,0		
17 : 0	7,0		



**Genus:** Couchioplanes

**FH 2245**

**Species:** caeruleus

**Numbers in other collections:** ATCC 33937

Morphology:

	G	R
<u>ISP 2</u>	good	orange yellow/ blue
	A	SP
	none	none
	G	R
<u>ISP 3</u>	good	orange yellow/ blue
	A	SP
	none	none
	G	R
<u>ISP 4</u>	good	orange yellow/ blue
	A	SP
	none	none
	G	R
<u>ISP 5</u>	good	orange yellow
	A	SP
	none	none
	G	R
<u>ISP 6</u>	sparse	orange yellow
	A	SP
	none	none
	G	R
<u>ISP 7</u>	good	orange yellow
	A	SP
	none	none

Spore chains:

Spore surface: smooth

Sporangia: +

Fragmentation:

Melanoid pigment: + - + -

NaCl resistance: 0 - 2,5 %

Lysozyme resistance:

pH: Value- Optimum-

Temperature : Value- Optimum- 28 °C

Carbon utilization:

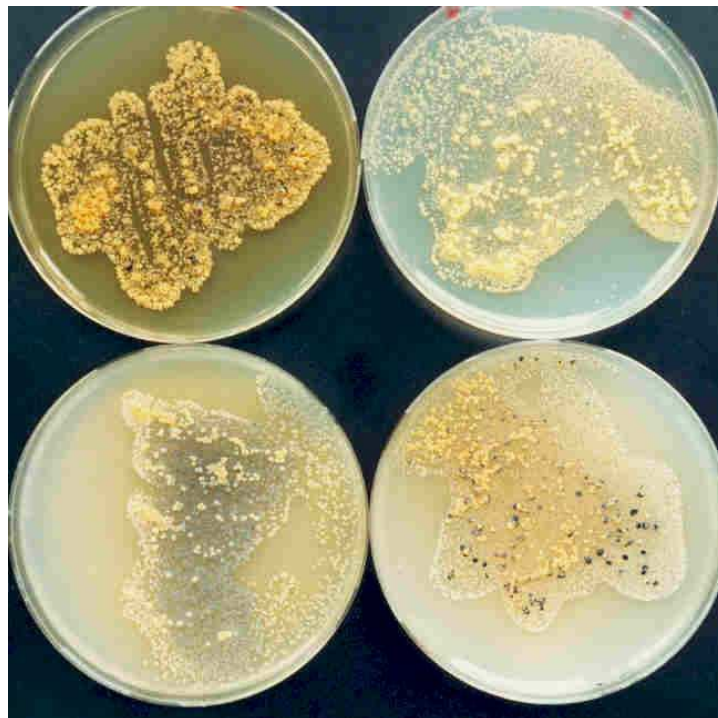
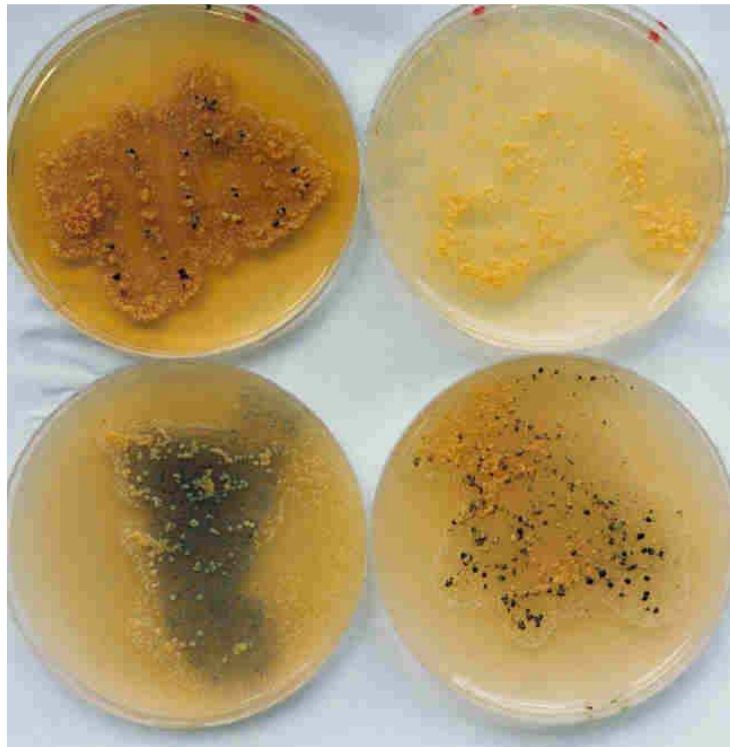
Glu	Ara	Suc	Xyl	Ino	Man	Fru	Rha	Raf	Cel
+	+	+	+	+	+	+	+	+	+

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(+)

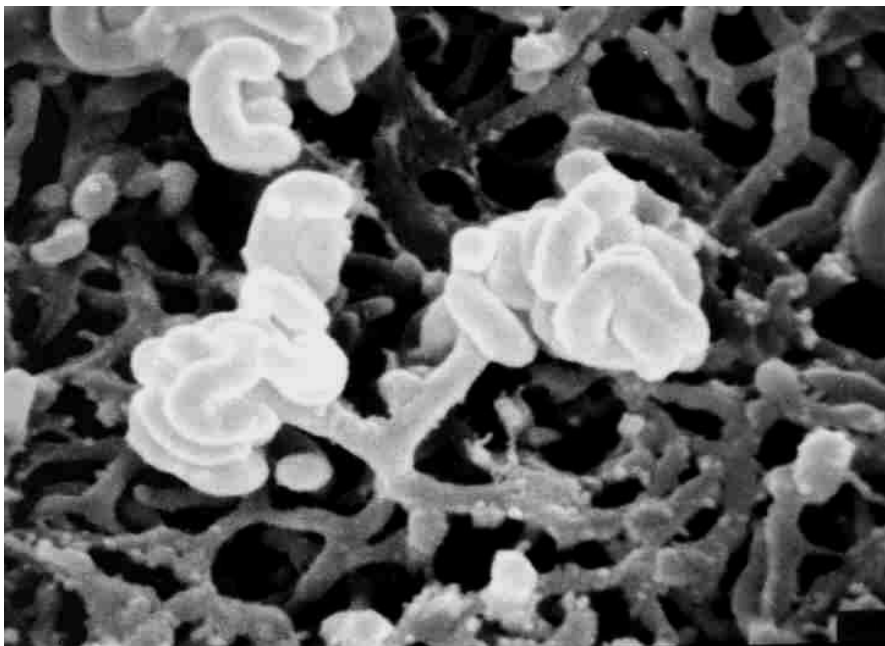
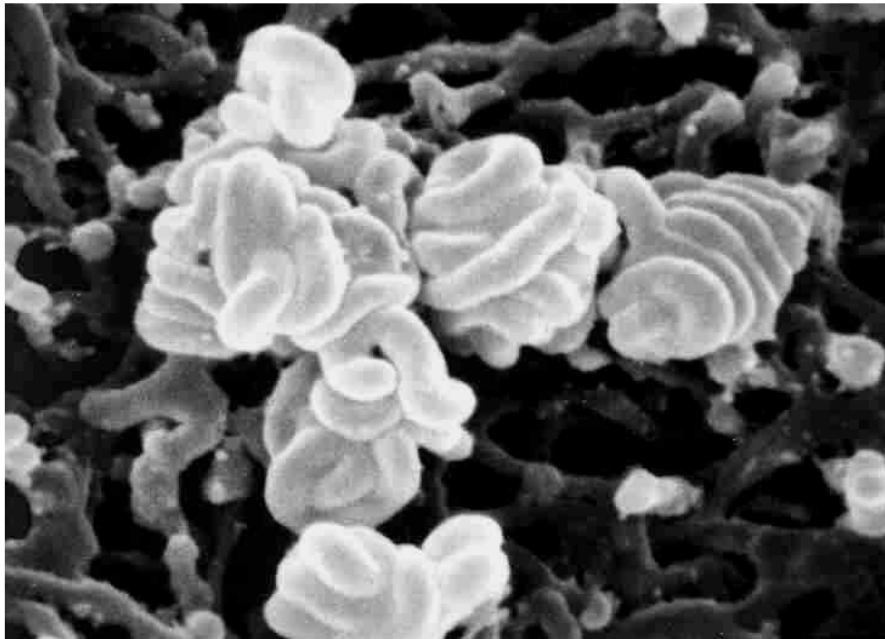
Comments:



***Couchioplanes caeruleus* subsp. *caeruleus***

A and B – Agar plates medium 5265, 5323, 5315 and 5317





***Couchioplanes caeruleus* subsp. *caeruleus***

Sporangia in SEM

C and D x 10.000