

Note

Taxonomic analyses of members of the *Streptomyces cinnabarinus* cluster, description of *Streptomyces cinnabarigriseus* sp. nov. and *Streptomyces davaonensis* sp. nov.

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International Journal of Systematic and Evolutionary Microbiology

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Supplementary information.

Figure S1: Structures of cinnabaramides A-G and roseoflavin.

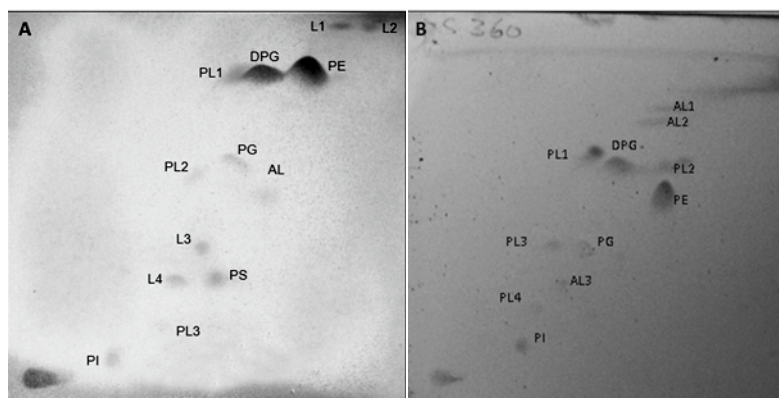


Figure S2. Total polar lipid profile of strain A: *S. davaonensis* (DSM 101723^T) and B: *S. cinnabarrigriseus* (DSM 101724^T) after two-dimensional chromatography stained with molybdotophosphoric acid. PE, phosphatidylethanolamine; DPG, diphosphatidylglycerol, PG, phosphatidylglycerol, PS, phosphatidylserine, PI,

phosphatidylinositol, PL1 - PL3, unknown phospholipids, AL, unknown aminolipid, L1-L4 unknown lipids.

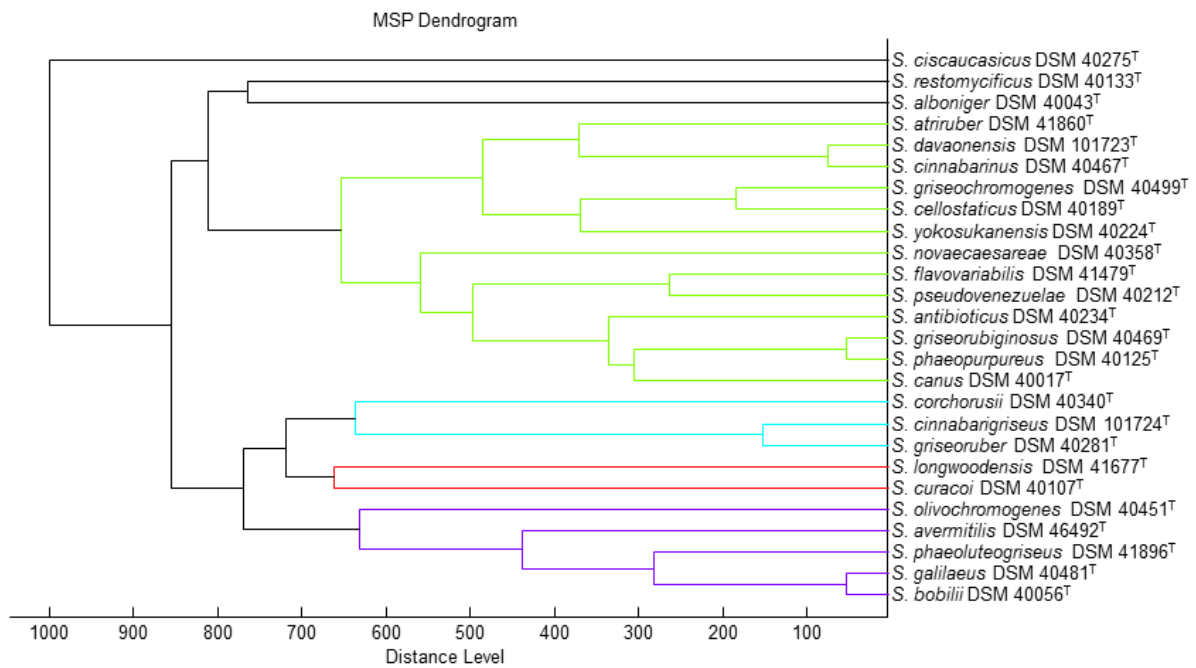


Figure. S3. MALDI-TOF dendrogram of *S. davaonensis* (JCM 4913^T = DSM 101723^T) and *S. cinnabarrigriseus* (JS360^T = DSM 101724^T) and their closest relatives as detected via 16S rRNA analysis.

Table S1: Type strains used in this study and their genome acc. Numbers

Strain name	Strain no.	Genome sequence acc. No`s
1 <i>Streptomyces davaonensis</i>	JCM 4913 = DSM 101723 ^T	HE971709
2 <i>Streptomyces cinnabarinus</i>	DSM 40467 ^T	JNXQ00000000.1
3 <i>Streptomyces cinnabari</i>	DSM 40467 ^T	JNXQ00000000.1
3 <i>Streptomyces cinnabari</i>	JS360 = DSM 101724 ^T	LMXA01000000
4 <i>Streptomyces avermitilis</i>	DSM 46492 ^T	LMWT00000000.1
5 <i>Streptomyces flavovariabilis</i>	DSM 41479 ^T	JNXD00000000.1
6 <i>Streptomyces novaecaesareae</i>	DSM 40358 ^T	JNWQ00000000.1
7 <i>Streptomyces alboniger</i>	DSM 40043 ^T	LIQN00000000.1
8 <i>Streptomyces cellostacticus</i>	DSM 40189 ^T	LMWL00000000.1
9 <i>Streptomyces bobili</i>	DSM 40056 ^T	n.d.
10 <i>Streptomyces galilaeus</i>	DSM 40481 ^T	JRHJ00000000.1
11 <i>Streptomyces griseochromogenes</i>	DSM 40499 ^T	CP016279.1
12 <i>Streptomyces pseudovenezuelae</i>	DSM 40212 ^T	LMWM00000000.1
13 <i>Streptomyces phaeoluteigriseus</i>	DSM 41896 ^T	n.d.
14 <i>Streptomyces atriruber</i>	DSM 41860 ^T	LIPN00000000.1
15 <i>Streptomyces resistomycificus</i>	DSM 40133 ^T	JOBA00000000.1
16 <i>Streptomyces yokosukanensis</i>	DSM 40224 ^T	LMWN01000000
17 <i>Streptomyces olivochromogenes</i>	DSM 40451 ^T	LMWR01000000
18 <i>Streptomyces corchorusii</i>	DSM 40340 ^T	LMWP00000000.1
19 <i>Streptomyces longwoodensis</i>	DSM 41677 ^T	LMWS00000000.1
20 <i>Streptomyces curacoi</i>	DSM 40107 ^T	LMWJ00000000.1
21 <i>Streptomyces antibioticus</i>	DSM 40234 ^T	LGUX00000000.1
22 <i>Streptomyces canus</i>	DSM 40017 ^T	LMWU00000000.1
23 <i>Streptomyces ciscaucasicus</i>	DSM 40275 ^T	LMWO00000000.1
24 <i>Streptomyces griseorubiginosus</i>	DSM 40469 ^T	LMWV00000000.1
25 <i>Streptomyces phaeopurpureus</i>	DSM 40125 ^T	GCA_001513985.1
26 <i>Streptomyces griseoruber</i>	DSM 40281 ^T	LIQS01000000
27 <i>Streptomyces achromogenes</i> subsp. <i>achromogenes</i>	DSM 40028 ^T	JODT00000000.1

n.d. not determined, a genome sequence was not available.

Table S2: Morphological comparison: 1 *S. davaonensis* JCM 4913^T = DSM 101723^T, 2 *S. cinnabarinus* DSM 40467^T, 3 *S. cinnabarinigriseus* JS360^T = DSM 101724^T, 4 *S. avermitilis* DSM 46492^T, 5 *S. flavovariabilis* DSM 41479^T, 6 *S. novaecaesareae* DSM 40358^T, 7 *S. alboniger* DSM 40043^T, 8 *S. cellostaticus* DSM 40189^T, 9 *S. bobili* DSM 40056^T, 10 *S. galilaeus* DSM 40481^T, 11 *S. griseochromogenes* DSM 40499^T, 12 *S. pseudovenezuelae* DSM 40212^T, 13 *S. phaeoluteigriseus* DSM 41896^T, 14 *S. atriruber* DSM 41860^T, 15 *S. resistomycificus* DSM 40133^T, 16 *S. yokosukanensis* DSM 40224^T, 17 *S. olivochromogenes* DSM 40451^T, 18 *S. corchorusii* DSM 40340^T, 19 *S. longwoodensis* DSM 41677^T, 20 *S. curacoii* DSM 40107^T, 21 *S. antibioticus* DSM 40234^T, 22 *S. canus* DSM 40017^T, 23 *S. ciscaucasicus* DSM 40275^T, 24 *S. griseorubiginosus* DSM 40469^T, 25 *S. phaeopurpureus* DSM 40125^T and 26 *S. griseoruber* DSM 40281^T; all data from this study.

Culture medium	1	2	3	4	5	6	7	8	9	10	11	12	13
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ISP 2 SM	Sand yellow	Brown red	Honey yellow	Ochre brown	Bottle green	Brown	Black grey	Brown	Red	Sand Yellow	Ochre yellow	Safran yellow	Lemon yellow
AM	None	Cream	Beige grey	Green grey	White	None	Black grey	Grey	None	Sparse	Oyster white	Sparse	Grey white
SP	None	Salmon pink	None	Ochre brown	None	None	Umbra grey	Brown	None	None	None	None	None
ISP 3 SM	Light pink	Salmon pink	Vermillion	Ochre brown	Green	Brown	Beige	Brown	Red	Sand yellow	Ivory	Maize yellow	Purple viole
AM	Signal white	Cream	Beige grey	Green grey	White	None	Cream	White	None	Sparse	Oyster white	Signal white	Quartz grey
SP	Beige red	Salmon pink	None	None	None	Violet	None	None	None	None	None	None	Claret violet
ISP 4 SM	Ivory	Salmon pink	Red orange	Ochre brown	Colorless	Red brown	Black grey	Yellow	Orange	Sand yellow	Brown beige	Gold yellow	Pale brown
AM	Signal white	Cream	Beige grey	Green grey	White	None	Black grey	White	None	Sparse	Grey beige	None	Cream
SP	None	Salmon pink	None	None	None	None	Black grey	None	None	None	None	None	None
ISP 5 SM	Red orange	Salmon pink	Black red	Ochre brown	Colorless	Yellow	Beige	Brown	Beige	Sand yellow	Ivory	Perle copper	Nut brown
AM	Beige grey	Sparse	Beige grey	Green grey	White	None	Sparse	White	None	None	None	None	Sparse
SP	None	None	None	Ochre brown	None	None	None	None	None	None	None	None	None
ISP 6 SM	Green brown	Olive drab	Beige grey	Ochre brown	Brown	Brown	Beige	Brown	Red	Sand yellow	Khaki grey	Black brown	Pale brown
AM	None	None	None	None	None	None	None	White	None	None	None	None	None
SP	Olive brown	Olive drab	Ochre brown	None	Brown	None	None	Brown	None	Terra brown	None	None	None
ISP 7 SM	Black red	Salmon pink	Black red	Ochre brown	Colorless	Brown	Beige	Brown	Violet	Beige	Khaki grey	Black brown	Pale brown
AM	Beige grey	Sparse	Beige grey	Green grey	None	None	Sparse	None	None	None	None	None	Quartz grey
SP	Olive brown	None	Olive brown	Ochre brown	None	None	None	Brown	None	None	Grey beige	None	None

Culture medium	14	15	16	17	18	19	20	21	22	23	24	25	26
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ISP 2 SM	Sand yellow	Olive brown	Sand yellow	Beige	Dahlia yellow	Brown	Beige	Yellow	Yellow/brown	Brown red	Wine red	No growth	Red
AM	None	None	None	None	Cream	Grey	White	Grey	Grey	Light grey	Light grey		Grey
SP	None	None	None	None	None	None	None	None	None	None	Beige brown		None
ISP 3 SM	Nut brown	Nut brown	Gold yellow	Beige	Lemon yellow	Brown	Colorless	Yellow	Yellow/brown	Brown red	Carmine red	Vermillion	Red
AM	Pearl grey	Signal grey	Beige	None	Light grey	Grey	White	Grey	Grey	Light grey	Light grey	Cream	Grey
SP	Clay brown	None	None	None	None	None	None	None	None	None	Brown beige	Vermillion	None
ISP 4 SM	Oxid red	Fawn brown	Honey yellow	Beige	Beige	Brown	Colorless	Yellow	Yellow/brown	Brown red	Black red	Black red	Red
AM	Sparse	Dusty grey	Beige	None	Light grey	Grey	White	Grey	Grey	Light grey	Silk grey	None	Grey
SP	Salmon pink	None	None	None	None	None	None	None	None	None	None	None	None
ISP 5 SM	Olive brown	Grey brown	Ochre yellow	Beige	Lemon yellow	Brown	Beige	Yellow	Yellow	Ochre brown	Brown beige	Sepia brown	Black
AM	None	Sparse	Brown beige	None	None	Grey	None	Grey	Grey	None	None	Honey yellow	Grey
SP	None	None	None	None	None	None	None	None	None	Ochre brown	None	None	None
ISP 6 SM	Fawn brown	Black brown	Brown beige	Beige	Lemon yellow	Brown	Beige	Yellow	Yellow	Sand yellow	Brown beige	Brown green	Red
AM	None	Sparse	Sparse	None	None	None	None	None	Grey	None	None	None	White
SP	None	None	None	None	None	None	None	None	None	None	Brown beige	None	None
ISP 7 SM	Fawn brown	Black brown	Sepia brown	Beige	Dahlia yellow	Brown	Beige	Yellow	Yellow/brown	Ochre brown	Brown beige	Brown green	Red
AM	None	None	Yellow grey	None	None	Grey	None	Grey	Grey	None	None	None	White
SP	None	None	None	None	None	None	Beige	None	None	Ochre brown	Brown beige	None	None

Table S3: Cellular fatty acids composition of strains DSM 101723^T, DSM 101724^T and next related type strains within the genus *Streptomyces*.

1, strain DSM 101723^T; 2, strain DSM 101724^T; 3, *S. corchorusii* DSM 40340^T; 4, *S. bungoensis* DSM 41781^T; 5, *S. cellostaticus* DSM 40189^T; 6, *S. avermitilis* DSM 46492^T; 7, *S. antibioticus* DSM 40234^T; 8, *S. griseoruber* DSM 40281^T; 9, *S. griseorubiginosus* DSM 40469^T; 10, *S. longwoodensis* DSM 41677^T. TR, < 1%. -, not detected.

Fatty acid	1	2	3	4	5	6	7	8	9	10
Saturated										
C _{14:0}	TR	TR	–	–	TR	TR	TR	TR	–	–
C _{15:0}	1.1	1.5	1.5	TR	1.9	1.0	1.7	2.9	2.1	0.9
C _{16:0}	5.2	12.0	4.3	2.4	4.0	4.9	4.0	8.1	6.3	2.2
C _{17:0}	1.0	TR	TR	–	TR	TR	TR	TR	TR	–
Branched saturated										
<i>Iso</i> -C _{14:0}	TR	3.7	4.5	6.7	2.4	2.6	2.6	2.2	5.6	6.2
<i>Iso</i> -C _{15:0}	11.6	17.7	8.7	13.2	10.5	9.8	21.9	13.6	6.7	8.1
<i>Iso</i> -C _{16:0}	13.4	17.1	19.2	25.3	22.2	16.7	14.2	14.4	28.3	26.3
<i>Iso</i> -C _{17:0}	14.0	5.5	4.2	4.3	5.6	6.9	6.1	2.9	2.5	4.2
<i>Anteiso</i> -C _{15:0}	13.1	15.4	28.1	22.3	21.0	20.0	18.0	22.0	25.6	19.1
<i>Anteiso</i> -C _{17:0}	19.8	6.5	19.4	8.9	15.5	15.4	9.0	10.8	11.3	15.0
Branched mono-unsaturated										
<i>Iso</i> -C _{16:1} H	1.1	3.4	1.2	7.7	3.5	3.3	2.5	4.4	2.5	4.5
<i>Iso</i> -C _{18:1} H	TR	TR	–	TR	TR	TR	TR	–	–	1.1
<i>Anteiso</i> -C _{17:1} C	4.3	1.8	3.1	3.1	4.7	5.2	4.1	5.1	2.4	5.9
<i>Iso</i> -C _{16:1} cis9	2.0	7.9	TR	1.1	2.0	4.4	4.0	6.4	3.2	1.5
<i>Iso</i> -C _{17:1} cis9	1.2	TR	–	TR	TR	TR	TR	1.1	TR	–
<i>Iso</i> -C _{18:1} cis9	–	–	–	–	0.3	–	–	–	–	–
C _{17:0} cyclo	–	1.4	1.1	–	TR	TR	TR	TR	–	–
C _{16:0} 9-methyl	9.9	3.6	1.9	2.7	4.2	6.6	8.7	4.2	1.6	4.2
Unknown 17.595	–	–	1.8	–	TR	TR	–	–	–	TR

