

Class

Actinobacteria

Subclass

Actinobacteridae

Order

Actinomycetales

Suborder

Micromonosporineae

Family

Micromonosporaceae

Genus

Catenuloplanes

The Genus Catenuloplanes

To the genus *Catenuloplanes* belong 7 species *Catenuloplanes atrovinosus*, *castaneus*, *indicus*, *japonicus*, *nepalensis*, *niger* and the reclassified *Planopolyspora crispera* as *C. crispus*

Hyphae are truly branching. Nonfragmenting, yellowish orange to orange substrate mycelium is formed. Monopodially or dichotomously branched aerial mycelium develops sparsely. Spores are formed in chains. The aerial mycelium contains short spore chains arranged in spirals having one or two turns that are hooked or rarely flexuous. The spore chains and aerial mycelium often aggregate into clusters resembling a flower or a sporodochium. The spores are rod shaped, straight or curved (0.6 to 0.8 by 2.0 to 4.0 μm) with smooth surfaces, and motile by means of peritrichous flagella.

Cell walls contain D-glutamate, D-serine, L-serine, glycine, D-alanine, and D-lysine (cell wall type VI), and mannose, xylose, and glucose are present as cell wall sugars. Mycolic acids are absent. The G + C contents of the DNAs are between 71.0 and 72.7 mol%. The major menaquinones are MK-9(H₈) and MK-10(H₈); in addition, small amounts of MK-9(H₆) and MK-10(H₆) are also present. Diphosphatidylglycerol, phosphatidylglycerol, phosphatidylinositol, phosphatidylcholine, and phosphatidylethanolamine are present as diagnostic phospholipids (type PIII).

Secondary metabolites have not been described

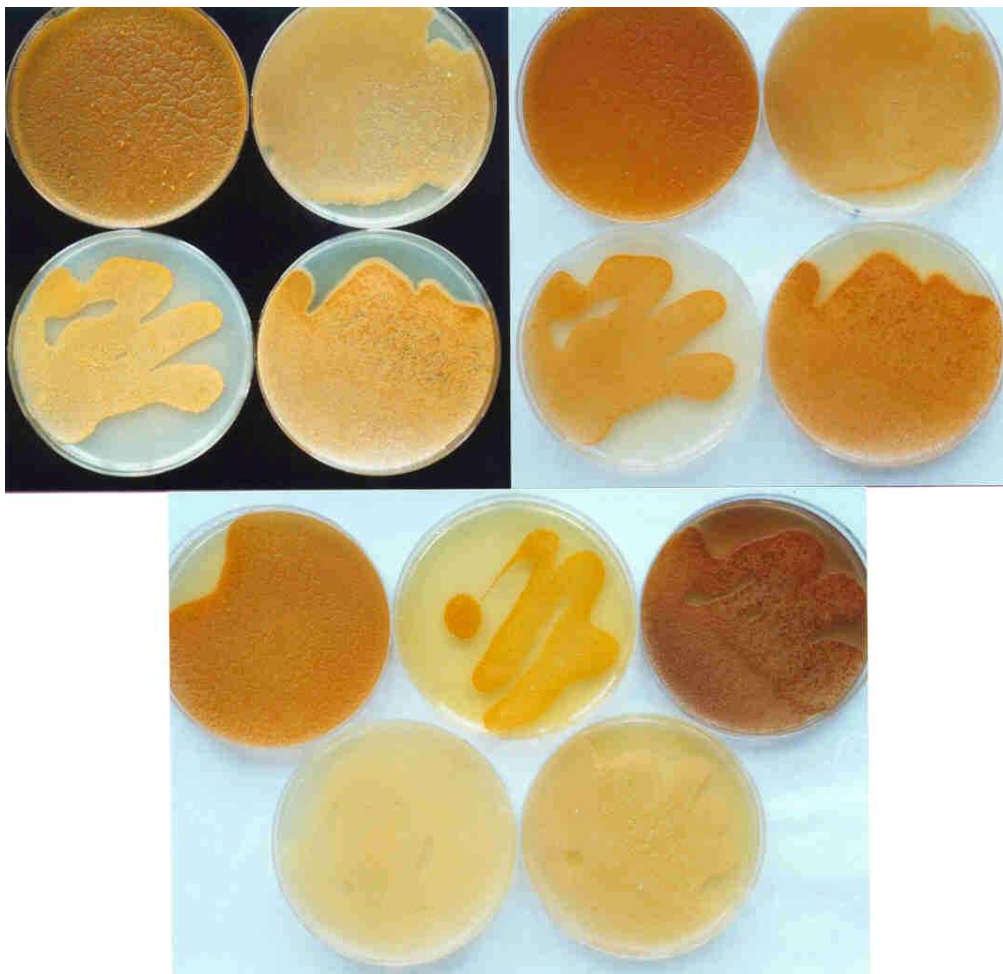
Type species is *Catenuloplanes japonicus*.

Lit.: Yokota, A., T. Tamura, T. Hasegawa and L.H. Huang. 1993. *Catenuloplanes japonicus* gen. nov., sp. nov., nom. rev., a new genus of the order Actinomycetales. Int. J. System. Bacteriol. 43: 805-812

Genus Identity Card

Genus	<i>Catenuloplanes</i>
Wall chemotype	type VI
Whole cell sugar pattern	xylose, mannose, glucose
Fatty acid pattern	
Major menaquinone (MK)	-9(H ₈), 10(H ₈)
Phospholipidtype	phosphatidylglycerol phosphatidylinositol, diphosphatidylglycerol, phosphatidylcholine, phosphatidylethanolamine
Mol% G+C of DNA	71,0-72,7
Morphology	branched substrate mycelium, aerial mycelium contains short chains of spores which are arranged in spirals having one or two turns that are hooked or rarely flexuous
Type species	<i>Catenuloplanes japonicus</i>

Catenuloplanes japonicus



Name: CATENULOPLANES
Authors: Yokota et al. 1993 emend. Kudo et al. 1999
Status: New Genus, Revived Name
Type species: *C. japonicus*
Literature: Int. J. Syst. Bacteriol. 43:809
Comment: emended description: IJSB 49:1858*

Name: *Catenuloplanes atrovinosus*
Authors: Tamura et al. 1995
Status: New Species
Literature: Int. J. Syst. Bacteriol. 45:860
Risk group: 1 (German classification)
Type strain: IFO 15579, RA332, DSM 44707

Name: *Catenuloplanes castaneus*
Authors: Tamura et al. 1995
Status: New Species
Literature: Int. J. Syst. Bacteriol. 45:860
Risk group: 1 (German classification)
Type strain: IFO 15584, RA344, DSM 44708

Name: *Catenuloplanes crispus*
Authors: (Petrolini et al. 1993) Kudo et al. 1999
Status: New Combination
Literature: Int. J. Syst. Bacteriol. 49:1858
Risk group: 1 (German classification)
Type strain: DSM 44128, IPV 2867, NCB 1173
Synonyms: *Planopolyspora crispa* (basonym)

Name: *Catenuloplanes indicus*
Authors: Tamura et al. 1995
Status: New Species
Literature: Int. J. Syst. Bacteriol. 45:860
Risk group: 1 (German classification)
Type strain: IFO 15575, RA328, DSM 44709

Name: *Catenuloplanes japonicus* (**Type species**)
Authors: Yokota et al. 1993
Status: New Species, Revived Name
Literature: Int. J. Syst. Bacteriol. 43:810; [5271]
Risk group: 1 (German classification)
Type strain: ATCC 31637, DSM 44102, IFO 14176, N381-16

Name: *Catenuloplanes nepalensis*
Authors: Tamura et al. 1995
Status: New Species
Literature: Int. J. Syst. Bacteriol. 45:860
Risk group: 1 (German classification)
Type strain: IFO 15583, RA343, DSM 44710

Name: *Catenuloplanes niger*
Authors: Tamura et al. 1995
Status: New Species
Literature: Int. J. Syst. Bacteriol. 45:860
Risk group: 1 (German classification)
Type strain: IFO 14177, N406-14, DSM 44711

Genus: *Catenuloplanes*

FH 2533

Species: *japonicus*

Numbers in other collections: ATCC 31637

Morphology:

<u>ISP 2</u>	G	R
	good	bright orange
	A	SP
<u>ISP 3</u>	none	none
	G	R
	good	bright orange
<u>ISP 4</u>	A	SP
	none	none
	G	R
<u>ISP 5</u>	good	bright orange
	A	SP
	white	none
<u>ISP 6</u>	G	R
	sparse	bright orange
	A	SP
<u>ISP 7</u>	none	none
	G	R
	good	bright orange
	A	SP
	none	brown

Spore chains:

Spore surface:

Sporangia:

Fragmentation:

Melanoid pigment: - (+) - -

NaCl resistance: 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

Comments:



Catenuloplanes japonicus

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



Catenuloplanes japonicus

C and D – Agar plates medium 5006, 5318, 5322, 5337 with and without tyrosine