REF 1829023

Language: en

# Release Notes

# MBT Compass Library
# Revision L (2020)

## covering 3239 species/entries (9607 MSP)

*This product has no declared clinical intended purpose and is not for clinical diagnostic use. Any clinical diagnostic use is at the user's own risk and responsibility.*

## Contents

# 1 Overview

## 1.1 What is new with the MBT Compass Library?

- **1161 new reference spectra (MSP)** in total.
- **362 MSP** cover **21 new genera** and **278 new species** (see Table 3).
- **799 new MSP** entries **improve the diversity coverage** of genera/species already present in the MBT Compass reference library (see Table 7).
- **9607 MSP in total**

## 1.2 Main improvements

- New **CLINICAL** species, e.g. *Bordetella* sp., *Clostridium* sp.
- Additional strains of the *Staphylococcus aureus*-related species *Staphylococcus argenteus* and *Staphylococcus schweitzeri* (see also chapter 8.4).
- Extensive increase of species coverage for *Acinetobacter* sp. and *Paenibacillus* sp.
- New **ENVIRONMENTAL** species, e.g. *Aeromicrobium* sp., *Brachybacterium* sp.
- Extensive taxonomical yeast nomenclature update

**The 21 new genera and 278 new species cover the following groups:**

| | New genera | New species | Aerobe species | Microaerophilic species | Anaerobe species |
|---|---|---|---|---|---|
| **Gram -** | 15 | 117 | 103 | 8 | 6 |
| **Gram +** | 6 | 156 | 146 | - | 10 |
| **Yeast** | - | 5 | 5 | - | - |

**Overall improvements:**

| | New MSP (from 1161) | Species covered | Aerobe strains | Microaerophilic strains | Anaerobe strains |
|---|---|---|---|---|---|
| **Gram -** | 498 | 269 | 431 | 24 | 43 |
| **Gram +** | 620 | 436 | 501 | 7 | 112 |
| **Yeast** | 43 | 25 | 43 | - | - |

**MBT Compass Library overall numbers:**

| | MSP | Genus | Species |
|---|---|---|---|
| **Gram -** | 4019 | 270 | 1379 |
| **Gram +** | 4672 | 232 | 1603 |
| **Yeast** | 851 | 66 | 216 |
| **Filamentous Fungi** | 65 | 25 | 41 |
| ∑ | 9607 | 593 | 3239 |

**Use the MBT Compass Library revision L with the following MBT RUO software versions:**

- MALDI Biotyper 3.1
- MALDI Biotyper 4.0 and 4.0 SR1
- MBT Compass
- MBT Compass HT

**Note:** The support of software version MALDI Biotyper 3.0 has been discontinued.

## 1.3 Additional libraries for Research Use Only workflow

New library setups are available and can be installed in parallel with the MBT Compass Library.

**Use the following setups after installing MBT Compass Library:**

- MBT Mycobacteria Library 6.0 (# 1850766)
- MBT Filamentous Fungi Library 3.0 (# 1829014)

or ask your Bruker Sales contact for further available products.

## 1.4 BTyp2.0Sec.Library 1.0 (# 8254705)

The BTyp2.0Sec.Library 1.0 contains additional reference spectra of highly pathogenic microorganisms (e.g. *Brucella* sp.), not included in the MBT 8468 MSP Library. It is used for the identification of species listed under the German war weapons control act and therefore is under legal restrictions in relation to its export.

The BTyp2.0Sec.Library 1.0 currently includes 12 species from 10 genera. The ‘SR’ Library generated after installation will cover the complete MBT SR database content (see Table 1). Due to some limitations of species identification using the MALDI technique, a secondary library (‘SR_BBFV’) has been created. SR_BBFV is reduced to 4 species/groups (see Table 2).

**Table 1: List of species included in 'SR' Library.** Bold font indicates the different genera.

| No. | Species |
|---|---|
| 1 | ***Bacillus*** *anthracis* |
| 2 | ***Brucella*** *melitensis* |
| 3 | ***Burkholderia*** *mallei* |
| 4 | *Burkholderia pseudomallei* |
| 5 | ***Clostridium*** *botulinum* |
| 6 | ***Francisella*** *tularensis* |
| 7 | ***Salmonella*** *paratyphi* |
| 8 | *Salmonella typhi* |
| 9 | ***Shigella*** *dysenteriae* |
| 10 | ***Vibrio*** *cholerae* |
| 11 | ***Xanthomonas*** *albilineans* |
| 12 | ***Yersinia*** *pestis* |

**Table 2: List of species included in 'SR_BBFV' Library.** Bold font indicates the different genera.

| No. | Species |
|---|---|
| 1 | ***Brucella*** *melitensis* |
| 2 | ***Burkholderia*** *mallei* |
| 3 | *Burkholderia pseudomallei* |
| 4 | ***Francisella*** *tularensis* |
| 5 | ***Vibrio*** *cholerae* |

**Note:** Without installation of BTyp2.0Sec.Library 1.0 the highly pathogenic microorganisms included in this library cannot be correctly identified.

Highly pathogenic microorganisms not included in the BTyp2.0Sec.Library 1.0 (e.g. *Bacillus anthracis*) cannot be identified or will be commented within the Matching Hints of closely related less pathogenic microorganisms included in the MBT 8468 MSP Library (e.g. *Bacillus cereus*).

## 1.5 Revision status of the MBT Compass Library Release Notes

Previous revisions of the MBT Compass Library Release Notes were handled as individual documents using the MSP DB-XXXX total numbers as a unique identifier.

Starting with the MBT Compass Library DB-7854, this approach will now be altered to better identify the most recent version of the MBT Compass Library Release Notes.

| Release Notes | Publication Date | Printed Revision | Corrected Document Revision |
|---|---|---|---|
| MBT Compass Library DB-3995 | January 2011 | None | A |
| MBT Compass Library DB-4110 | April 2011 | None | B |
| MBT Compass Library DB-4613 | July 2012 | None | C |
| MBT Compass Library DB-5627 | December 2013 | None | D |
| MBT Compass Library DB-5989 | June 2015 | A | E |
| MBT Compass Library DB-6903 | April 2016 | A | F |
| MBT Compass Library DB-7311 | February 2017 | A | G |
| MBT Compass Library DB-7854 | April 2018 | H | H |
| MBT Compass Library DB-7854 | November 2018 | J | J |
| MBT Compass Library DB-8468 | April 2019 | K | K |
| MBT Compass Library Revision G | November 2020 | L | L |

## 2 New Species

**Table 3: Implementation of MSP entries for the following 278 new species**

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 1 | ***Acetobacter orientalis*** | new species | Gram - | aerobic | FOOD |
| 2 | ***Acidovorax caeni*** | new species | Gram - | aerobic | ENVIRONMENT |
| 3 | ***Acidovorax cattleyae*** | new species | Gram - | aerobic | ENVIRONMENT |
| 4 | ***Acidovorax radicis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 5 | ***Acidovorax soli*** | new species | Gram - | aerobic | ENVIRONMENT |
| 6 | ***Acidovorax valerianellae*** | new species | Gram - | aerobic | ENVIRONMENT |
| 7 | ***Acidovorax wautersii*** | new species | Gram - | aerobic | CLINICAL / ENVIRONMENT |
| 8 | ***Acinetobacter albensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 9 | ***Acinetobacter apis*** | new species | Gram - | aerobic | VETERINARY |
| 10 | ***Acinetobacter boissieri*** | new species | Gram - | aerobic | ENVIRONMENT |
| 11 | ***Acinetobacter celticus*** | new species | Gram - | aerobic | ENVIRONMENT |
| 12 | ***Acinetobacter chinensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 13 | ***Acinetobacter colistiniresistens*** | new species | Gram - | aerobic | CLINICAL |
| 14 | ***Acinetobacter cumulans*** | new species | Gram - | aerobic | ENVIRONMENT |
| 15 | ***Acinetobacter defluvii*** | new species | Gram - | aerobic | ENVIRONMENT |
| 16 | ***Acinetobacter equi*** | new species | Gram - | aerobic | VETERINARY |
| 17 | ***Acinetobacter gandensis*** | new species | Gram - | aerobic | VETERINARY / FOOD |
| 18 | ***Acinetobacter gyllenbergii*** | new species | Gram - | aerobic | CLINICAL |
| 19 | ***Acinetobacter halotolerans*** | new species | Gram - | aerobic | ENVIRONMENT |
| 20 | ***Acinetobacter larvae*** | new species | Gram - | aerobic | VETERINARY |
| 21 | ***Acinetobacter piscicola*** | new species | Gram - | aerobic | VETERINARY |
| 22 | ***Acinetobacter populi*** | new species | Gram - | aerobic | ENVIRONMENT |
| 23 | ***Acinetobacter pragensis*** | new species | Gram - | aerobic | ENVIRONMENT |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 24 | ***Acinetobacter pseudolwoffii*** | new species | Gram - | aerobic | ENVIRONMENT |
| 25 | ***Acinetobacter qingfengensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 26 | ***Acinetobacter sichuanensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 27 | ***Acinetobacter soli*** | new species | Gram - | aerobic | CLINICAL / ENVIRONMENT |
| 28 | ***Acinetobacter wuhouensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 29 | ***Actinobacillus arthritidis*** | new species | Gram - | facultative anaerobic | VETERINARY |
| 30 | ***Actinobacillus capsulatus*** | new species | Gram - | facultative anaerobic | VETERINARY |
| 31 | ***Actinobacillus succinogenes*** | new species | Gram - | facultative anaerobic | INDUSTRY |
| 32 | ***Actinomyces johnsonii*** | new species | Gram + | anaerobic | CLINICAL |
| 33 | ***Actinomyces timonensis*** | new species | Gram + | anaerobic | CLINICAL |
| 34 | ***Aeromicrobium alkaliterrae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 35 | ***Aeromicrobium camelliae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 36 | ***Aeromicrobium erythreum*** | new species | Gram + | aerobic | ENVIRONMENT |
| 37 | ***Aeromicrobium fastidiosum*** | new species | Gram + | aerobic | ENVIRONMENT |
| 38 | ***Aeromicrobium ginsengisoli*** | new species | Gram + | aerobic | ENVIRONMENT |
| 39 | ***Aeromicrobium halocynthiae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 40 | ***Aeromicrobium marinum*** | new species | Gram + | aerobic | ENVIRONMENT |
| 41 | ***Aeromicrobium ponti*** | new species | Gram + | aerobic | ENVIRONMENT |
| 42 | ***Aeromicrobium tamlense*** | new species | Gram + | aerobic | ENVIRONMENT |
| 43 | ***Aliarcobacter thereius*** | new species | Gram - | microaerophilic | VETERINARY |
| 44 | ***Aliarcobacter trophiarum*** | new species | Gram - | microaerophilic | VETERINARY |
| 45 | ***Alteromonas australica*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 46 | ***Anoxybacillus amylolyticus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 47 | ***Anoxybacillus caldiproteolyticus*** | new species | Gram + | aerobic | FOOD |
| 48 | ***Anoxybacillus contaminans*** | new species | Gram + | aerobic | FOOD |
| 49 | ***Anoxybacillus rupiensis*** | new species | Gram + | aerobic | ENVIRONMENT |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 50 | ***Anoxybacillus tepidamans*** | new species | Gram + | aerobic | FOOD |
| 51 | ***Anoxybacillus voinovskiensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 52 | ***Bacillus campisalis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 53 | ***Bacillus chungangensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 54 | ***Bacillus foraminis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 55 | ***Bacillus graminis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 56 | ***Bacillus kyonggiensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 57 | ***Bacillus massiliosenegalensis*** | new species | Gram + | aerobic | CLINICAL |
| 58 | ***Bacillus niabensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 59 | ***Bacillus pocheonensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 60 | ***Bacillus timonensis*** | new species | Gram + | aerobic | CLINICAL |
| 61 | ***Bordetella bronchialis*** | new species | Gram - | aerobic | CLINICAL |
| 62 | ***Bordetella sputigena*** | new species | Gram - | aerobic | CLINICAL |
| 63 | ***Brachybacterium aquaticum*** | new species | Gram + | aerobic | ENVIRONMENT |
| 64 | ***Brachybacterium fresconis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 65 | ***Brachybacterium ginsengisoli*** | new species | Gram + | aerobic | ENVIRONMENT |
| 66 | ***Brachybacterium hainanense*** | new species | Gram + | aerobic | ENVIRONMENT |
| 67 | ***Brachybacterium huguangmaarense*** | new species | Gram + | aerobic | ENVIRONMENT |
| 68 | ***Brachybacterium phenoliresistens*** | new species | Gram + | aerobic | ENVIRONMENT |
| 69 | ***Brachybacterium rhamnosum*** | new species | Gram + | aerobic | ENVIRONMENT |
| 70 | ***Brachybacterium sacelli*** | new species | Gram + | aerobic | ENVIRONMENT |
| 71 | ***Brachybacterium saurashtrense*** | new species | Gram + | aerobic | ENVIRONMENT |
| 72 | ***Brachybacterium zhongshanense*** | new species | Gram + | aerobic | ENVIRONMENT |
| 73 | ***Bradyrhizobium* sp** | new species | Gram - | aerobic | ENVIRONMENT |
| 74 | ***Brevundimonas mediterranea*** | new species | Gram - | aerobic | ENVIRONMENT |
| 75 | ***Brevundimonas* sp[2]** | new species | Gram - | aerobic | ENVIRONMENT |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 76 | ***Buttiauxella* sp** | new species | Gram - | microaerophilic | ENVIRONMENT |
| 77 | ***Candida sphagnicola*** | new species | Yeast | aerobic | ENVIRONMENT |
| 78 | ***Chelatococcus* sp[3]** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 79 | ***Chitinophaga jiangningensis*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 80 | ***Clostridium polynesiense*** | new species | Gram + | anaerobic | CLINICAL |
| 81 | ***Clostridium senegalense*** | new species | Gram + | anaerobic | CLINICAL |
| 82 | ***Corynebacterium provencense*** | new species | Gram + | aerobic | CLINICAL |
| 83 | ***Cupriavidus plantarum*** | new species | Gram - | aerobic | ENVIRONMENT |
| 84 | ***Cupriavidus taiwanensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 85 | ***Debaryomyces maramus*** | new species | Yeast | aerobic | ENVIRONMENT |
| 86 | ***Dietzia cercidiphylli*** | new species | Gram + | aerobic | ENVIRONMENT |
| 87 | ***Dietzia lutea*** | new species | Gram + | aerobic | ENVIRONMENT |
| 88 | ***Eisenbergiella tayi*** | new species | Gram - | anaerobic | CLINICAL |
| 89 | ***Empedobacter stercoris*** | new species | Gram - | aerobic | ENVIRONMENT |
| 90 | ***Escherichia marmotae*** | new species | Gram - | aerobic | ENVIRONMENT |
| 91 | ***Falsiporphyromonas endometrii*** | new genus/species | Gram - | anaerobic | VETERINARY |
| 92 | ***Flavobacterium cucumis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 93 | ***Flavobacterium ginsengisoli*** | new species | Gram - | aerobic | ENVIRONMENT |
| 94 | ***Flavobacterium jumunjinense*** | new species | Gram - | aerobic | ENVIRONMENT |
| 95 | ***Fusobacterium simiae*** | new species | Gram - | anaerobic | VETERINARY |
| 96 | ***Glutamicibacter nicotianae*** | new species | Gram + | aerobic | INDUSTRY |
| 97 | ***Gordonia otitidis*** | new species | Gram + | aerobic | CLINICAL |
| 98 | ***Halobacillus alkaliphilus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 99 | ***Halobacillus faecis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 100 | ***Halobacillus kuroshimensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 101 | ***Halobacillus locisalis*** | new species | Gram + | aerobic | ENVIRONMENT |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 102 | ***Halobacillus mangrovi*** | new species | Gram + | aerobic | ENVIRONMENT |
| 103 | ***Halobacillus naozhouensi*** | new species | Gram + | aerobic | ENVIRONMENT |
| 104 | ***Halobacillus salinus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 105 | ***Halobacillus seohaensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 106 | ***Halobacillus yeomjeoni*** | new species | Gram + | aerobic | ENVIRONMENT |
| 107 | ***Hanseniaspora osmophila*** | new species | Yeast | aerobic | FOOD |
| 108 | ***Ignatzschineria ureiclastica*** | new species | Gram - | aerobic | VETERINARY |
| 109 | ***Janthinobacterium agaricidamnosum*** | new species | Gram - | aerobic | FOOD |
| 110 | ***Jeotgalicoccus coquinae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 111 | ***Jeotgalicoccus pinnipedialis*** | new species | Gram + | aerobic | VETERINARY |
| 112 | ***Jeotgalicoccus psychrophilus*** | new species | Gram + | aerobic | FOOD |
| 113 | ***Kushneria avicenniae*** | new species | Gram - | aerobic | ENVIRONMENT |
| 114 | ***Kushneria marisflavi*** | new species | Gram - | aerobic | ENVIRONMENT |
| 115 | ***Lacrimispora saccharolytica*** | new genus/species | Gram + | anaerobic | ENVIRONMENT |
| 116 | ***Legionella* sp** | new species | Gram - | aerobic | ENVIRONMENT |
| 117 | ***Leifsonia bigeumensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 118 | ***Leifsonia psychrotolerans*** | new species | Gram + | aerobic | ENVIRONMENT |
| 119 | ***Luteimonas abyssi*** | new species | Gram - | aerobic | ENVIRONMENT |
| 120 | ***Lysinibacillus massiliensis*** | new species | Gram + | aerobic | CLINICAL |
| 121 | ***Lysobacter hankyongensis*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 122 | ***Malaciobacter canalis*** | new species | Gram - | microaerophilic | ENVIRONMENT |
| 123 | ***Malaciobacter mytili*** | new species | Gram - | microaerophilic | ENVIRONMENT |
| 124 | ***Mannheimia caviae*** | new species | Gram - | facultative anaerobic | VETERINARY |
| 125 | ***Mannheimia ruminalis*** | new species | Gram - | facultative anaerobic | VETERINARY |
| 126 | ***Methylobacterium sp*** | new species | Gram - | aerobic | ENVIRONMENT |
| 127 | ***Microbacterium gubbeenense*** | new species | Gram + | aerobic | FOOD |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 128 | ***Microbacterium hydrothermale*** | new species | Gram + | aerobic | ENVIRONMENT |
| 129 | ***Microbacterium invictum*** | new species | Gram + | aerobic | ENVIRONMENT |
| 130 | ***Microbacterium* sp** | new species | Gram + | aerobic | CLINICAL |
| 131 | ***Micrococcus endophyticus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 132 | ***Microvirga flocculans*** | new species | Gram - | aerobic | ENVIRONMENT |
| 133 | ***Microvirga lotononidis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 134 | ***Microvirga makkahensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 135 | ***Microvirga subterranea*** | new species | Gram - | aerobic | ENVIRONMENT |
| 136 | ***Mitsuokella multacida*** | new species | Gram - | anaerobic | CLINICAL |
| 137 | ***Mixta intestinalis*** | new species | Gram - | aerobic | CLINICAL |
| 138 | ***Muricoccus roseus*** | new genus/species | Gram + | aerobic | ENVIRONMENT |
| 139 | ***Necropsobacter rosorum*** | new genus/species | Gram - | facultative anaerobic | CLINICAL |
| 140 | ***Neomicrococcus aestuarii*** | new species | Gram - | aerobic | ENVIRONMENT |
| 141 | ***Nocardia iowensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 142 | ***Nosocomiicoccus ampullae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 143 | ***Noviherbaspirillum canariense*** | new species | Gram - | aerobic | ENVIRONMENT |
| 144 | ***Noviherbaspirillum psychrotolerans*** | new species | Gram - | aerobic | ENVIRONMENT |
| 145 | ***Oceanobacillus locisalsi*** | new species | Gram + | aerobic | ENVIRONMENT |
| 146 | ***Ornithinibacillus contaminans*** | new genus/species | Gram + | aerobic | CLINICAL |
| 147 | ***Paenalcaligenes suwonensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 148 | ***Paenibacillus abyssi*** | new species | Gram + | aerobic | ENVIRONMENT |
| 149 | ***Paenibacillus aceris*** | new species | Gram + | aerobic | ENVIRONMENT |
| 150 | ***Paenibacillus alkaliterrae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 151 | ***Paenibacillus arcticus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 152 | ***Paenibacillus azotifigens*** | new species | Gram + | aerobic | ENVIRONMENT |
| 153 | ***Paenibacillus castaneae*** | new species | Gram + | aerobic | ENVIRONMENT |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 154 | ***Paenibacillus cavernae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 155 | ***Paenibacillus cellulosilyticus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 156 | ***Paenibacillus chungangensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 157 | ***Paenibacillus cisolokensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 158 | ***Paenibacillus dakarensis*** | new species | Gram + | aerobic | CLINICAL |
| 159 | ***Paenibacillus elymi*** | new species | Gram + | aerobic | ENVIRONMENT |
| 160 | ***Paenibacillus endophyticus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 161 | ***Paenibacillus etheri*** | new species | Gram + | aerobic | ENVIRONMENT |
| 162 | ***Paenibacillus eucommiae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 163 | ***Paenibacillus faecis*** | new species | Gram + | aerobic | CLINICAL |
| 164 | ***Paenibacillus fonticola*** | new species | Gram + | aerobic | ENVIRONMENT |
| 165 | ***Paenibacillus forsythiae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 166 | ***Paenibacillus ginsengarvi*** | new species | Gram + | aerobic | ENVIRONMENT |
| 167 | ***Paenibacillus ginsengihumi*** | new species | Gram + | aerobic | ENVIRONMENT |
| 168 | ***Paenibacillus harenae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 169 | ***Paenibacillus herberti*** | new species | Gram + | aerobic | ENVIRONMENT |
| 170 | ***Paenibacillus hodogayensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 171 | ***Paenibacillus jilunlii*** | new species | Gram + | aerobic | ENVIRONMENT |
| 172 | ***Paenibacillus konkukensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 173 | ***Paenibacillus konsidensis*** | new species | Gram + | aerobic | CLINICAL |
| 174 | ***Paenibacillus kribbensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 175 | ***Paenibacillus lupini*** | new species | Gram + | aerobic | ENVIRONMENT |
| 176 | ***Paenibacillus marchantiophytorum*** | new species | Gram + | aerobic | ENVIRONMENT |
| 177 | ***Paenibacillus nanensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 178 | ***Paenibacillus panacisoli*** | new species | Gram + | aerobic | ENVIRONMENT |
| 179 | ***Paenibacillus pectinilyticus*** | new species | Gram + | aerobic | VETERINARY |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 180 | ***Paenibacillus physcomitrellae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 181 | ***Paenibacillus pinihumi*** | new species | Gram + | aerobic | ENVIRONMENT |
| 182 | ***Paenibacillus pocheonensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 183 | ***Paenibacillus popilliae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 184 | ***Paenibacillus prosopidis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 185 | ***Paenibacillus pueri*** | new species | Gram + | aerobic | ENVIRONMENT / FOOD |
| 186 | ***Paenibacillus qingshengii*** | new species | Gram + | aerobic | ENVIRONMENT |
| 187 | ***Paenibacillus ripae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 188 | ***Paenibacillus sacheonensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 189 | ***Paenibacillus sediminis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 190 | ***Paenibacillus segetis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 191 | ***Paenibacillus sepulcri*** | new species | Gram + | aerobic | ENVIRONMENT |
| 192 | ***Paenibacillus shenyangensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 193 | ***Paenibacillus shirakamiensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 194 | ***Paenibacillus silagei*** | new species | Gram + | aerobic | ENVIRONMENT |
| 195 | ***Paenibacillus silvae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 196 | ***Paenibacillus sophorae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 197 | ***Paenibacillus sputi*** | new species | Gram + | aerobic | CLINICAL |
| 198 | ***Paenibacillus terreus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 199 | ***Paenibacillus thailandensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 200 | ***Paenibacillus thermoaerophilus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 201 | ***Paenibacillus tibetensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 202 | ***Paenibacillus tylopili*** | new species | Gram + | aerobic | ENVIRONMENT |
| 203 | ***Paenibacillus typhae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 204 | ***Paenibacillus vulneris*** | new species | Gram + | aerobic | CLINICAL |
| 205 | ***Paenibacillus wenxiniae*** | new species | Gram + | aerobic | FOOD |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 206 | ***Paenisporosarcina macmurdoensis*** | new genus/species | Gram + | aerobic | ENVIRONMENT |
| 207 | ***Pantoea vagans*** | new species | Gram - | aerobic | CLINICAL / ENVIRONMENT |
| 208 | ***Paracoccus aminovorans*** | new species | Gram - | aerobic | ENVIRONMENT |
| 209 | ***Paracoccus* sp** | new species | Gram - | aerobic | ENVIRONMENT |
| 210 | ***Pasteurella oralis*** | new species | Gram - | aerobic | CLINICAL / VETERINARY |
| 211 | ***Paucisalibacillus algeriensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 212 | ***Phaeobacter italicus*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 213 | ***Photobacterium leiognathi*** | new species | Gram - | aerobic | VETERINARY |
| 214 | ***Phytobacter ursingii*** | new genus/species | Gram - | facultative anaerobic | CLINICAL |
| 215 | ***Planomicrobium chinense*** | new species | Gram + | aerobic | ENVIRONMENT |
| 216 | ***Planomicrobium glaciei*** | new species | Gram + | aerobic | ENVIRONMENT |
| 217 | ***Polynucleobacter rarus*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 218 | ***Pontibacter actiniarum*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 219 | ***Pontibacter akesuensis*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 220 | ***Pontibacter amylolyticus*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 221 | ***Pontibacter korlensis*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 222 | ***Pontibacter mucosus*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 223 | ***Pontibacter ummariensis*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 224 | ***Pontibacter virosus*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 225 | ***Pseudarcobacter aquimarinus*** | new genus/species | Gram - | microaerophilic | ENVIRONMENT |
| 226 | ***Pseudarcobacter cloacae*** | new genus/species | Gram - | microaerophilic | ENVIRONMENT |
| 227 | ***Pseudarcobacter defluvii*** | new genus/species | Gram - | microaerophilic | ENVIRONMENT |
| 228 | ***Pseudoclavibacter caeni*** | new species | Gram + | aerobic | ENVIRONMENT |
| 229 | ***Pseudoclavibacter chungangensis*** | new species | Gram + | aerobic | ENVIRONMENT |
| 230 | ***Pseudoclavibacter endophyticus*** | new species | Gram + | aerobic | ENVIRONMENT |
| 231 | ***Pseudoclavibacter soli*** | new species | Gram + | aerobic | ENVIRONMENT |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 232 | ***Pseudomonas borbori*** | new species | Gram - | aerobic | ENVIRONMENT |
| 233 | ***Pseudomonas* sp** | new species | Gram - | aerobic | CLINICAL |
| 234 | ***Pyramidobacter piscolens*** | new genus/species | Gram - | anaerobic | CLINICAL |
| 235 | ***Ralstonia* sp** | new species | Gram - | aerobic | ENVIRONMENT |
| 236 | ***Ramlibacter* sp** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 237 | ***Rhizobium selenitireducens*** | new species | Gram - | aerobic | ENVIRONMENT |
| 238 | ***Rhodococcus defluvii*** | new species | Gram + | aerobic | CLINICAL / ENVIRONMENT |
| 239 | ***Roseomonas aceris*** | new species | Gram - | aerobic | ENVIRONMENT |
| 240 | ***Roseomonas aerofrigidensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 241 | ***Roseomonas aquatica*** | new species | Gram - | aerobic | ENVIRONMENT / FOOD |
| 242 | ***Roseomonas lacus*** | new species | Gram - | aerobic | ENVIRONMENT |
| 243 | ***Roseomonas ludipueritiae*** | new species | Gram - | aerobic | ENVIRONMENT |
| 244 | ***Roseomonas oryzicola*** | new species | Gram - | aerobic | ENVIRONMENT |
| 245 | ***Roseomonas vinacea*** | new species | Gram - | aerobic | ENVIRONMENT |
| 246 | ***Rummeliibacillus stabekisii*** | new species | Gram + | aerobic | ENVIRONMENT |
| 247 | ***Salinicoccus roseus*** | new genus/species | Gram + | aerobic | ENVIRONMENT |
| 248 | ***Salinivibrio proteolyticus*** | new species | Gram - | aerobic | ENVIRONMENT |
| 249 | ***Serratia nematodiphila*** | new species | Gram - | aerobic | VETERINARY |
| 250 | ***Shewanella xiamenensis*** | new species | Gram - | aerobic | CLINICAL / ENVIRONMENT |
| 251 | ***Sphingobacterium nematocida*** | new species | Gram - | aerobic | ENVIRONMENT |
| 252 | ***Sporolactobacillus* sp[2]** | new species | Gram + | anaerobic | ENVIRONMENT |
| 253 | ***Sporolactobacillus spathodeae*** | new species | Gram + | anaerobic | ENVIRONMENT |
| 254 | ***Sporosarcina aquimarina*** | new species | Gram + | aerobic | ENVIRONMENT |
| 255 | ***Sporosarcina pasteurii*** | new species | Gram + | aerobic | ENVIRONMENT / INDUSTRY |
| 256 | ***Sporosarcina* sp** | new species | Gram + | aerobic | ENVIRONMENT |
| 257 | ***Staphylococcus massiliensis*** | new species | Gram + | aerobic | CLINICAL |

| | New genus/species | | | | Main relevance |
|---|---|---|---|---|---|
| 258 | ***Starmerella bombicola*** | new species | Yeast | aerobic | ENVIRONMENT / INDUSTRY |
| 259 | ***Stenotrophomonas koreensis*** | new species | Gram - | aerobic | ENVIRONMENT |
| 260 | ***Streptococcus penaeicida*** | new species | Gram + | facultative anaerobic | VETERINARY |
| 261 | ***Streptomyces* sp[3]** | new species | Gram + | aerobic | ENVIRONMENT |
| 262 | ***Terribacillus halophilus*** | new genus/species | Gram + | aerobic | ENVIRONMENT |
| 263 | ***Tetragenococcus halophilus*** | new species | Gram + | aerobic | FOOD |
| 264 | ***Undibacterium macrobrachii*** | new species | Gram - | aerobic | ENVIRONMENT |
| 265 | ***Ureibacillus suwonensis*** | new genus/species | Gram - | aerobic | ENVIRONMENT |
| 266 | ***Ureibacillus thermosphaericus*** | new genus/species | Gram - | aerobic | ENVIRONMENT / INDUSTRY |
| 267 | ***Vagococcus fessus*** | new species | Gram + | anaerobic | VETERINARY |
| 268 | ***Varibaculum anthropi*** | new species | Gram + | anaerobic | CLINICAL |
| 269 | ***Verticiella sediminum*** | new species | Gram - | anaerobic | ENVIRONMENT |
| 270 | ***Vibrio europaeus*** | new species | Gram - | aerobic | VETERINARY |
| 271 | ***Williamsia deligens*** | new species | Gram + | aerobic | CLINICAL |
| 272 | ***Williamsia faeni*** | new species | Gram + | aerobic | ENVIRONMENT |
| 273 | ***Williamsia limnetica*** | new species | Gram + | aerobic | ENVIRONMENT |
| 274 | ***Williamsia maris*** | new species | Gram + | aerobic | ENVIRONMENT |
| 275 | ***Williamsia phyllosphaerae*** | new species | Gram + | aerobic | ENVIRONMENT |
| 276 | ***Williamsia serinedens*** | new species | Gram + | aerobic | CLINICAL / ENVIRONMENT |
| 277 | ***Xylella fastidiosa*** | new genus/species | Gram - | aerobic | ENVIRONMENT / FOOD |
| 278 | ***Yarrowia galli*** | new species | Yeast | aerobic | CLINICAL / VETERINARY |

# 3 Deleted MSP entries

**Table 4: Deleted MSP entries**

| Deletions | Reason |
|---|---|
| **Acinetobacter pittii DSM 9320 DSM** | Doubtful reference ID |
| **Acinetobacter sp DSM 30009 DSM** | |
| **Actinomyces hongkongensis ENR_0065 ENR** | Wrong reference ID |
| **Actinomyces hongkongensis ENR_0105 ENR** | |
| **Arthrobacter crystallopoietes DSM 20117T DSM** | Low spectra quality (polymeric peaks of poly-lysin) |
| **Bacillus sp 57355 RQCL** | Unclear and non-solvable taxonomical situation |
| **Dietzia cinnamea 117 RLT** | Contamination of the reference spectra |
| **Dysgonomonas gadei F_8814_1 IMK** | Wrong reference ID |
| **Glutamicibacter nicotianae IMET 10353T HKJ** | Low spectra quality |
| **Gordonia bronchialis DSM 43247T DSM** | |
| **Lactobacillus fructivorans DSM 20353 DSM** | Doubtful reference ID |
| **Lactobacillus homohiochii DSM 20354 DSM** | |
| **Mycobacterium avium TB_RV422_4_02 UKE** | Low spectra quality (polymeric peaks of poly-lysin) |
| **Nocardia sp MB_9090_05 THL** | Doubtful reference ID |

| Deletions | Reason |
|---|---|
| **Paenibacillus lactis CICC 24043 CICC** | Doubtful reference ID |
| **Paenibacillus sp 09 CTC** | |
| **Pseudarthrobacter polychromogenes DSM 20136T DSM** | Low spectra quality (polymeric peaks of poly-lysin) |
| **Pseudarthrobacter sulfonivorans DSM 14002T DSM** | |
| **Shewanella putrefaciens CCM 2803 CCM** | Wrong reference ID |
| **Sphingomonas aerolata DSM 14746T DSM** | Low spectra quality (polymeric peaks of poly-lysin) |
| **Tsukamurella paurometabola DSM 46065 DSM** | |
| **Veillonella sp[3] 0807M16032801 IBS** | Doubtful reference ID |

# 4 Renaming

**Table 5: Renaming of MSP entries**

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| Acidovorax avenae ssp avenae DSM 7227T HAM | Acidovorax avenae DSM 7227T HAM | According to information from strain collection. |
| *Acidovorax avenae* ssp *citrulli* | *Acidovorax citrulli* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| *Acinetobacter dijkshoorniae* | *Acinetobacter lactucae* | |
| Actinobacillus equuli ssp equuli DSM 19655T DSM | Actinobacillus equuli DSM 19655T DSM | According to information from strain collection. |
| *Actinomyces canis* | *Schaalia canis* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| *Actinomyces cardiffensis* | *Schaalia cardiffensis* | |
| *Actinomyces coleocanis* | *Gleimia coleocanis* | |
| *Actinomyces hominis* | *Gleimia hominis* | |
| *Actinomyces hordeovulneris* | *Buchananella hordeovulneris* | |
| *Actinomyces marimammalium* | *Boudabousia marimammalium* | |
| *Actinomyces nasicola* | *Bowdeniella nasicola* | |
| Actinomyces sp VA_01434_2_09 ERL | Schaalia sp VA_01434_2_09 ERL | |
| *Actinomyces suimastitidis* | *Schaalia suimastitidis* | |
| *Actinomyces vaccimaxillae* | *Schaalia vaccimaxillae* | |
| Alcaligenes sp 091029_c SLT | Paenalcaligenes suwonensis 091029_c SLT | General library maintenance resulted in improved knowledge about strain ID – renaming to correct species now. |
| Anoxybacillus flavithermus ssp flavithermus DSM 21510 DSM | Anoxybacillus flavithermus DSM 21510 DSM | According to information from strain collection. |
| Anoxybacillus flavithermus ssp flavithermus DSM 2641T DSM | Anoxybacillus flavithermus DSM 2641T DSM | |

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| *Arcobacter butzleri* | *Aliarcobacter butzleri* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| *Arcobacter halophilus* | *Malaciobacter halophilus* | |
| *Arcobacter skirrowii* | *Aliarcobacter skirrowii* | |
| *Arthroascus schoenii* | *Saccharomycopsis schoenii* | |
| *Arthrobacter nasiphocae* | *Falsarthrobacter nasiphocae* | |
| *Atopobium parvulum* | *Lancefieldella parvula* | |
| *Atopobium rimae* | *Lancefieldella rimae* | |
| *Atopobium vaginae* | *Fannyhessea vaginae* | |
| *Bacillus weihenstephanensis* | *Bacillus mycoides* | |
| Bifidobacterium animalis ssp animalis DSM 20104T DSM | Bifidobacterium animalis DSM 20104T DSM | According to information from strain collection. |
| *Bifidobacterium coryneforme* | *Bifidobacterium indicum* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| *Bifidobacterium gallinarum* | *Bifidobacterium pullorum* ssp *gallinarum* | |
| Bifidobacterium longum ssp longum DSM 20090 DSM | Bifidobacterium longum ssp infantis DSM 20090 DSM | According to information from strain collection. |
| Bifidobacterium longum ssp longum DSM 20097 DSM | Bifidobacterium longum ssp suis DSM 20097 DSM | |
| Bifidobacterium longum ssp longum DSM 20218 DSM | Bifidobacterium longum ssp infantis DSM 20218 DSM | |
| Bifidobacterium pseudolongum ssp pseudolongum DSM 20094 DSM | Bifidobacterium pseudolongum DSM 20094 DSM | |
| Bifidobacterium pseudolongum ssp pseudolongum DSM 20099T DSM | Bifidobacterium pseudolongum DSM 20099T DSM | |
| *Bifidobacterium saeculare* | *Bifidobacterium pullorum* ssp *saeculare* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| *Bifidobacterium thermacidophilum* ssp *porcinum* | *Bifidobacterium porcinum* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| Bifidobacterium thermacidophilum ssp thermacidophilum DSM 15837T DSM | Bifidobacterium thermacidophilum DSM 15837T DSM | According to information from strain collection. |
| Campylobacter hyointestinalis CCUG 14169T NVU | Campylobacter hyointestinalis ssp hyointestinalis CCUG 14169T NVU | |
| *Candida carpophila* | *Meyerozyma carpophila* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Candida catenulata* | *Diutina catenulata* | |
| *Candida davenportii* | *Starmerella davenportii* | |
| *Candida ernobii* | *Nakazawaea ernobii* | |
| *Candida famata* | *Debaryomyces hansenii* | |
| *Candida guilliermondii* | *Meyerozyma guilliermondii* | |
| *Candida inconspicua* | *Pichia cactophila* | |
| *Candida infanticola* | *Wickerhamiella infanticola* | |
| *Candida kefyr* | *Kluyveromyces marxianus* | |
| *Candida krusei* | *Pichia kudriavzevii* | |
| *Candida lactiscondensi* | *Starmerella lactis-condensi* | |
| *Candida lambica* | *Pichia fermentans* | |
| *Candida lusitaniae* | *Clavispora lusitaniae* | |
| *Candida magnoliae* | *Starmerella magnoliae* | |
| *Candida pararugosa* | *Wickerhamiella pararugosa* | |

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| *Candida peltata* | *Nakazawaea peltata* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Candida pini* | *Ogataea pini* | |
| *Candida rugosa* | *Diutina rugosa* | |
| *Candida shehatae var insectosa* | *Scheffersomyces shehatae* var *insectosa* | |
| *Candida spandovensis* | *Wickerhamiella spandovensis* | |
| *Candida tenuis* | *Yamadazyma tenuis* | |
| *Candida utilis* | *Cyberlindnera jadinii* | |
| *Candida valida* | *Pichia membranifaciens* | |
| *Candida versatilis* | *Wickerhamiella versatilis* | |
| *Candida vini* | *Kregervanrija fluxuum* | |
| *Clostridium aldenense* | *Enterocloster aldensis* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| *Clostridium difficile* | *Clostridioides difficile* | |
| Corynebacterium sp 901400365 LBK | Corynebacterium phoceense 901400365 LBK | General library maintenance resulted in improved knowledge about strain ID – renaming to correct species now. |
| Corynebacterium sp 901600604 LBK | Corynebacterium phoceense 901600604 LBK | |
| *Cryptococcus albidosimilis* | *Naganishia albidosimilis* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Cryptococcus albidus* | *Naganishia albida* | |
| *Cryptococcus curvatus* | *Cutaneotrichosporon curvatum* | |
| *Cryptococcus diffluens* | *Naganishia diffluens* | |
| *Cryptococcus flavescens* | *Papiliotrema flavescens* | |
| *Cryptococcus flavus* | *Saitozyma flava* | |

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| *Cryptococcus gastricus* | *Goffeauzyma gastrica* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Cryptococcus humicola* | *Vanrija humicola* | |
| *Cryptococcus laurentii* | *Papiliotrema laurentii* | |
| *Cryptococcus liquefaciens* | *Naganishia liquefaciens* | |
| *Cryptococcus macerans* | *Cystofilobasidium macerans* | |
| *Cryptococcus magnus* | *Filobasidium magnum* | |
| *Cryptococcus saitoi* | *Naganishia globosa* | |
| *Cryptococcus terreus* | *Solicoccozyma terrea* | |
| *Cryptococcus uzbekistanensis* | *Naganishia uzbekistanensis* | |
| *Cryptococcus vishniacii* | *Naganishia vishniacii* | |
| *Debaryomyces etchellsii* | *Schwanniomyces etchellsii* | |
| Dietzia sp[2] 72094 RQCL | Dietzia papillomatosis 72094 RQCL | General library maintenance resulted in improved knowledge about strain ID – renaming to correct species now. |
| *Dipodascus ingens* | *Magnusiomyces ingens* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Enterobacter xiangfangensis* | *Enterobacter hormaechei* ssp *xiangfangensis* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| *Filobasidium capsuligenum* | *Piskurozyma capsuligena* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| Flavobacterium aquatile DSM 1132T DSM | Flavobacterium hercynium DSM 18292T DSM | Correction of reference names due to sample mix-up during measurement. |
| Flavobacterium cutihirudinis DSM 25795T DSM | Flavobacterium frigoris DSM 15719T DSM | |
| Flavobacterium daejeonense DSM 17708T DSM | Flavobacterium denitrificans DSM 15936T DSM | |
| Flavobacterium defluvii DSM 17963T DSM | Flavobacterium degerlachei DSM 15718T DSM | |
| Flavobacterium degerlachei DSM 15718T DSM | Flavobacterium defluvii DSM 17963T DSM | |
| Flavobacterium flevense DSM 1076T DSM_2 | Flavobacterium granuli DSM 19729T DSM | |
| Flavobacterium frigidarium DSM 17623T DSM | Flavobacterium glaciei DSM 19728T DSM | |
| Flavobacterium frigoris DSM 15719T DSM | Flavobacterium cutihirudinis DSM 25795T DSM | |
| Flavobacterium fryxellicola DSM 16209T DSM | Flavobacterium chungbukense DSM 25688 DSM | |
| Flavobacterium glaciei DSM 19728T DSM | Flavobacterium frigidarium DSM 17623T DSM | |
| Flavobacterium granuli DSM 19729T DSM | Flavobacterium flevense DSM 1076T DSM_2 | |
| Flavobacterium hercynium DSM 18292T DSM | Flavobacterium aquatile DSM 1132T DSM | |
| *Fluoribacter bozemanae* | *Legionella bozemanae* | Consideration of the more common species name. |
| *Fluoribacter dumoffii* | *Legionella dumoffii* | |
| *Fluoribacter gormanii* | *Legionella gormanii* | |
| *Geotrichum capitatum* | *Magnusiomyces capitatus* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Geotrichum silvicola* | *Geotrichum candidum* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| *Guehomyces pullulans* | *Tausonia pullulans* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Issatchenkia terricola* | *Pichia terricola* | |
| *Kocuria koreensis* | *Rothia koreensis* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| Lachancea cidri CBS 4575 CBS | Lachancea cidri CBS 4575T CBS | Cosmetic change – information “T” of an available Type Strain has been added to strain number within the MSP name. |
| Lactobacillus aviarius ssp aviarius DSM 20654 DSM | Lactobacillus aviarius DSM 20654 DSM | According to information from strain collection. |
| Lysinibacillus massiliensis 1I12072947_1e MVD | Lysinibacillus halotolerans 1I12072947_1e MVD | General library maintenance resulted in improved knowledge about strain ID – renaming to correct species now. |
| Millerozyma farinosa DSM 2226T DSM | Millerozyma farinosa DSM 2226 DSM | Cosmetic change – information “T” of an available Type Strain has been removed from strain number within the MSP name. |
| *Mycoplasma bovirhinis* | *Mycoplasmopsis bovirhinis* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| *Mycoplasma bovis* | *Mycoplasmopsis bovis* | |
| *Mycoplasma gallisepticum* | *Mycoplasmoides gallisepticum* | |
| *Mycoplasma hominis* | *Metamycoplasma hominis* | |
| *Mycoplasma hyorhinis* | *Mesomycoplasma hyorhinis* | |
| Peptoniphilus harei 06_622 IBS | Peptoniphilus sp[2] 06_622 IBS | More precise representation of the taxonomical situation. |
| Peptoniphilus harei 08_570 IBS | Peptoniphilus sp[2] 08_570 IBS | |
| Peptoniphilus indolicus ENR_0001 ENR | Peptoniphilus sp[2] ENR_0001 ENR | |
| Peptoniphilus indolicus ENR_0003 ENR | Peptoniphilus sp[2] ENR_0003 ENR | |
| Peptoniphilus indolicus ENR_0423 ENR | Peptoniphilus sp[2] ENR_0423 ENR | |

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| Peptoniphilus indolicus ENR_0430 ENR | Peptoniphilus sp[2] ENR_0430 ENR | More precise representation of the taxonomical situation. |
| *Peptoniphilus rhinitidis* | *Peptoniphilus lacydonensis* | Consideration of the validly published species name. |
| Peptoniphilus sp 110706_K3 LUMC | Peptoniphilus coxii 110706_K3 LUMC | General library maintenance resulted in improved knowledge about strain ID – renaming to correct species now. |
| *Pichia methylivora* | *Ogataea methylivora* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Pseudozyma aphidis* | *Moesziomyces aphidis* | |
| *Rhodococcus kunmingensis* | *Aldersonia kunmingensis* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| *Rhodosporidium* sp | *Rhodotorula* sp | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Rhodosporidium toruloides* | *Rhodotorula toruloides* | |
| *Rhodotorula acheniorum* | *Farysia acheniorum* | |
| *Rhodotorula bacarum* | *Microstroma album* | |
| *Rhodotorula bogoriensis* | *Pseudohyphozyma bogoriensis* | |
| *Rhodotorula minuta* | *Cystobasidium minutum* | |
| *Rhodotorula pustula* | *Pseudohyphozyma pustula* | |
| *Saprochaete clavata* | *Magnusiomyces clavatus* | |
| *Sporidiobolus salmonicolor* | *Sporobolomyces salmonicolor* | |
| Staphylococcus auricularis DSM 20609 DSM | Staphylococcus auricularis DSM 20609T DSM | Cosmetic change – information “T” of an available Type Strain has been added to strain number within the MSP name. |

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| Staphylococcus equorum ssp equorum DSM 20674T DSM | Staphylococcus equorum DSM 20674T DSM | According to information from strain collection. |
| Staphylococcus equorum ssp equorum DSM 20675 DSM | Staphylococcus equorum DSM 20675 DSM | |
| *Tatlockia maceachernii* | *Legionella maceachernii* | Consideration of the more common species name. |
| *Tatlockia micdadei* | *Legionella micdadei* | |
| *Trichosporon cutaneum* | *Cutaneotrichosporon cutaneum* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Trichosporon debeurmannianum* | *Cutaneotrichosporon debeurmannianum* | |
| *Trichosporon dulcitum* | *Apiotrichum dulcitum* | |
| *Trichosporon gracile* | *Apiotrichum gracile* | |
| *Trichosporon jirovecii* | *Cutaneotrichosporon jirovecii* | |
| *Trichosporon laibachii* | *Apiotrichum laibachii* | |
| *Trichosporon loubieri* | *Apiotrichum loubieri* | |
| *Trichosporon moniliiforme* | *Cutaneotrichosporon moniliiforme* | |
| *Trichosporon montevideense* | *Apiotrichum montevideense* | |
| *Trichosporon mucoides* | *Cutaneotrichosporon mucoides* | |
| *Trichosporon mycotoxinivorans* | *Apiotrichum mycotoxinivorans* | |
| *Trichosporon terricola* | *Cutaneotrichosporon terricola* | |
| *Wautersiella falsenii* | *Empedobacter falsenii* | Reclassification of species nomenclature. The former name is still available within the Metadata comment field. |
| Wautersiella falsenii 1942_2016 IMHM | Empedobacter tilapiae 1942_2016 IMHM | General library maintenance resulted in improved knowledge about strain ID – renaming to correct species now. |

| DB-8468 | DB-9607 | Justification |
|---|---|---|
| Xanthomonas campestris DSM 3586T DSM | Xanthomonas campestris DSM 3586T DSM_2 | Cosmetic change |
| Xanthomonas campestris pvar campestris DSM 3586T DSM | Xanthomonas campestris DSM 3586T DSM | According to information from strain collection. |
| Yarrowia lipolytica DSM 70561 DSM | Yarrowia deformans DSM 70561 DSM | |
| *Zygosaccharomyces florentinus* | *Zygotorulaspora florentina* | Yeast nomenclature was substantially updated according recent findings. Please consider section 8.3 for detailed explanation. |
| *Zygosaccharomyces microellipsoides* | *Torulaspora microellipsoides* | |

# 5 Changes to Matching Hints

**Table 6: Matching Hint Changes**

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Acidovorax avenae*<br>*Acidovorax citrulli* | Implement new Matching Hint | For the species avenae / cattleyae / citrulli of the genus Acidovorax the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Therefore, all these species should be taken into consideration as a possible result. |
| *Acidovorax delafieldii* | Implement new Matching Hint | For the species delafieldii / kalamii of the genus Acidovorax the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Statement regarding separation with MALDI is not possible so far. Therefore, all these species should be taken into consideration as a possible result. |
| *Acinetobacter baumannii* | Update wording of Matching Hint | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. | Cosmetical adaptation. |
| *Acinetobacter baylyi* | Update wording of Matching Hint | Species baylyi / soli of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. | Due to the newly implemented species *Acinetobacter soli* implementation of a more precise Matching Hint is needed. |
| *Acinetobacter bereziniae* | Implement new Matching Hint | Species bereziniae / guillouiae / wuhouensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for *Acinetobacter bereziniae* and *Acinetobacter guillouiae* manifests their close relationship to each other and to the newly implemented species *Acinetobacter wuhouensis*. Therefore, a Matching Hint needs to be implemented. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Acinetobacter bouvetii* | Update wording of Matching Hint | Species bouvetii / pragensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. | Due to the newly implemented species *Acinetobacter pragensis* implementation of a more precise Matching Hint is needed. |
| *Acinetobacter calcoaceticus* | Update wording of Matching Hint | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. | Cosmetical adaptation. |
| *Acinetobacter courvalinii*<br>*Acinetobacter dispersus* | Implement new Matching Hint | Species colistiniresistens / courvalinii / dispersus / gyllenbergii / proteolyticus / vivianii of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for *Acinetobacter courvalinii, Acinetobacter disperses, Acinetobacter proteolyticus* and *Acinetobacter vivianii* manifests their close relationship to each other and to the newly implemented species *Acinetobacter colistiniresistens* and *Acinetobacter gyllenbergii*. Therefore, a Matching Hint needs to be implemented. |
| *Acinetobacter gerneri* | Link to Matching Hint deleted | N/A | Due to the improved number of *Acinetobacter* species in the library the very generally formulated Matching Hint is not needed anymore. |
| *Acinetobacter guillouiae* | Implement new Matching Hint | Species bereziniae / guillouiae / wuhouensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for *Acinetobacter bereziniae* and *Acinetobacter guillouiae* manifests their close relationship to each other and to the newly implemented species *Acinetobacter wuhouensis*. Therefore, a Matching Hint needs to be implemented. |
| *Acinetobacter haemolyticus*<br>*Acinetobacter johnsonii*<br>*Acinetobacter junii* | Link to Matching Hint deleted | N/A | Due to the improved number of *Acinetobacter* species in the library the very generally formulated Matching Hint is not needed anymore. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Acinetobacter lactucae* | Update wording of Matching Hint | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. | Cosmetical adaptation. |
| *Acinetobacter lwoffii* | Link to Matching Hint deleted | N/A | Due to the improved number of *Acinetobacte*r species in the library the very generally formulated Matching Hint is not needed anymore. |
| *Acinetobacter nosocomialis* | Update wording of Matching Hint | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. | Cosmetical adaptation. |
| *Acinetobacter parvus* | Link to Matching Hint deleted | N/A | Due to the improved number of *Acinetobacte*r species in the library the very generally formulated Matching Hint is not needed anymore. |
| *Acinetobacter pittii* | Update wording of Matching Hint | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. | Cosmetical adaptation. |
| *Acinetobacter proteolyticus* | Implement new Matching Hint | Species colistiniresistens / courvalinii / dispersus / gyllenbergii / proteolyticus / vivianii of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for *Acinetobacter courvalinii, Acinetobacter disperses, Acinetobacter proteolyticus* and *Acinetobacter vivianii* manifests their close relationship to each other and to the newly implemented species *Acinetobacter colistiniresistens* and *Acinetobacter gyllenbergii*. Therefore, a Matching Hint needs to be implemented. |
| *Acinetobacter puyangensis* | Implement new Matching Hint | Species populi / puyangensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. | Due to the newly implemented species *Acinetobacter populi* implementation of a Matching Hint is needed. |
| *Acinetobacter radioresistens*<br>*Acinetobacter schindleri* | Link to Matching Hint deleted | N/A | Due to the improved number of *Acinetobacte*r species in the library the very generally formulated Matching Hint is not needed anymore. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Acinetobacter seifertii* | Update wording of Matching Hint | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. | Cosmetical adaptation. |
| *Acinetobacter* sp<br>*Acinetobacter tandoii*<br>*Acinetobacter tjernbergiae*<br>*Acinetobacter towneri*<br>*Acinetobacter ursingii* | Link to Matching Hint deleted | N/A | Due to the improved number of *Acinetobacte*r species in the library the very generally formulated Matching Hint is not needed anymore. |
| *Acinetobacter vivianii* | Implement new Matching Hint | Species colistiniresistens / courvalinii / dispersus / gyllenbergii / proteolyticus / vivianii of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for *Acinetobacter courvalinii, Acinetobacter disperses, Acinetobacter proteolyticus* and *Acinetobacter vivianii* manifests their close relationship to each other and to the newly implemented species *Acinetobacter colistiniresistens* and *Acinetobacter gyllenbergii*. Therefore, a Matching Hint needs to be implemented. |
| *Actinobacillus equuli*<br>*Actinobacillus lignieresii*<br>*Actinobacillus pleuropneumoniae*<br>*Actinobacillus suis* | Update wording of Matching Hint | For the species arthritidis / capsulatus / equuli / lignieresii / pleuropneumoniae / suis of the genus Actinobacillus the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Due to the newly implemented species *Actinobacillus arthritidis* and *Actinobacillus capsulatus* the existing Matching Hint needs to be extended. Recent results have shown that these species could not be distinguished by 16S rRNA gene sequencing. Therefore, all these species should be taken into consideration as a possible result. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Actinomyces denticolens* | Implement new Matching Hint | For the species denticolens / timonensis of the genus Actinomyces the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Due to the newly implemented species *Actinomyces timonensis* recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing and by MALDI. Therefore, all these species should be taken into consideration as a possible result. |
| *Actinomyces georgiae* | Link to Matching Hint deleted | N/A | Due to deletion of the wrong reference entries for *Acinomyces hongkongensis* the Matching Hint is not needed anymore. |
| *Bacillus algicola* | Implement new Matching Hint | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. | Achievement of consistency with all other reference entries for *Bacillus* species. |
| *Bacillus cereus*<br>*Bacillus mycoides* | Update wording of Matching Hint | Bacillus anthracis, cereus, mycoides, pseudomycoides and thuringiensis are closely related and members of the Bacillus cereus group. In particular Bacillus cereus spectra are very similar to spectra from Bacillus anthracis. Bacillus anthracis is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional.<br>The quality of spectra (score) depends on the degree of sporulation: Use fresh material. | Due to renaming of *Bacillus weihenstephanensis* to *Bacillus mycoides* an adaptation of the Matching Hint is needed. |
| Bacillus oceanisediminis DSM 24771T DSM | Implement new Matching Hint | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. | Achievement of consistency with all other reference entries for *Bacillus* species. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Bacillus pseudomycoides*<br>*Bacillus thuringiensis* | Update wording of Matching Hint | Bacillus anthracis, cereus, mycoides, pseudomycoides and thuringiensis are closely related and members of the Bacillus cereus group. In particular Bacillus cereus spectra are very similar to spectra from Bacillus anthracis. Bacillus anthracis is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional.<br>The quality of spectra (score) depends on the degree of sporulation: Use fresh material. | Due to renaming of *Bacillus weihenstephanensis* to *Bacillus mycoides* an adaptation of the Matching Hint is needed. |
| *Bifidobacterium porcinum*<br>*Bifidobacterium thermacidophilum*<br>*Bifidobacterium thermophilum* | Update wording of Matching Hint | Species porcinum / thermacidophilum / thermophilum of the genus Bifidobacterium have very similar patterns: Therefore distinguishing their species is difficult. | Due to renaming of *Bifidobacterium thermacidophilum* ssp *porcinum* to *Bifidobacterium porcinum* the Matching Hint needs to be extended. |
| *Brochothrix campestris*<br>*Brochothrix thermosphacta* | Update wording of Matching Hint | For the species campestris / thermosphacta of the genus Brochothrix the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Due to the improved number of reference entries for *Brochothrix thermosphacta* the existing Matching Hint needs to be adjusted. Recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Therefore, all these species should be taken into consideration as a possible result. |
| *Citrobacter amalonaticus* | Update wording of Matching Hint | Is a member of the Citrobacter amalonaticus complex. Species amalonaticus / farmeri of the genus Citrobacter have very similar patterns: Therefore distinguishing their species is difficult. | Results from clinical studies have shown that the Matching Hint could be formulated more precisely. |
| *Citrobacter braakii* | Update wording of Matching Hint | Is a member of the Citrobacter freundii complex. Species braakii / freundii / gillenii / murliniae / rodentium / sedlakii / werkmannii / youngae of the genus Citrobacter have very similar patterns: Therefore distinguishing their species is difficult. | Results from clinical studies have shown that the Matching Hint could be formulated more precisely. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Citrobacter farmeri* | Update wording of Matching Hint | Is a member of the Citrobacter amalonaticus complex. Species amalonaticus / farmeri of the genus Citrobacter have very similar patterns: Therefore distinguishing their species is difficult. | Results from clinical studies have shown that the Matching Hint could be formulated more precisely. |
| *Citrobacter freundii*<br>*Citrobacter gillenii* | Update wording of Matching Hint | Is a member of the Citrobacter freundii complex. Species braakii / freundii / gillenii / murliniae / rodentium / sedlakii / werkmannii / youngae of the genus Citrobacter have very similar patterns: Therefore distinguishing their species is difficult. | Results from clinical studies have shown that the Matching Hint could be formulated more precisely. |
| *Citrobacter koseri* | Link to Matching Hint deleted | N/A | Results from clinical studies have shown that the Matching Hint is not needed anymore. |
| *Citrobacter murliniae*<br>*Citrobacter rodentium*<br>*Citrobacter sedlakii*<br>*Citrobacter youngae* | Update wording of Matching Hint | Is a member of the Citrobacter freundii complex. Species braakii / freundii / gillenii / murliniae / rodentium / sedlakii / werkmannii / youngae of the genus Citrobacter have very similar patterns: Therefore distinguishing their species is difficult. | Results from clinical studies have shown that the Matching Hint could be formulated more precisely. |
| *Clostridioides difficile* | Implement new Matching Hint | synonym of Clostridium difficile | Displays the former, probably better-known name of the species. |
| *Corynebacterium phoceense* | Link to Matching Hint deleted | N/A | Due to the improved number of *Corynebacterium* species in the library the very generally formulated Matching Hint is not needed anymore. |
| *Dietzia natronolimnaea* | Implement new Matching Hint | For the species cercidiphylli / natronolimnaea / psychralcaliphila of the genus Dietzia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Due to the newly implemented species *Dietzia cercidiphylli* recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Statement regarding separation with MALDI is not possible so far. Therefore, all these species should be taken into consideration as a possible result. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Dietzia papillomatosis* | Implement new Matching Hint | For the species cinnamea / papillomatosis of the genus Dietzia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Due to the renaming of a reference entry and hereby the implementation of the new species *Dietzia papillomatosis* recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Therefore, all these species should be taken into consideration as a possible result. |
| *Dysgonomonas capnocytophagoides* | Link to Matching Hint deleted | N/A | Due to the improved number of reference entries for *Dysgonomonas capnocytophagoides* and the replacement of the wrong reference entry for the species *Dysgonomonas gadei* a clear discrimination of these two species is possible now and Therefore, the Matching Hint not needed anymore. |
| *Elizabethkingia anophelis*<br>*Elizabethkingia meningoseptica*<br>*Elizabethkingia miricola* | Update wording of Matching Hint | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. | Due to the improved number of reference entries for the displayed species a more general wording of the Matching Hint is possible now. |
| *Geotrichum candidum* | Link to Matching Hint deleted | N/A | Due to the renaming of *Geotrichum silvicola* to *Geotrichum candidum* the Matching Hint is not needed anymore. |
| *Globicatella sanguinis*<br>*Globicatella sulfidifaciens* | Implement new Matching Hint | For the species sanguinis / sulfidifaciens of the genus Globicatella the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Due to the improved number of reference entries for the displayed species recent results have shown that these species could not be distinguished by 16S rRNA gene sequencing. Therefore, all these species should be taken into consideration as a possible result. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Kluyvera ascorbate*<br>*Kluyvera georgiana* | Implement new Matching Hint | Species ascorbata / georgiana of the genus Kluyvera have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for the displayed species manifests their close relationship. Therefore, a Matching Hint needs to be implemented. |
| *Lactobacillus acidophilus* | Link to Matching Hint deleted | N/A | Due to the improved number of reference entries for *Lactobacillus acidophilus* a clear separation is possible now and Therefore, the Matching Hint is not needed anymore. |
| *Lactobacillus amylovorus* | Update wording of Matching Hint | Species amylovorus / kitasatonis of the genus Lactobacillus have very similar patterns: Therefore distinguishing their species is difficult. | Reassesment of the matching situation leads to an exclusion of the species *Lactobacillus acidophilus* from the Matching Hint. |
| *Lactobacillus crispatus* | Link to Matching Hint deleted | N/A | Du to the improved number of reference entries for *Lactobacillus crispatus* a clear separation is possible now and Therefore, the Matching Hint is not needed anymore. |
| *Lactobacillus gasseri* | Implement new Matching Hint | For the species gasseri / taiwanensis of the genus Lactobacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Statement regarding separation with MALDI is not possible so far. Therefore, all these species should be taken into consideration as a possible result. |
| *Lactobacillus kitasatonis* | Update wording of Matching Hint | Species amylovorus / kitasatonis of the genus Lactobacillus have very similar patterns: Therefore distinguishing their species is difficult. | Due to the improved number of reference entries for *Lactobacillus acidophilus* a clear separation is possible now and Therefore, the Matching Hint needs to be afdjusted. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Lactobacillus ultunensis* | Link to Matching Hint deleted | N/A | Due to the improved number of reference entries for *Lactobacillus crispatus* a clear separation is possible now and Therefore, the Matching Hint is not needed anymore. |
| *Lactococcus garvieae* | Implement new Matching Hint | For the species garvieae / petauri of the genus Lactococcus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Statement regarding separation with MALDI is not possible so far. Therefore, all these species should be taken into consideration as a possible result. |
| *Mannheimia glucosida* | Update wording of Matching Hint | For the species glucosida / ruminalis of the genus Mannheimia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Due to the newly implemented species *Mannheimia ruminalis* the existing Matching Hint needs to be adjusted. *R*ecent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing Therefore, all these species should be taken into consideration as a possible result. |
| *Mixta calida*<br>*Mixta gaviniae* | Update wording of Matching Hint | Species calida / gaviniae / intestinalis of the genus Mixta have very similar patterns: Therefore distinguishing their species is difficult. | Due to the newly implemented species *Mixta intestinalis* an extension of the existing Matching Hint is needed. |
| *Moorella thermoacetica* | Implement new Matching Hint | For the species thermoacetica / thermoautotrophica of the genus Moorella the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Due to the improved number of reference entries for *Moorella thermoacetica* recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Therefore, all these species should be taken into consideration as a possible result. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Nocardia abscessus*<br>*Nocardia arthritidis*<br>*Nocardia asiatica*<br>*Nocardia exalbida* | Implement new Matching Hint | For the species abscessus / arthritidis / asiatica / exalbida of the genus Nocardia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Therefore, all these species should be taken into consideration as a possible result. |
| *Paenibacillus amylolyticus* | Implement new Matching Hint | For the species amylolyticus / cucumis / taichungensis / tundrae / tylopili of the genus Paenibacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. | Due to the newly implemented species *Paenibacillus tylopili* recent results have shown that the displayed species could not be distinguished by 16S rRNA gene sequencing. Therefore, all these species should be taken into consideration as a possible result. |
| *Pasteurella canis* | Implement new Matching Hint | Species canis / oralis of the genus Pasteurella have very similar patterns: Therefore distinguishing their species is difficult. | Due to the newly implemented species *Pasteurella oralis* implementation of a Matching Hint is needed. |
| *Peptoniphilus harei*<br>*Peptoniphilus indolicus* | Link to Matching Hint deleted | N/A | Due to nenaming of reference entries to *Peptoniphilus* sp[2] *a* clear separation is possible now and Therefore, the Matching Hint is not needed anymore. |
| *Peptoniphilus* sp[2] | Link to Matching Hint deleted | N/A | Due to renaming of reference entries the Matching Hint is not needed anymore. |
| *Serratia grimesii*<br>*Serratia liquefaciens* | Update wording of Matching Hint | Species grimesii / liquefaciens / myotis / plymuthica / proteamaculans / quinivorans of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for *Serratia proteamaculans* manifests their close relationship. Therefore, the existing Matching Hint needs to be adjusted. |
| *Serratia marcescens* | Update wording of Matching Hint | Species marcescens / nematodiphila / ureilytica of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. | Due to the newly implemented species *Serratia nematodiphila* the existing Matching Hint needs to be extended. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Serratia plymuthica* | Implement new Matching Hint | Species grimesii / liquefaciens / myotis / plymuthica / proteamaculans / quinivorans of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for *Serratia proteamaculans* manifests their close relationship. Therefore, a Matching Hint needs to be implemented. |
| *Serratia proteamaculans* | Update wording of Matching Hint | Species grimesii / liquefaciens / myotis / plymuthica / proteamaculans / quinivorans of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for *Serratia proteamaculans* manifests their close relationship. Therefore, the existing Matching Hint needs to be adjusted. |
| *Serratia quinivorans* | Implement new Matching Hint | Species grimesii / liquefaciens / myotis / plymuthica / proteamaculans / quinivorans of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. | The improved number of reference entries for *Serratia proteamaculans* manifests their close relationship. Therefore, a Matching Hint needs to be implemented. |
| *Serratia ureilytica* | Update wording of Matching Hint | Species marcescens / nematodiphila / ureilytica of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. | Due to the newly implemented species *Serratia nematodiphila* the existing Matching Hint needs to be extended. |
| *Tsukamurella hongkongensis* | Implement new Matching Hint | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. | Reassesment of the matching situation leads to the implementation of a Matching Hint. |
| *Tsukamurella inchonensis*<br>*Tsukamurella paurometabola*<br>*Tsukamurella pseudospumae*<br>*Tsukamurella pulmonis* | Update wording of Matching Hint | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. | Reassesment of the matching situation leads to a more general wording of the Matching Hint. |
| *Tsukamurella serpentis* | Implement new Matching Hint | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. | Reassesment of the matching situation leads to the implementation of a Matching Hint. |
| *Tsukamurella sinensis* | Update wording of Matching Hint | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. | Reassesment of the matching situation leads to a more general wording of the Matching Hint. |
| *Tsukamurella soli* | Implement new Matching Hint | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. | Reassesment of the matching situation leads to the implementation of a Matching Hint. |

| Species | Action | DB-9607 | Justification |
|---|---|---|---|
| *Tsukamurella spumae*<br>*Tsukamurella strandjordii*<br>*Tsukamurella tyrosinosolvens* | Update wording of Matching Hint | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. | Reassesment of the matching situation leads to a more general wording of the Matching Hint. |
| Weissella cibaria<br>Weissella confusa | Link to Matching Hint deleted | N/A | Due to the improved number of reference entries for *Weissella cibaria* a clear discrimination is possible now and Therefore, the Matching Hint is not needed anymore. |

# 6 Genera/Species improved by implementation of further reference entries

**Table 7: Genera/Species improved**

| | | | |
|---|---|---|---|
| ***Achromobacter mucicolens*** | ***Acinetobacter lactucae*** | ***Acinetobacter vivianii*** | ***Aldersonia kunmingensis*** |
| ***Acidovorax delafieldii*** | ***Acinetobacter lwoffii*** | ***Actinobacillus equuli*** | ***Aliarcobacter butzleri*** |
| ***Acinetobacter baylyi*** | ***Acinetobacter modestus*** | ***Actinobacillus porcinus*** | ***Aliarcobacter skirrowii*** |
| ***Acinetobacter beijerinckii*** | ***Acinetobacter nectaris*** | ***Actinobacillus rossii*** | ***Anaerococcus vaginalis*** |
| ***Acinetobacter bereziniae*** | ***Acinetobacter parvus*** | ***Actinobacillus suis*** | ***Anoxybacillus flavithermus*** |
| ***Acinetobacter bouvetii*** | ***Acinetobacter pittii*** | ***Actinomyces bowdenii*** | ***Arcanobacterium hippocoleae*** |
| ***Acinetobacter brisouii*** | ***Acinetobacter proteolyticus*** | ***Actinomyces denticolens*** | ***Arcanobacterium phocisimile*** |
| ***Acinetobacter courvalinii*** | ***Acinetobacter puyangensis*** | ***Actinomyces naeslundii*** | ***Arthrobacter citreus*** |
| ***Acinetobacter dispersus*** | ***Acinetobacter radioresistens*** | ***Actinomyces oris*** | ***Arthrobacter gandavensis*** |
| ***Acinetobacter gerneri*** | ***Acinetobacter rudis*** | ***Actinomyces radicidentis*** | ***Arthrobacter koreensis*** |
| ***Acinetobacter guillouiae*** | ***Acinetobacter schindleri*** | ***Actinomyces viscosus*** | ***Arthrobacter monumenti*** |
| ***Acinetobacter haemolyticus*** | ***Acinetobacter seifertii*** | ***Actinotignum sanguinis*** | ***Arthrobacter parietis*** |
| ***Acinetobacter harbinensis*** | ***Acinetobacter tandoii*** | ***Actinotignum schaalii*** | ***Arthrobacter pascens*** |
| ***Acinetobacter indicus*** | ***Acinetobacter towneri*** | ***Advenella incenata*** | ***Arthrobacter psychrolactophilus*** |
| ***Acinetobacter johnsonii*** | ***Acinetobacter ursingii*** | ***Advenella kashmirensis*** | ***Arthrobacter roseus*** |
| ***Acinetobacter junii*** | ***Acinetobacter variabilis*** | ***Aerococcus urinae*** | ***Arthrobacter stackebrandtii*** |
| ***Acinetobacter kookii*** | ***Acinetobacter venetianus*** | ***Agromyces rhizospherae*** | ***Arthrobacter tecti*** |

| | | | |
|---|---|---|---|
| ***Arthrobacter tumbae*** | ***Bacillus mycoides*** | ***Bifidobacterium choerinum*** | ***Brevibacterium otitidis*** |
| ***Arthrobacter woluwensis*** | ***Bacillus okhensis*** | ***Bifidobacterium dentium*** | ***Brevibacterium paucivorans*** |
| ***Atopobium deltae*** | ***Bacillus oshimensis*** | ***Bifidobacterium gallicum*** | ***Brevibacterium ravenspurgense*** |
| ***Atopobium fossor*** | ***Bacillus subterraneus*** | ***Bifidobacterium indicum*** | ***Brevibacterium senegalense*** |
| ***Bacillus algicola*** | ***Bacillus thioparans*** | ***Bifidobacterium longum*** | ***Brochothrix thermosphacta*** |
| ***Bacillus amyloliquefaciens*** | ***Bacteroides eggerthii*** | ***Bifidobacterium magnum*** | ***Buchananella hordeovulneris*** |
| ***Bacillus asahii*** | ***Bacteroides finegoldii*** | ***Bifidobacterium minimum*** | ***Campylobacter fetus*** |
| ***Bacillus badius*** | ***Bacteroides helcogenes*** | ***Bifidobacterium porcinum*** | ***Campylobacter hyointestinalis*** |
| ***Bacillus benzoevorans*** | ***Bacteroides massiliensis*** | ***Bifidobacterium pseudocatenulatum*** | ***Candida nemodendra*** |
| ***Bacillus circulans*** | ***Bacteroides stercoris*** | ***Bifidobacterium pseudolongum*** | ***Candida norvegica*** |
| ***Bacillus clausii*** | ***Bergeyella zoohelcum*** | ***Bifidobacterium pullorum*** | ***Candida parapsilosis*** |
| ***Bacillus coagulans*** | ***Bifidobacterium adolescentis*** | ***Bifidobacterium ruminantium*** | ***Candida tropicalis*** |
| ***Bacillus firmus*** | ***Bifidobacterium angulatum*** | ***Bifidobacterium thermacidophilum*** | ***Carnobacterium gallinarum*** |
| ***Bacillus galliciensis*** | ***Bifidobacterium animalis*** | ***Bisgaardia hudsonensis*** | ***Carnobacterium maltaromaticum*** |
| ***Bacillus halosaccharovorans*** | ***Bifidobacterium asteroides*** | ***Boudabousia marimammalium*** | ***Cedecea davisae*** |
| ***Bacillus idriensis*** | ***Bifidobacterium bifidum*** | ***Brachybacterium muris*** | ***Chryseobacterium pallidum*** |
| ***Bacillus infantis*** | ***Bifidobacterium boum*** | ***Brevibacterium casei*** | ***Chryseobacterium shandongense*** |
| ***Bacillus licheniformis*** | ***Bifidobacterium breve*** | ***Brevibacterium celere*** | ***Clostridium beijerinckii*** |
| ***Bacillus mojavensis*** | ***Bifidobacterium catenulatum*** | ***Brevibacterium luteolum*** | ***Clostridium cadaveris*** |

| | | | |
|---|---|---|---|
| ***Clostridium sartagoforme*** | ***Deinococcus aerolatus*** | ***Escherichia hermannii*** | ***Glutamicibacter bergerei*** |
| ***Clostridium saudiense*** | ***Deinococcus proteolyticus*** | ***Eubacterium tenue*** | ***Glutamicibacter creatinolyticus*** |
| ***Clostridium tetani*** | ***Deinococcus wulumuqiensis*** | ***Falsarthrobacter nasiphocae*** | ***Glutamicibacter mysorens*** |
| ***Comamonas aquatica*** | ***Dermabacter vaginalis*** | ***Fastidiosipila sanguinis*** | ***Gordonia bronchialis*** |
| ***Comamonas terrigena*** | ***Dermacoccus nishinomiyaensis*** | ***Fenollaria massiliensis*** | ***Gordonia sputi*** |
| ***Corynebacterium argentoratense*** | ***Desemzia incerta*** | ***Flavobacterium chungbukense*** | ***Hanseniaspora valbyensis*** |
| ***Corynebacterium auriscanis*** | ***Desulfovibrio simplex*** | ***Flavobacterium columnare*** | ***Hanseniaspora vineae*** |
| ***Corynebacterium confusum*** | ***Dietzia cinnamea*** | ***Flavobacterium daejeonense*** | ***Hathewaya histolytica*** |
| ***Corynebacterium durum*** | ***Dietzia papillomatosis*** | ***Flavobacterium fryxellicola*** | ***Histophilus somni*** |
| ***Corynebacterium imitans*** | ***Dysgonomonas capnocytophagoides*** | ***Flavobacterium gelidilacus*** | ***Hungatella hathewayi*** |
| ***Corynebacterium jeikeium*** | ***Dysgonomonas gadei*** | ***Flavobacterium limicola*** | ***Hydrogenibacillus schlegelii*** |
| ***Corynebacterium kroppenstedtii*** | ***Elizabethkingia anophelis*** | ***Flavonifractor plautii*** | ***Ideonella dechloratans*** |
| ***Corynebacterium phoceense*** | ***Elizabethkingia meningoseptica*** | ***Frederiksenia canicola*** | ***Ignatzschineria indica*** |
| ***Corynebacterium pyruviciproducens*** | ***Elizabethkingia miricola*** | ***Fusobacterium varium*** | ***Inquilinus limosus*** |
| ***Corynebacterium renale*** | ***Empedobacter brevis*** | ***Geotrichum candidum*** | ***Janibacter hoylei*** |
| ***Corynebacterium simulans*** | ***Empedobacter falsenii*** | ***Globicatella sanguinis*** | ***Janibacter indicus*** |
| ***Corynebacterium tuberculostearicum*** | ***Enterocloster aldensis*** | ***Globicatella sulfidifaciens*** | ***Kandleria vitulina*** |
| ***Corynebacterium ulcerans*** | ***Enterococcus malodoratus*** | ***Glutamicibacter ardleyensis*** | ***Kerstersia gyiorum*** |
| ***Cupriavidus basilensis*** | ***Enterococcus raffinosus*** | ***Glutamicibacter arilaitensis*** | ***Kingella oralis*** |

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|---|---|---|---|
| ***Kluyvera ascorbata*** | ***Lactobacillus collinoides*** | ***Lactobacillus vaginalis*** | ***Microbacterium imperiale*** |
| ***Kluyvera cryocrescens*** | ***Lactobacillus crispatus*** | ***Lactobacillus zymae*** | ***Microbacterium ketosireducens*** |
| ***Kluyvera georgiana*** | ***Lactobacillus delbrueckii*** | ***Lactococcus garvieae*** | ***Microbacterium koreense*** |
| ***Kocuria palustris*** | ***Lactobacillus farciminis*** | ***Legionella maceachernii*** | ***Microbacterium lacticum*** |
| ***Kodamaea ohmeri*** | ***Lactobacillus frumenti*** | ***Leptotrichia trevisanii*** | ***Microbacterium laevaniformans*** |
| ***Kosakonia cowanii*** | ***Lactobacillus fuchuensis*** | ***Leuconostoc lactis*** | ***Microbacterium liquefaciens*** |
| ***Kurthia gibsonii*** | ***Lactobacillus gallinarum*** | ***Listeria costaricensis*** | ***Microbacterium maritypicum*** |
| ***Kurthia zopfii*** | ***Lactobacillus gasseri*** | ***Megasphaera elsdenii*** | ***Microbacterium oleivorans*** |
| ***Kytococcus schroeteri*** | ***Lactobacillus gastricus*** | ***Metschnikowia reukaufii*** | ***Microbacterium oxydans*** |
| ***Kytococcus sedentarius*** | ***Lactobacillus hamsteri*** | ***Microbacterium aerolatum*** | ***Microbacterium paludicola*** |
| ***Lachancea fermentati*** | ***Lactobacillus helveticus*** | ***Microbacterium arborescens*** | ***Microbacterium paraoxydans*** |
| ***Lachnoanaerobaculum orale*** | ***Lactobacillus iners*** | ***Microbacterium aurum*** | ***Microbacterium phyllosphaerae*** |
| ***Lactobacillus acidifarinae*** | ***Lactobacillus johnsonii*** | ***Microbacterium barkeri*** | ***Microbacterium resistens*** |
| ***Lactobacillus acidipiscis*** | ***Lactobacillus kefiri*** | ***Microbacterium dextranolyticum*** | ***Microbacterium* sp** |
| ***Lactobacillus acidophilus*** | ***Lactobacillus paracasei*** | ***Microbacterium flavescens*** | ***Microbacterium terrae*** |
| ***Lactobacillus amylovorus*** | ***Lactobacillus pontis*** | ***Microbacterium ginsengisoli*** | ***Microbacterium terregens*** |
| ***Lactobacillus apodemi*** | ***Lactobacillus rhamnosus*** | ***Microbacterium halotolerans*** | ***Microbacterium testaceum*** |
| ***Lactobacillus aviarius*** | ***Lactobacillus salivarius*** | ***Microbacterium hominis*** | ***Microbacterium thalassium*** |
| ***Lactobacillus coleohominis*** | ***Lactobacillus sanfranciscensis*** | ***Microbacterium hydrocarbonoxydans*** | ***Microbacterium ulmi*** |

| | | | |
|---|---|---|---|
| ***Micrococcus flavus*** | ***Nocardiopsis dassonvillei*** | ***Paeniglutamicibacter sulfureus*** | ***Peptoniphilus lacydonensis*** |
| ***Micrococcus terreus*** | ***Oceanobacillus caeni*** | ***Pantoea septica*** | ***Peptoniphilus olsenii*** |
| ***Mixta calida*** | ***Oceanobacillus kimchii*** | ***Parabacteroides faecis*** | ***Peptoniphilus tyrrelliae*** |
| ***Mixta gaviniae*** | ***Oceanobacillus oncorhynchi*** | ***Parabacteroides johnsonii*** | ***Peptostreptococcus canis*** |
| ***Moellerella wisconsensis*** | ***Paenalcaligenes suwonensis*** | ***Parabacteroides merdae*** | ***Photobacterium iliopiscarium*** |
| ***Moesziomyces aphidis*** | ***Paenarthrobacter histidinolovorans*** | ***Paracoccus denitrificans*** | ***Pichia cactophila*** |
| ***Moorella thermoacetica*** | ***Paenarthrobacter ilicis*** | ***Paracoccus yeei*** | ***Pichia kudriavzevii*** |
| ***Moraxella atlantae*** | ***Paenarthrobacter nicotinovorans*** | ***Pasteurella aerogenes*** | ***Porphyromonas levii*** |
| ***Murdochiella asaccharolytica*** | ***Paenibacillus agaridevorans*** | ***Pasteurella bettyae*** | ***Prevotella baroniae*** |
| ***Nakazawaea ernobii*** | ***Paenibacillus anaericanus*** | ***Pasteurella canis*** | ***Prevotella bergensis*** |
| ***Negativicoccus succinicivorans*** | ***Paenibacillus chibensis*** | ***Pasteurella dagmatis*** | ***Prevotella disiens*** |
| ***Neisseria dumasiana*** | ***Paenibacillus hunanensis*** | ***Pasteurella stomatis*** | ***Prevotella nanceiensis*** |
| ***Neisseria oralis*** | ***Paenibacillus macquariensis*** | ***Pauljensenia hongkongensis*** | ***Prevotella oralis*** |
| ***Neisseria zoodegmatis*** | ***Paenibacillus pasadenensis*** | ***Pediococcus acidilactici*** | ***Prevotella oris*** |
| ***Nocardia abscessus*** | ***Paenibacillus provencensis*** | ***Pediococcus pentosaceus*** | ***Prevotella salivae*** |
| ***Nocardia brasiliensis*** | ***Paenibacillus residui*** | ***Peptococcus niger*** | ***Priceomyces carsonii*** |
| ***Nocardia salmonicida*** | ***Paenibacillus timonensis*** | ***Peptoniphilus coxii*** | ***Propionibacterium australiense*** |
| ***Nocardia wallacei*** | ***Paenibacillus urinalis*** | ***Peptoniphilus harei*** | ***Providencia heimbachae*** |
| ***Nocardiopsis alba*** | ***Paeniglutamicibacter kerguelensis*** | ***Peptoniphilus ivorii*** | ***Pseudarthrobacter oxydans*** |

| | | | |
|---|---|---|---|
| ***Pseudarthrobacter polychromogenes*** | ***Rummeliibacillus pycnus*** | ***Stenotrophomonas acidaminiphila*** | ***Trueperella abortisuis*** |
| ***Pseudarthrobacter scleromae*** | ***Saccharomyces paradoxus*** | ***Streptococcus dentirousetti*** | ***Tsukamurella pulmonis*** |
| ***Pseudarthrobacter sulfonivorans*** | ***Salinivibrio costicola*** | ***Streptococcus dysgalactiae*** | ***Varibaculum cambriense*** |
| ***Pseudescherichia vulneris*** | ***Schaalia canis*** | ***Streptococcus equi_ssp_equi*** | ***Veillonella atypica*** |
| ***Pseudomonas alcaligenes*** | ***Serratia proteamaculans*** | ***Streptococcus equinus*** | ***Vibrio natriegens*** |
| ***Pseudomonas graminis*** | ***Sinomonas atrocyanea*** | ***Streptococcus gordonii*** | ***Virgibacillus halodenitrificans*** |
| ***Pseudomonas guariconensis*** | ***Solobacterium moorei*** | ***Streptococcus mutans*** | ***Virgibacillus pantothenticus*** |
| ***Pseudomonas kuykendallii*** | ***Sphingomonas aerolata*** | ***Streptococcus pluranimalium*** | ***Weissella cibaria*** |
| ***Pseudomonas pohangensis*** | ***Sporosarcina luteola*** | ***Streptococcus porci*** | ***Weissella paramesenteroides*** |
| ***Pseudomonas segetis*** | ***Staphylococcus argenteus*** | ***Streptococcus pyogenes*** | ***Wohlfahrtiimonas chitiniclastica*** |
| ***Pseudopropionibacterium propionicum*** | ***Staphylococcus aureus*** | ***Streptococcus salivarius*** | ***Xanthomonas arboricola*** |
| ***Pseudoxanthomonas spadix*** | ***Staphylococcus chromogenes*** | ***Streptococcus suis*** | ***Xanthomonas bromi*** |
| ***Psychrobacter piechaudii*** | ***Staphylococcus cohnii*** | ***Streptococcus thoraltensis*** | ***Xanthomonas campestris*** |
| ***Rahnella aquatilis*** | ***Staphylococcus epidermidis*** | ***Streptococcus uberis*** | ***Xanthomonas codiaei*** |
| ***Ralstonia insidiosa*** | ***Staphylococcus equorum*** | ***Streptomyces thermoviolaceus*** | ***Xanthomonas cucurbitae*** |
| ***Raoultella planticola*** | ***Staphylococcus kloosii*** | ***Taylorella equigenitalis*** | ***Xanthomonas cynarae*** |
| ***Raoultella terrigena*** | ***Staphylococcus lentus*** | ***Tissierella praeacuta*** | ***Xanthomonas hortorum*** |
| ***Roseomonas mucosa*** | ***Staphylococcus schweitzeri*** | ***Torulaspora delbrueckii*** | ***Xanthomonas hyacinthi*** |
| ***Rothia koreensis*** | ***Starmerella magnoliae*** | ***Trichomonascus ciferrii*** | ***Xanthomonas perforans*** |

| | | | |
|---|---|---|---|
| ***Xanthomonas pisi*** | ***Xanthomonas theicola*** | ***Xanthomonas vasicola*** | ***Yarrowia deformans*** |

# 7 Installation Instructions

- Make sure that the previously installed library has been updated with the last update: 8468 MSP.
  If not, please contact Bruker.
- Run the RUO setup file: *MaldiBiotyperDBUpdate_V10.0.0.0_8468-9607(RUO).exe*.

  **Note:** To run setups requires administrator rights and can take several hours to complete. Please be aware that a once started MSP library update must not be interrupted. Any interruption would leave the installed MSP library in an intermediate and therefore invalid state.

  **Note:** Users of laboratory-specific specimen codes please refer to section 8.2.
- After successful installation, the appropriate MBT-RUO client applications will use the updated MBT Compass Library containing 9607 MSP.

- For ***MBT Compass HT*** system the library installation is done via installing the appropriate library module. Please do the following:
  - Log into the MBT Compass HT software as ***Laboratory Manager***.
  - Visit the menu ***Configuration > Modules > Local*** and select ***Browse for module***.
  - Select the library module archive *MaldiBiotyperLibrary_Module_V10.0.0.0_9607-MSPs_(RUO).zip* from the *MBT Compass Library* installation package (subfolder *MBT-Compass-HT*)
  - Click on ***Install***.

# 8 Appendix

## 8.1 Matching Hints

The following table lists the Matching Hints included in the MBT Compass Library.

**Table 8: Matching Hints**

| Genus/Species | Matching Hint |
|---|---|
| ***Acetobacter aceti*** | For the species aceti / cerevisiae / farinalis / malorum / orleanensis / persici of the genus Acetobacter the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Acetobacter cerevisiae*** | |
| ***Acetobacter malorum*** | |
| ***Acetobacter persici*** | |
| ***Achromobacter ruhlandii*** | Species ruhlandii / xylosoxidans of the genus Achromobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Achromobacter xylosoxidans*** | |
| ***Acidovorax avenae*** | For the species avenae / cattleyae / citrulli of the genus Acidovorax the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Acidovorax cattleyae*** | |
| ***Acidovorax citrulli*** | |
| ***Acidovorax delafieldii*** | For the species delafieldii / kalamii of the genus Acidovorax the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Acidovorax valerianellae*** | For the species valerianellae / wautersii of the genus Acidovorax the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Acidovorax wautersii*** | |
| ***Acinetobacter baumannii*** | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. |
| ***Acinetobacter baylyi*** | Species baylyi / soli of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Acinetobacter bereziniae*** | Species bereziniae / guillouiae / wuhouensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter bouvetii*** | Species bouvetii / pragensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter calcoaceticus*** | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. |
| ***Acinetobacter colistiniresistens*** | Species colistiniresistens / courvalinii / dispersus / gyllenbergii / proteolyticus / vivianii of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter courvalinii*** | |
| ***Acinetobacter dispersus*** | |
| ***Acinetobacter guillouiae*** | Species bereziniae / guillouiae / wuhouensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter gyllenbergii*** | Species colistiniresistens / courvalinii / dispersus / gyllenbergii / proteolyticus / vivianii of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter lactucae*** | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. |
| ***Acinetobacter nosocomialis*** | |
| ***Acinetobacter pittii*** | |
| ***Acinetobacter populi*** | Species populi / puyangensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter pragensis*** | Species bouvetii / pragensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter proteolyticus*** | Species colistiniresistens / courvalinii / dispersus / gyllenbergii / proteolyticus / vivianii of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter puyangensis*** | Species populi / puyangensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter seifertii*** | Member of the Acinetobacter baumannii complex. Extraction must be performed to permit reliable species identification. |
| ***Acinetobacter soli*** | Species baylyi / soli of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Acinetobacter vivianii*** | Species colistiniresistens / courvalinii / dispersus / gyllenbergii / proteolyticus / vivianii of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Acinetobacter wuhouensis*** | Species bereziniae / guillouiae / wuhouensis of the genus Acinetobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Actinobacillus arthritidis*** | For the species arthritidis / capsulatus / equuli / lignieresii / pleuropneumoniae / suis of the genus Actinobacillus the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Actinobacillus capsulatus*** | |
| ***Actinobacillus equuli*** | |
| ***Actinobacillus lignieresii*** | |
| ***Actinobacillus pleuropneumoniae*** | |
| ***Actinobacillus suis*** | |
| ***Actinomyces denticolens*** | For the species denticolens / timonensis of the genus Actinomyces the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Actinomyces timonensis*** | |
| ***Actinotignum sanguinis*** | Species sanguinis / schaalii of the genus Actinotignum have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Actinotignum schaalii*** | Synonym of Actinobaculum schaalii. Species sanguinis / schaalii of the genus Actinotignum have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Advenella incenata*** | For the species incenata / kashmirensis of the genus Advenella the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Advenella kashmirensis*** | |
| ***Aeribacillus pallidus*** | For the species composti / pallidus of the genus Aeribacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Aerococcus viridans*** | Aerococcus viridans is/are closely related to the rare species Aerococcus urinaeequi which is/are not included in the MALDI Biotyper database. |
| ***Aeromicrobium ginsengisoli*** | For the species ginsengisoli / panaciterrae of the genus Aeromicrobium the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Aeromonas bestiarum*** | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Aeromonas caviae*** | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Aeromonas encheleia*** | |
| ***Aeromonas enteropelogenes*** | |
| ***Aeromonas eucrenophila*** | |
| ***Aeromonas hydrophila*** | |
| ***Aeromonas ichthiosmia*** | |
| ***Aeromonas jandaei*** | |
| ***Aeromonas media*** | |
| ***Aeromonas molluscorum*** | |
| ***Aeromonas popoffii*** | |
| ***Aeromonas punctata*** | |
| ***Aeromonas salmonicida*** | |
| ***Aeromonas schubertii*** | |
| ***Aeromonas simiae*** | |
| ***Aeromonas sobria*** | |
| ***Aeromonas* sp[2]** | |
| ***Aeromonas veronii*** | |
| ***Aggregatibacter aphrophilus*** | synonym of Haemophilus aphrophilus |
| ***Amycolatopsis alba*** | For the species alba / azurea / coloradensis / japonica / keratiniphila / lurida / orientalis of the genus Amycolatopsis the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Amycolatopsis azurea*** | For the species alba / azurea / coloradensis / japonica / keratiniphila / lurida / orientalis of the genus Amycolatopsis the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Amycolatopsis balhimycina*** | Species balhimycina / kentuckyensis / lexingtonensis / mediterranei / pretoriensis / sulphurea / tolypomycina of the genus Amycolatopsis have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Amycolatopsis coloradensis*** | For the species alba / azurea / coloradensis / japonica / keratiniphila / lurida / orientalis of the genus Amycolatopsis the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Amycolatopsis japonica*** | |
| ***Amycolatopsis kentuckyensis*** | Species balhimycina / kentuckyensis / lexingtonensis / mediterranei / pretoriensis / sulphurea / tolypomycina of the genus Amycolatopsis have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Amycolatopsis keratiniphila*** | For the species alba / azurea / coloradensis / japonica / keratiniphila / lurida / orientalis of the genus Amycolatopsis the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Amycolatopsis lexingtonensis*** | Species balhimycina / kentuckyensis / lexingtonensis / mediterranei / pretoriensis / sulphurea / tolypomycina of the genus Amycolatopsis have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Amycolatopsis lurida*** | For the species alba / azurea / coloradensis / japonica / keratiniphila / lurida / orientalis of the genus Amycolatopsis the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Amycolatopsis mediterranei*** | Species balhimycina / kentuckyensis / lexingtonensis / mediterranei / pretoriensis / sulphurea / tolypomycina of the genus Amycolatopsis have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Amycolatopsis pretoriensis*** | |
| ***Amycolatopsis sulphurea*** | |
| ***Amycolatopsis tolypomycina*** | |
| ***Anoxybacillus amylolyticus*** | Species amylolyticus / contaminans / voinovskiensis of the genus Anoxybacillus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Anoxybacillus contaminans*** | |
| ***Anoxybacillus flavithermus*** | For the species eryuanensis / flavithermus / kestanbolensis / mongoliensis of the genus Anoxybacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Anoxybacillus rupiensis*** | For the species geothermalis / rupiensis of the genus Anoxybacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Anoxybacillus voinovskiensis*** | Species amylolyticus / contaminans / voinovskiensis of the genus Anoxybacillus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Arthrobacter castelli*** | Species tend to produce polymers which can interfere with the identification. |
| ***Arthrobacter pigmenti*** | |
| ***Bacillus acidicola*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus agaradhaerens*** | |
| ***Bacillus akibai*** | |
| ***Bacillus alcalophilus*** | |
| ***Bacillus algicola*** | |
| ***Bacillus altitudinis*** | |
| ***Bacillus alveayuensis*** | |
| ***Bacillus amyloliquefaciens*** | is a member of Bacillus subtilis group. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus amyloliquefaciens_ssp_plantarum*** | |
| ***Bacillus aquimaris*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus asahii*** | |
| ***Bacillus atrophaeus*** | is a member of Bacillus subtilis group. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus azotoformans*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus badius*** | |
| ***Bacillus bataviensis*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Bacillus benzoevorans*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus beringensis*** | |
| ***Bacillus campisalis*** | |
| ***Bacillus carboniphilus*** | |
| ***Bacillus cellulosilyticus*** | |
| ***Bacillus cereus*** | Bacillus anthracis, cereus, mycoides, pseudomycoides and thuringiensis are closely related and members of the Bacillus cereus group. In particular Bacillus cereus spectra are very similar to spectra from Bacillus anthracis. Bacillus anthracis is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus chagannorensis*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus cibi*** | |
| ***Bacillus circulans*** | |
| ***Bacillus clarkii*** | |
| ***Bacillus clausii*** | |
| ***Bacillus coagulans*** | |
| ***Bacillus cohnii*** | |
| ***Bacillus cytotoxicus*** | |
| ***Bacillus decolorationis*** | |
| ***Bacillus drentensis*** | |
| ***Bacillus endophyticus*** | |
| ***Bacillus farraginis*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Bacillus fastidiosus*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus firmus*** | |
| ***Bacillus flexus*** | |
| ***Bacillus foraminis*** | |
| ***Bacillus fordii*** | |
| ***Bacillus fortis*** | |
| ***Bacillus funiculus*** | |
| ***Bacillus galactosidilyticus*** | |
| ***Bacillus galliciensis*** | |
| ***Bacillus gibsonii*** | |
| ***Bacillus ginsengihumi*** | |
| ***Bacillus gossypii*** | |
| ***Bacillus graminis*** | |
| ***Bacillus halmapalus*** | |
| ***Bacillus halodurans*** | |
| ***Bacillus halosaccharovorans*** | |
| ***Bacillus hemicellulosilyticus*** | |
| ***Bacillus horikoshii*** | |
| ***Bacillus horneckiae*** | |
| ***Bacillus horti*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Bacillus humi*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus hwajinpoensis*** | |
| ***Bacillus idriensis*** | |
| ***Bacillus indicus*** | |
| ***Bacillus infantis*** | |
| ***Bacillus jeotgali*** | |
| ***Bacillus kochii*** | |
| ***Bacillus koreensis*** | |
| ***Bacillus krulwichiae*** | |
| ***Bacillus kyonggiensis*** | |
| ***Bacillus lentus*** | |
| ***Bacillus licheniformis*** | is a member of Bacillus subtilis group. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus litoralis*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus luciferensis*** | |
| ***Bacillus mannanilyticus*** | |
| ***Bacillus marisflavi*** | |
| ***Bacillus massiliosenegalensis*** | |
| ***Bacillus megaterium*** | |
| ***Bacillus mojavensis*** | is a member of Bacillus subtilis group. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |

| Genus/Species | Matching Hint |
|---|---|
| ***Bacillus muralis*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus mycoides*** | Bacillus anthracis, cereus, mycoides, pseudomycoides and thuringiensis are closely related and members of the Bacillus cereus group. In particular Bacillus cereus spectra are very similar to spectra from Bacillus anthracis. Bacillus anthracis is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus nealsonii*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus niabensis*** | |
| ***Bacillus niacini*** | |
| ***Bacillus novalis*** | |
| ***Bacillus oceanisediminis*** | |
| ***Bacillus odysseyi*** | |
| ***Bacillus okhensis*** | |
| ***Bacillus okuhidensis*** | |
| ***Bacillus oleronius*** | |
| ***Bacillus oshimensis*** | |
| ***Bacillus patagoniensis*** | |
| ***Bacillus pocheonensis*** | |
| ***Bacillus pseudalcaliphilus*** | |
| ***Bacillus pseudofirmus*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Bacillus pseudomycoides*** | Bacillus anthracis, cereus, mycoides, pseudomycoides and thuringiensis are closely related and members of the Bacillus cereus group. In particular Bacillus cereus spectra are very similar to spectra from Bacillus anthracis. Bacillus anthracis is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus psychrosaccharolyticus*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus pumilus*** | |
| ***Bacillus ruris*** | |
| ***Bacillus safensis*** | |
| ***Bacillus salarius*** | |
| ***Bacillus seohaeanensis*** | |
| ***Bacillus shackletonii*** | |
| ***Bacillus simplex*** | |
| ***Bacillus siralis*** | |
| ***Bacillus smithii*** | |
| ***Bacillus soli*** | |
| ***Bacillus sonorensis*** | is a member of Bacillus subtilis group. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus sp*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus* sp[2]** | |
| ***Bacillus* sp[4]** | |
| ***Bacillus sporothermodurans*** | |
| ***Bacillus subterraneus*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Bacillus subtilis*** | is a member of Bacillus subtilis group. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus thermoamylovorans*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus thioparans*** | |
| ***Bacillus thuringiensis*** | Bacillus anthracis, cereus, mycoides, pseudomycoides and thuringiensis are closely related and members of the Bacillus cereus group. In particular Bacillus cereus spectra are very similar to spectra from Bacillus anthracis. Bacillus anthracis is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus timonensis*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus vallismortis*** | is a member of Bacillus subtilis group. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus vedderi*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Bacillus vietnamensis*** | |
| ***Bacillus vireti*** | |
| ***Bacillus wakoensis*** | |
| ***Bacillus zeae*** | |
| ***Bacteroides eggerthii*** | Species eggerthii / stercoris of the genus Bacteroides have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Bacteroides faecis*** | Species faecis / thetaiotaomicron of the genus Bacteroides have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Bacteroides ovatus*** | Species ovatus/xylanisolvens of the genus Bacteroides have very similar patterns: Therefore distinguishing their species is difficult. Bacteroides xylanisolvens is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. |
| ***Bacteroides stercoris*** | Species eggerthii / stercoris of the genus Bacteroides have very similar patterns: Therefore distinguishing their species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Bacteroides thetaiotaomicron*** | Species faecis / thetaiotaomicron of the genus Bacteroides have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Bacteroides vulgatus*** | Species vulgatus/dorei of the genus Bacteroides have very similar patterns: Therefore distinguishing their species is difficult. Bacteroides dorei is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. |
| ***Bifidobacterium porcinum*** | Species porcinum / thermacidophilum / thermophilum of the genus Bifidobacterium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Bifidobacterium thermacidophilum*** | |
| ***Bifidobacterium thermophilum*** | |
| ***Bordetella bronchialis*** | For the species bronchialis / sputigena of the genus Bordetella the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Bordetella bronchiseptica*** | Species bronchiseptica / pertussis / parapertussis of the genus Bordetella have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Bordetella parapertussis*** | |
| ***Bordetella pertussis*** | |
| ***Bordetella sputigena*** | For the species bronchialis / sputigena of the genus Bordetella the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Brachybacterium conglomeratum*** | For the species conglomeratum / paraconglomeratum of the genus Brachybacterium the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Brachybacterium paraconglomeratum*** | |
| ***Brevundimonas abyssalis*** | Species abyssalis / canariensis of the genus Brevundimonas have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Brochothrix campestris*** | For the species campestris / thermosphacta of the genus Brochothrix the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Brochothrix thermosphacta*** | |
| ***Burkholderia ambifaria*** | is a member of Burkholderia cepacia complex |
| ***Burkholderia anthina*** | |
| ***Burkholderia cenocepacia*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Burkholderia cepacia*** | is a member of Burkholderia cepacia complex |
| ***Burkholderia diffusa*** | |
| ***Burkholderia dolosa*** | |
| ***Burkholderia lata*** | |
| ***Burkholderia latens*** | |
| ***Burkholderia metallica*** | |
| ***Burkholderia multivorans*** | |
| ***Burkholderia pyrrocinia*** | |
| ***Burkholderia seminalis*** | |
| ***Burkholderia stabilis*** | |
| ***Burkholderia thailandensis*** | Burkholderia thailandensis is closely related and shows very similar spectra to the highly pathogenic Burkholderia pseudomallei / mallei which are possibly not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. |
| ***Burkholderia vietnamiensis*** | is a member of Burkholderia cepacia complex |
| ***Campylobacter helveticus*** | closely related to Campylobacter upsaliensis |
| ***Campylobacter upsaliensis*** | closely related to Campylobacter helveticus |
| ***Candida akabanensis*** | For the species akabanensis / blattae/ dosseyi of the genus Candida the MALDI patterns and the ITS sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Candida blattae*** | |
| ***Citrobacter amalonaticus*** | is a member of Citrobacter amalonaticus complex. Species amalonaticus / farmeri of the genus Citrobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Citrobacter braakii*** | is a member of Citrobacter freundii complex. Species braakii / freundii / gillenii / murliniae / rodentium / sedlakii / werkmannii / youngae of the genus Citrobacter have very similar patterns: Therefore distinguishing their species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Citrobacter farmeri*** | is a member of Citrobacter amalonaticus complex. Species amalonaticus / farmeri of the genus Citrobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Citrobacter freundii*** | is a member of Citrobacter freundii complex. Species braakii / freundii / gillenii / murliniae / rodentium / sedlakii / werkmannii / youngae of the genus Citrobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Citrobacter gillenii*** | |
| ***Citrobacter murliniae*** | |
| ***Citrobacter rodentium*** | |
| ***Citrobacter sedlakii*** | |
| ***Citrobacter youngae*** | |
| ***Clostridioides difficile*** | synonym of Clostridium difficile |
| ***Clostridium beijerinckii*** | Species beijerinckii / diolis of the genus Clostridium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Clostridium bolteae*** | Species bolteae / clostridioforme of the genus Clostridium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Clostridium celerecrescens*** | Species celerecrescens / sphenoides of the genus Clostridium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Clostridium clostridioforme*** | Species bolteae / clostridioforme of the genus Clostridium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Clostridium diolis*** | Species beijerinckii / diolis of the genus Clostridium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Clostridium haemolyticum*** | Clostridium haemolyticum is closely related and shows very similar spectra to the strains of the highly pathogenic Clostridium botulinum groups C and D. Clostridium botulinum is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. |
| ***Clostridium pasteurianum*** | For the species arbusti / pasteurianum of the genus Clostridium the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Clostridium sphenoides*** | Species celerecrescens / sphenoides of the genus Clostridium have very similar patterns: Therefore distinguishing their species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Clostridium sporogenes*** | Clostridium sporogenes is closely related and shows very similar spectra to the strains of the highly pathogenic Clostridium botulinum groups A, B and F. Clostridium botulinum is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. |
| ***Clostridium subterminale*** | Clostridium subterminale is closely related and shows very similar spectra to the strains of the highly pathogenic Clostridium botulinum group G. Clostridium botulinum is not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. |
| ***Corynebacterium glaucum*** | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Corynebacterium* lipophile_group_F1** | |
| ***Corynebacterium mucifaciens*** | Species mucifaciens / ureicelerivorans of the genus Corynebacterium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Corynebacterium propinquum*** | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Corynebacterium pseudodiphtheriticum*** | |
| ***Corynebacterium pseudotuberculosis*** | Species pseudotuberculosis / ulcerans of the genus Corynebacterium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Corynebacterium* sp** | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Corynebacterium ulcerans*** | Species pseudotuberculosis / ulcerans of the genus Corynebacterium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Corynebacterium ureicelerivorans*** | Species mucifaciens / ureicelerivorans of the genus Corynebacterium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Cronobacter* sp** | Cronobacter can only be identified on genus level. |
| ***Cryptococcus deneoformans*** | synonym of Cryptococcus neoformans var. neoformans |
| ***Cryptococcus neoformans*** | synonym of Cryptococcus neoformans var. grubii |
| ***Delftia acidovorans*** | Species acidovorans / lacustris / tsuruhatensis of the genus Delftia are closely related. |
| ***Delftia lacustris*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Dietzia cercidiphylli*** | For the species cercidiphylli / natronolimnaea / psychralcaliphila of the genus Dietzia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Dietzia cinnamea*** | For the species cinnamea / papillomatosis of the genus Dietzia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Dietzia natronolimnaea*** | For the species cercidiphylli / natronolimnaea / psychralcaliphila of the genus Dietzia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Dietzia papillomatosis*** | For the species cinnamea / papillomatosis of the genus Dietzia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Elizabethkingia anophelis*** | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Elizabethkingia meningoseptica*** | |
| ***Elizabethkingia miricola*** | |
| ***Enterobacter asburiae*** | is a member of Enterobacter cloacae complex |
| ***Enterobacter bugandensis*** | |
| ***Enterobacter cancerogenus*** | |
| ***Enterobacter cloacae*** | |
| ***Enterobacter hormaechei*** | |
| ***Enterobacter kobei*** | |
| ***Enterobacter ludwigii*** | |
| ***Escherichia coli*** | closely related to Shigella / Escherichia fergusonii and not definitely distinguishable at the moment |
| ***Escherichia fergusonii*** | closely related to Shigella / Escherichia coli and not definitely distinguishable at the moment |
| ***Fictibacillus arsenicus*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Fictibacillus barbaricus*** | |
| ***Fictibacillus macauensis*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Fusobacterium gonidiaformans*** | Species gonidiaformans / necrophorum of the genus Fusobacterium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Fusobacterium naviforme*** | Species naviforme / nucleatum of the genus Fusobacterium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Fusobacterium necrophorum*** | Species gonidiaformans / necrophorum of the genus Fusobacterium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Fusobacterium nucleatum*** | Species naviforme / nucleatum of the genus Fusobacterium have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Fusobacterium* sp[2]** | |
| ***Globicatella sanguinis*** | For the species sanguinis / sulfidifaciens of the genus Globicatella the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Globicatella sulfidifaciens*** | |
| ***Gordonia hongkongensis*** | For the species hongkongensis / lacunae / terrae of the genus Gordonia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Gordonia terrae*** | |
| ***Halobacillus karajensis*** | For the species dabanensis / karajensis / litoralis / profundi of the genus Halobacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Hungatella effluvii*** | For the species effluvii / hathewayi of the genus Hungatella the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Hungatella hathewayi*** | |
| ***Isoptericola variabilis*** | For the species cucumis / muralis / variabilis of the genus Isoptericola the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Klebsiella aerogenes*** | synonym of Enterobacter aerogenes |
| ***Klebsiella oxytoca*** | Klebsiella oxytoca and species ornithinolytica / planticola / terrigena of the genus Raoultella have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Klebsiella pneumoniae*** | closely related to Klebsiella variicola |
| ***Klebsiella variicola*** | closely related to Klebsiella pneumoniae |
| ***Kluyvera ascorbata*** | Species ascorbata / georgiana of the genus Kluyvera have very similar patterns: Therefore distinguishing their species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Kluyvera georgiana*** | Species ascorbata / georgiana of the genus Kluyvera have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Kocuria himachalensis*** | Species himachalensis / polaris / rosea of the genus Kocuria have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Kocuria polaris*** | |
| ***Kocuria rosea*** | |
| ***Lactobacillus amylovorus*** | Species amylovorus / kitasatonis of the genus Lactobacillus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Lactobacillus cerevisiae*** | For the species cerevisiae / koreensis of the genus Lactobacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Lactobacillus gallinarum*** | For the species gallinarum / helveticus of the genus Lactobacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Lactobacillus gasseri*** | For the species gasseri / taiwanensis of the genus Lactobacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Lactobacillus helveticus*** | For the species gallinarum / helveticus of the genus Lactobacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Lactobacillus kitasatonis*** | Species amylovorus / kitasatonis of the genus Lactobacillus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Lactobacillus similis*** | For the species odoratitofui / similis of the genus Lactobacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Lactococcus garvieae*** | For the species garvieae / petauri of the genus Lactococcus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Leifsonia shinshuensis*** | For the species poae / shinshuensis / soli of the genus Leifsonia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Leifsonia soli*** | |
| ***Listeria innocua*** | Extraction must be performed to permit reliable species identification. |
| ***Listeria ivanovii*** | |
| ***Listeria monocytogenes*** | |
| ***Listeria seeligeri*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Listeria welshimeri*** | Extraction must be performed to permit reliable species identification. |
| ***Lysinibacillus boronitolerans*** | Species boronitolerans / xylanilyticus of the genus Lysinibacillus have very similar patterns: Therefore distinguishing their species is difficult. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Lysinibacillus contaminans*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Lysinibacillus fusiformis*** | |
| ***Lysinibacillus halotolerans*** | |
| ***Lysinibacillus manganicus*** | |
| ***Lysinibacillus massiliensis*** | |
| ***Lysinibacillus meyeri*** | |
| ***Lysinibacillus pakistanensis*** | |
| ***Lysinibacillus* sp** | |
| ***Lysinibacillus* sp[2]** | |
| ***Lysinibacillus sphaericus*** | |
| ***Lysinibacillus xylanilyticus*** | Species boronitolerans / xylanilyticus of the genus Lysinibacillus have very similar patterns: Therefore distinguishing their species is difficult. The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Macrococcus canis*** | For the species canis / caseolyticus of the genus Macrococcus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Macrococcus caseolyticus*** | |
| ***Mannheimia glucosida*** | For the species glucosida / ruminalis of the genus Mannheimia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Mannheimia granulomatis*** | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Mannheimia ruminalis*** | For the species glucosida / ruminalis of the genus Mannheimia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Mannheimia varigena*** | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Marinococcus halophilus*** | For the species halophilus / luteus / tarijensis of the genus Marinococcus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Massilia oculi*** | Species oculi / timonae / varians of the genus Massilia have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Massilia timonae*** | |
| ***Massilia varians*** | |
| ***Methylobacterium hispanicum*** | For the species gregans / hispanicum of the genus Methylobacterium the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Methylobacterium tardum*** | For the species longum / phyllostachyos / radiotolerans / tardum of the genus Methylobacterium the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Microbacterium kitamiense*** | For the species aurantiacum / chocolatum / kitamiense of the genus Microbacterium the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Mixta calida*** | Species calida / gaviniae / intestinalis of the genus Mixta have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Mixta gaviniae*** | |
| ***Mixta intestinalis*** | |
| ***Moorella thermoacetica*** | For the species thermoacetica / thermoautotrophica of the genus Moorella the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Mycoplasma alkalescens*** | Species alkalescens / arginini of the genus Mycoplasma have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Mycoplasma arginini*** | |
| ***Negativicoccus succinicivorans*** | For the species massiliensis / succinicivorans of the genus Negativicoccus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult |
| ***Neisseria meningitidis*** | Non-pathogenic Neisseria species could be misidentified as Neisseria meningitidis. For differentiation an adequate identification method has to be selected by an experienced professional. |
| ***Nocardia abscessus*** | For the species abscessus / arthritidis / asiatica / exalbida of the genus Nocardia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Nocardia arthritidis*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Nocardia asiatica*** | For the species abscessus / arthritidis / asiatica / exalbida of the genus Nocardia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Nocardia exalbida*** | |
| ***Nocardia farcinica*** | Nocardia farcinica is/are closely related to the rare species Nocardia kroppenstedtii which is/are not included in the MALDI Biotyper database. |
| ***Oceanobacillus oncorhynchi*** | For the species aidingensis / oncorhynchi of the genus Oceanobacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Paenibacillus amylolyticus*** | For the species amylolyticus / cucumis / taichungensis / tundrae / tylopili of the genus Paenibacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Paenibacillus antibioticophila*** | For the species antibioticophila / apis of the genus Paenibacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Paenibacillus edaphicus*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Paenibacillus provencensis*** | For the species provencensis / shunpengii / urinalis of the genus Paenibacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Paenibacillus tylopili*** | For the species amylolyticus / cucumis / taichungensis / tundrae / tylopili of the genus Paenibacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Paenibacillus urinalis*** | For the species provencensis / shunpengii / urinalis of the genus Paenibacillus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Pantoea agglomerans*** | synonym of Erwinia herbicola |
| ***Pantoea anthophila*** | For the species anthophila / deleyi / eucalypti of the genus Pantoea the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Pasteurella canis*** | Species canis / oralis of the genus Pasteurella have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Pasteurella oralis*** | |
| ***Peptoniphilus senegalensis*** | For the species senegalensis / tyrrelliae of the genus Peptoniphilus the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Peptoniphilus tyrrelliae*** | |
| ***Proteus hauseri*** | Species hauseri / penneri / vulgaris of the genus Proteus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Proteus penneri*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Proteus vulgaris*** | Species hauseri / penneri / vulgaris of the genus Proteus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Pseudarcobacter aquimarinus*** | Species aquimarinus / cloacae / defluvii / ellisii of the genus Pseudarcobacter have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Pseudarcobacter cloacae*** | |
| ***Pseudarcobacter defluvii*** | |
| ***Pseudarthrobacter chlorophenolicus*** | Species tend to produce polymers which can interfere with the identification. |
| ***Pseudescherichia vulneris*** | synonym of Escherichia vulneris |
| ***Pseudomonas azotoformans*** | is a member of Pseudomonas fluorescens group |
| ***Pseudomonas balearica*** | is a member of Pseudomonas stutzeri group |
| ***Pseudomonas brenneri*** | is a member of Pseudomonas fluorescens group |
| ***Pseudomonas cedrina*** | |
| ***Pseudomonas congelans*** | |
| ***Pseudomonas corrugata*** | |
| ***Pseudomonas extremorientalis*** | |
| ***Pseudomonas fluorescens*** | |
| ***Pseudomonas fluorescens*_Group** | |
| ***Pseudomonas fulva*** | is a member of Pseudomonas putida group |
| ***Pseudomonas gessardii*** | is a member of Pseudomonas fluorescens group |
| ***Pseudomonas libanensis*** | |
| ***Pseudomonas luteola*** | is a member of Pseudomonas stutzeri group |
| ***Pseudomonas mandelii*** | is a member of Pseudomonas fluorescens group |

| Genus/Species | Matching Hint |
|---|---|
| ***Pseudomonas marginalis*** | is a member of Pseudomonas fluorescens group |
| ***Pseudomonas migulae*** | |
| ***Pseudomonas monteilii*** | is a member of Pseudomonas putida group |
| ***Pseudomonas mosselii*** | |
| ***Pseudomonas mucidolens*** | is a member of Pseudomonas fluorescens group |
| ***Pseudomonas orientalis*** | |
| ***Pseudomonas oryzihabitans*** | is a member of Pseudomonas putida group |
| ***Pseudomonas plecoglossicida*** | |
| ***Pseudomonas poae*** | is a member of Pseudomonas fluorescens group |
| ***Pseudomonas protegens*** | |
| ***Pseudomonas putida*** | is a member of Pseudomonas putida group |
| ***Pseudomonas putida*_Group** | |
| ***Pseudomonas rhodesiae*** | is a member of Pseudomonas fluorescens group |
| ***Pseudomonas stutzeri*** | is a member of Pseudomonas stutzeri group |
| ***Pseudomonas synxantha*** | is a member of Pseudomonas fluorescens group |
| ***Pseudomonas tolaasii*** | |
| ***Pseudomonas trivialis*** | |
| ***Pseudomonas veronii*** | |
| ***Pseudomonas xanthomarina*** | is a member of Pseudomonas stutzeri group |
| ***Psychrobacillus insolitus*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |

| Genus/Species | Matching Hint |
|---|---|
| ***Psychrobacillus psychrodurans*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Psychrobacillus psychrotolerans*** | |
| ***Raoultella ornithinolytica*** | Klebsiella oxytoca and species ornithinolytica / planticola / terrigena of the genus Raoultella have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Raoultella planticola*** | |
| ***Raoultella terrigena*** | |
| ***Rhodococcus hoagii*** | synonym of Rhodococcus equi |
| ***Rhodotorula glutinis*** | For the species araucariae / glutinis / kratochvilovae of the genus Rhodotorula the ITS sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Rouxiella badensis*** | For the species badensis / chamberiensis / silvae of the genus Rouxiella the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Rouxiella chamberiensis*** | |
| ***Rummeliibacillus pycnus*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Salimicrobium halophilum*** | |
| ***Salmonella* sp** | Salmonella can only be identified on genus level. |
| ***Serratia ficaria*** | For the species ficaria / vespertilionis of the genus Serratia the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Serratia grimesii*** | Species grimesii / liquefaciens / myotis / plymuthica / proteamaculans / quinivorans of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Serratia liquefaciens*** | |
| ***Serratia marcescens*** | Species marcescens / nematodiphila / ureilytica of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Serratia nematodiphila*** | |
| ***Serratia plymuthica*** | Species grimesii / liquefaciens / myotis / plymuthica / proteamaculans / quinivorans of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Serratia proteamaculans*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Serratia quinivorans*** | Species grimesii / liquefaciens / myotis / plymuthica / proteamaculans / quinivorans of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Serratia ureilytica*** | Species marcescens / nematodiphila / ureilytica of the genus Serratia have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Solibacillus silvestris*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Sphingomonas pseudosanguinis*** | Species pseudosanguinis / sanguinis of the genus Sphingomonas have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Sphingomonas sanguinis*** | |
| ***Staphylococcus carnosus*** | For the species carnosus / condimenti / piscifermentans of the genus Staphylococcus the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Staphylococcus condimenti*** | |
| ***Staphylococcus piscifermentans*** | |
| ***Stenotrophomonas maltophilia*** | is a member of Stenotrophomonas maltophilia group or closely related |
| ***Streptococcus canis*** | Species canis / dysgalactiae / pyogenes of the genus Streptococcus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Streptococcus dysgalactiae*** | |
| ***Streptococcus equinus*** | Species equinus / gallolyticus / infantarius / lutetiensis of the genus Streptococcus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Streptococcus gallolyticus*** | |
| ***Streptococcus infantarius*** | |
| ***Streptococcus lutetiensis*** | |
| ***Streptococcus mitis*** | Streptococcus mitis / oralis / peroris / pneumoniae / pseudopneumoniae are closely related! The result may be confirmed by a further test, e.g. bile test or optochin test, according to standard clinical microbiological practice. |
| ***Streptococcus oralis*** | |
| ***Streptococcus peroris*** | |
| ***Streptococcus pneumoniae*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Streptococcus pseudopneumoniae*** | Streptococcus mitis / oralis / peroris / pneumoniae / pseudopneumoniae are closely related! The result may be confirmed by a further test, e.g. bile test or optochin test, according to standard clinical microbiological practice. |
| ***Streptococcus pyogenes*** | Species canis / dysgalactiae / pyogenes of the genus Streptococcus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Tsukamurella hongkongensis*** | Species of this genus have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Tsukamurella inchonensis*** | |
| ***Tsukamurella paurometabola*** | |
| ***Tsukamurella pseudospumae*** | |
| ***Tsukamurella pulmonis*** | |
| ***Tsukamurella serpentis*** | |
| ***Tsukamurella sinensis*** | |
| ***Tsukamurella soli*** | |
| ***Tsukamurella spumae*** | |
| ***Tsukamurella strandjordii*** | |
| ***Tsukamurella tyrosinosolvens*** | |
| ***Ureibacillus suwonensis*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Ureibacillus thermosphaericus*** | |
| ***Veillonella atypica*** | Species atypica / caviae / denticariosi / dispar / parvula / rogosae of the genus Veillonella have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Veillonella caviae*** | |
| ***Veillonella denticariosi*** | |
| ***Veillonella dispar*** | |

| Genus/Species | Matching Hint |
|---|---|
| ***Veillonella parvula*** | Species atypica / caviae / denticariosi / dispar / parvula / rogosae of the genus Veillonella have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Veillonella rogosae*** | |
| ***Vibrio albensis*** | Vibrio albensis (V. cholerae biovar albensis) is closely related and shows very similar spectra to the highly pathogenic Vibrio cholerae which is possibly not included in the MALDI Biotyper database. For differentiation an adequate identification method has to be selected by an experienced professional. |
| ***Vibrio alginolyticus*** | is a member of Vibrio harveyi group |
| ***Vibrio campbellii*** | |
| ***Vibrio harveyi*** | |
| ***Vibrio mytili*** | |
| ***Vibrio natriegens*** | |
| ***Vibrio navarrensis*** | Species navarrensis / vulnificus of the genus Vibrio have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Vibrio parahaemolyticus*** | is a member of Vibrio harveyi group |
| ***Vibrio rotiferianus*** | |
| ***Vibrio vulnificus*** | Species navarrensis / vulnificus of the genus Vibrio have very similar patterns: Therefore distinguishing their species is difficult. |
| ***Viridibacillus arenosi*** | The quality of spectra (score) depends on the degree of sporulation: Use fresh material. |
| ***Viridibacillus arvi*** | |
| ***Viridibacillus neidei*** | |
| ***Weissella fabaria*** | For the species fabalis / fabaria / ghanensis of the genus Weissella the MALDI patterns and the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |
| ***Weissella ghanensis*** | |
| ***Weissella thailandensis*** | For the species jogaejeotgali / thailandensis of the genus Weissella the 16S rRNA gene sequences are very similar. Therefore distinguishing the mentioned species is difficult. |

| Genus/Species | Matching Hint |
|---|---|
| ***Yersinia frederiksenii*** | For the species frederiksenii / intermedia / kristensenii of the genus Yersinia it should be considered that they could exhibit pathogenic characteristics. |
| ***Yersinia intermedia*** | |
| ***Yersinia kristensenii*** | |
| ***Yersinia pseudotuberculosis*** | Yersinia pseudotuberculosis is closely related and shows very similar spectra to the highly pathogenic Yersinia pestis which is not included in the MALDI Biotyper database. These species cannot be distinguished by the MALDI Biotyper method. For differentiation an adequate identification method has to be selected by an experienced professional. |
| ***Zygoascus meyerae*** | For the species hellenicus / meyerae of the genus Zygoascus the ITS sequences are very similar. Therefore distinguishing the mentioned species is difficult. |

## 8.2 Information only required for users of laboratory-specific specimen codes

Please refer to the tables provided above regarding the genus/species renaming of individual MSP or the general genus/species renaming.

**Note:** Users of laboratory-specific specimen codes may use this information to update their code lists. These lists can then be used as basis to update dedicated code list used, for example, in LIMS integration. For further details, please contact your LIMS provider or contact MALDI Biotyper Software support at the following Email address: biotyper.sw.support@bruker.com.

### MBT 3.1/4.0 software

The update of appropriate code lists can be performed using the Biotyper Abbreviation Editor. You will find *MspAbbreviationEditor.exe* on the hard disk in the same folder as the MALDI Biotyper RTC program. Default path:

```
C:\Program Files (x86)\Bruker Daltonik\BiotyperRTC
```

Run the *MspAbbreviationEditor.exe* and a window will open. Select ***Group by Species*** and adapt the code list accordingly.

**Note**: The process of validation of these codes is the user's responsibility. It is recommended that validation must be repeated at reasonable intervals.

### MBT Compass software

The update of code lists can be performed by selecting the sprocket-icon in the top right corner. Click the ***Advanced*** button at the bottom of the configuration window, enter the credentials of a Windows-administrator and select ***MSP Abbr***. On the next open page click ***Start edit*** to run the Abbreviation Editor. A window will open. Select ***Group by Species*** and adapt the code list accordingly.

**Note**: The process of validation of these codes is the user's responsibility. It is recommended that validation must be repeated at reasonable intervals.

### MBT Compass HT software

The MBT Compass HT software allows to import, export and display laboratory specific species code list:

- The appropriate functionality is available to the Laboratory Manager at this menu ***Configuration > Msp abbreviations***.
- More than one code lists are allowed – new (initially empty) code lists are created (and named) using the ***Add*** button.
- New code lists are filled from a simple CSV file using the ***Import*** button (CSV row: *Laboratory,Abbreviation,Name*).

- Present code lists may be exported into a CSV file using the ***Export*** button (same CSV format).
- The menu displays a sortable list of all currently present lab specific code tabled (Species | Abbreviation).

**Note**: The process of validation of these codes is the user's responsibility. It is recommended that validation must be repeated at reasonable intervals.

## 8.3 Additional information for yeast nomenclature update

Specialist statement by Dr. Andrey Yurkov (Curator Fungi and Yeasts at Leibniz Institute – DSMZ; Braunschweig, Germany)

**Reclassification of yeasts in the Bruker Yeast Library**

Recent changes in the nomenclature of fungi (10, 13) discontinued the use of dual nomenclature, different names for same species of sexual and asexual fungi, and adopted the 'One fungus, one name' principle (10). These new rules have a major impact on the classification of many asexual species in large polyphyletic genera *Candida*, *Cryptococcus*, *Pseudozyma*, *Rhodotorula*, *Tilletiopsis* and *Trichosporon*. Subsequent analyses showed that certain species may be assigned to already existing sexual genera with high confidence using multigene phylogenies (e.g. 3, 6, 9, 14, Species that form well-circumscribed phylogenetic clades without any teleomorph member justified the creation of new genera (e.g. 2, 4, 7).

Genera of basidiomycetous yeasts, including genera *Cryptococcus*, *Pseudozyma*, *Rhodotorula*, *Tilletiopsis* and *Trichosporon*, have been reclassified recently resulting in 46 new genera and over 300 new combinations (8, 14, 16). Reclassification of the genus *Candida* is underway will continue in the future so that the genus *Candida* will be restricted to the monophyletic group that includes clinically relevant species *Candida albicans* and *Candida tropicalis* (1). As the result of the ongoing classification, many yeast names have been already changed, and these changes are now implemented in the database. Although the introduction of many new and unfamiliar names may be irritating for users of the database, these changes are extremely important. Whether identified from clinical or environmental sources, classification of yeasts in large genera *Candida* may lead to a wrong assumption that all these species are closely related (1, 11). It has been demonstrated that antifungal resistance profiles of yeasts are correlated with their phylogenetic position in clades and families Debaryomycetaceae (e.g. *Candida albicans*), Metschnikowiacea (e.g. *Candida auris*), Pichiaceae (e.g. *Candida krusei*), and Saccharomycetaceae (e.g. *Candida glabrata*). Thus, separation distantly related species in new genera will give non-specialists a clear signal that these species have different properties, e.g. antifungal susceptibility (12).

The reclassification of yeast names in the database was necessary because of many reclassifications made by taxonomists during the last 10 years. The nomenclature is following the latest published edition of the taxonomic compendium The Yeasts: A Taxonomic Study (5) and several later publications on yeast taxonomy. High-ranking classification of yeasts reflects phylogenetic relationships inferred from multi-gene and whole-genome sequence analyses (1, 3, 9, 11, 14, 15).

Out of 212 species in the Bruker database, 109 names remained unchanged. A total of 81 species were transferred into a new genus; 21 species received new genus and new species names; one species was assigned to another existing species in the same genus. In the genus *Candida*, 32 species that await reclassification have been provisionally assigned to a genus or family.

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## 8.4 Additional information for *Staphylococcus argenteus / schweitzeri*

The species *Staphylococcus argenteus* and *Staphylococcus schweitzeri* form parts of a "*Staphylococcus aureus*-related complex" (19, 20) and show similar virulence potential compared to *Staphylococcus aureus* (17, 18). Therefore, they should be further evaluated.

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| | Manufacturer |
| REF | Catalogue number |

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