Identifying the Misidentification Problems

Henry Malnick, November 2012

The Pitfalls of Identification

Chadwick, P.R., et al. (1995) Haemophilus paraphrophilus infection: a pitfall in laboratory diagnosis.

J. Infect (1995) 30: 67-69.

Gram-negative catalase negative oxidase positive bacteria

Cardiobacterium hominis
Eikenella corrodens
Kingella denitrificans
Kingella kingae
Suttonella (Kingella) indologenes
Neisseria elongata ss nitroreductans
Aggregatibacter aphrophilus (Haemophilus aphrophilus/paraphrophilus)

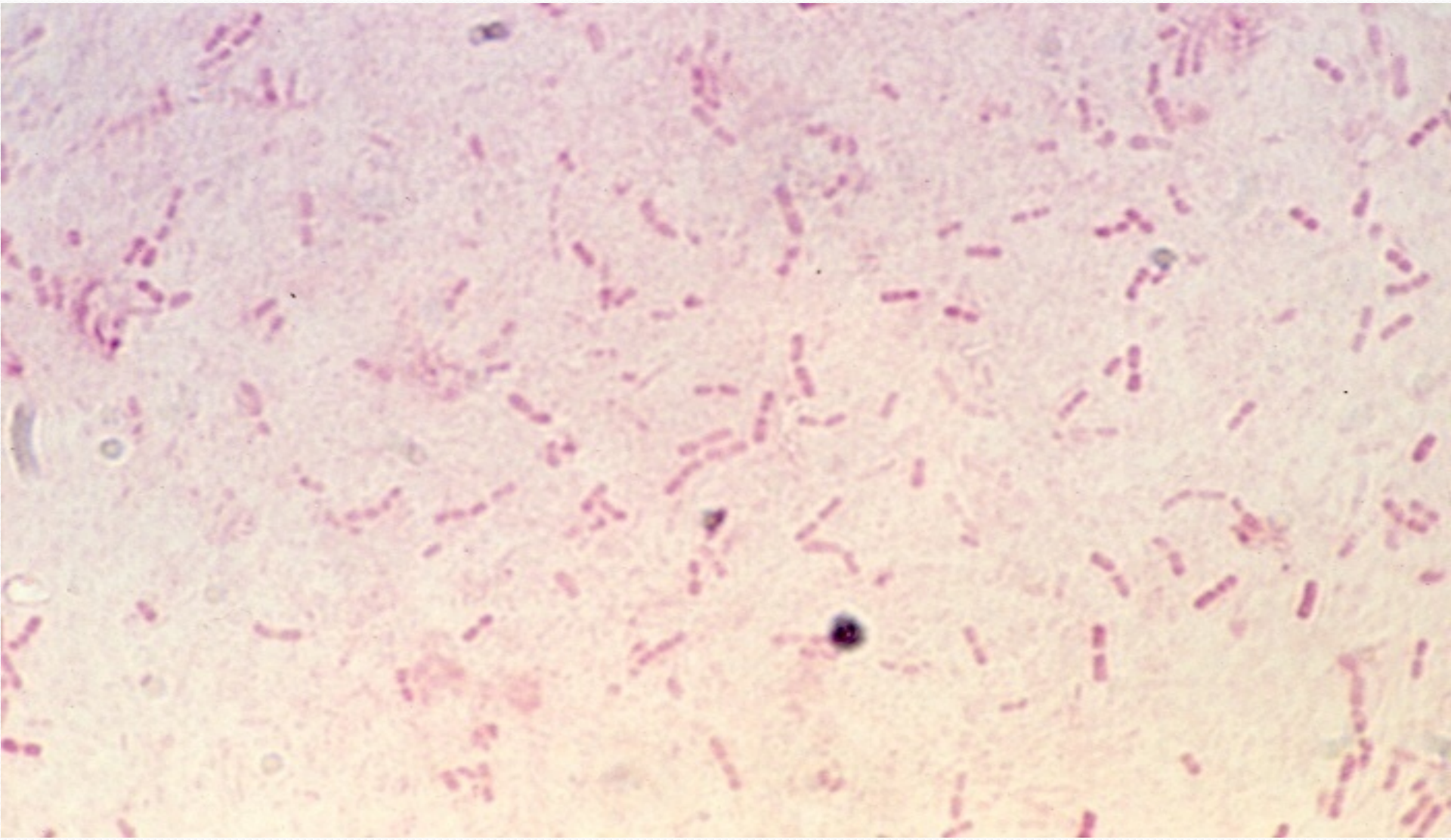
Catalase negative, oxidase positive GNR

	ONPG	Lysine	Ornithine	NO_3 red.	NO_2 red.	Gas from NO_2 red.	indole	β-haem
E. corrodens	-	+	+	+	-	-	-	-
N. elongate ss nitroreductans	-	-	-	+	+	-	-	-
Kingella denitrificans	-	-	-	+	+	+	-	-
Kingella kingae	-	-	-	-	-	-	-	+
Cardiobacterium spp. *	-	-	-	-	-	-	+	-
Suttonella indologenes*	-	-	-	-	-	-	+	-
Aggregatibacter spp.	V	V	V	+	-	-	V	V

*Cardiobacterium produce acid from sorbitol/mannitol, Suttonella are negative

***Actinobacillus* sp.**
Aggregatibacter aphrophilus
Haemophilus influenzae
Haemophilus parainfluenzae
***Haemophilus* sp.**
***Kingella* sp.**
***Moraxella* sp.**
***Pasteurella multocida*,**
***Pasteurella* sp.**

Kingella kingae



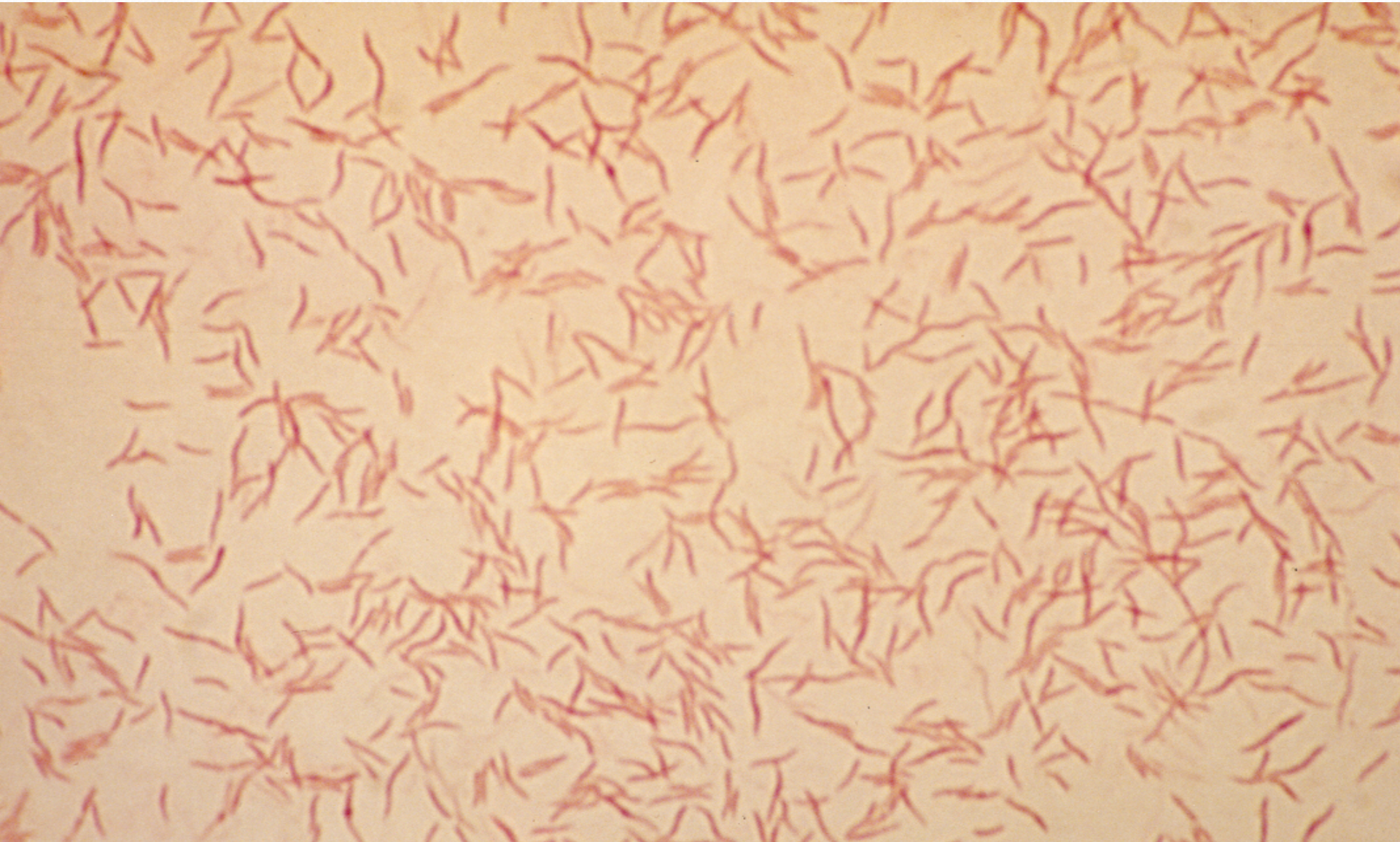
Misleading clues

- Colony morphology
- Gram stain
- Cell morphology
- Atypical biochemical test results

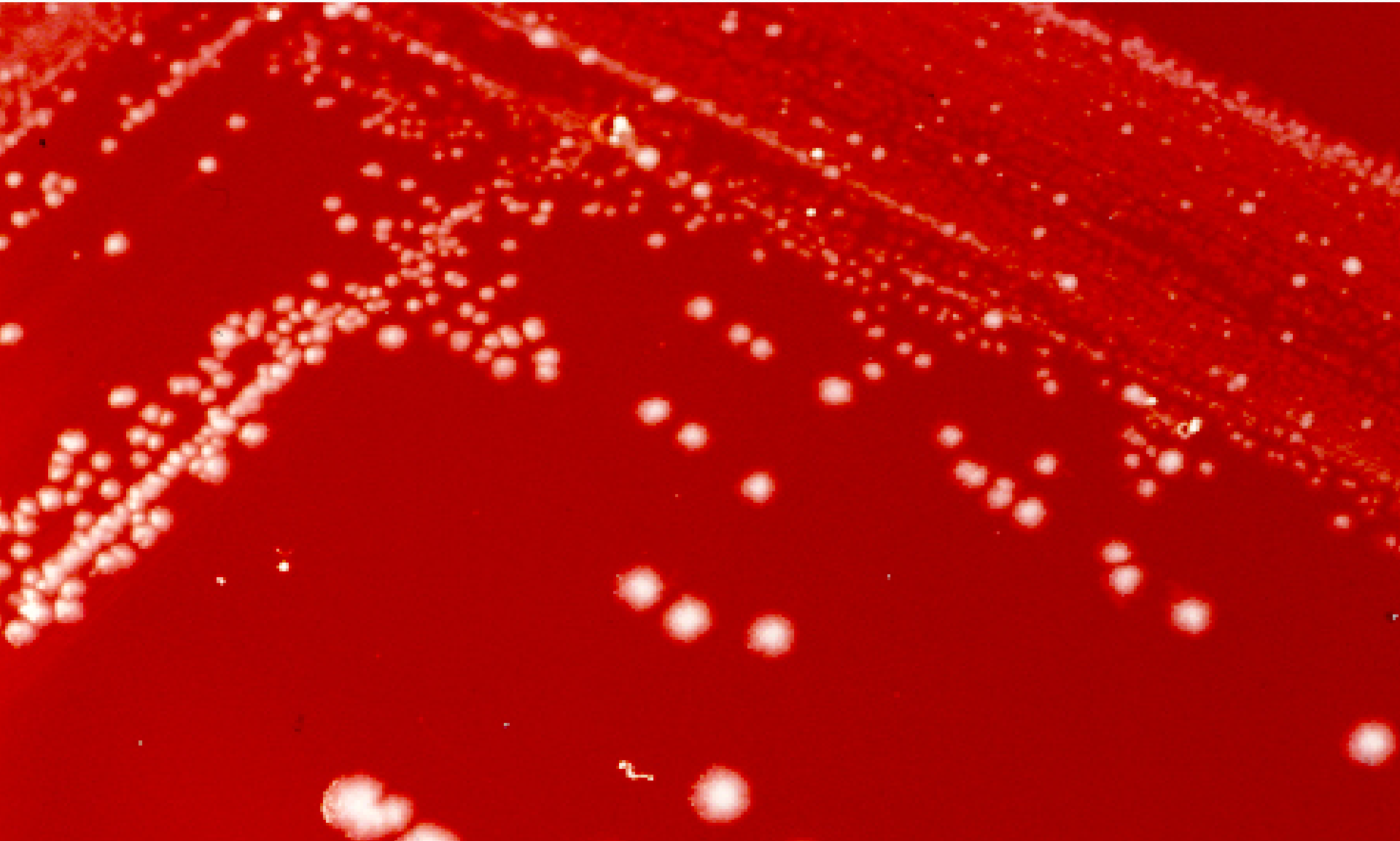
Gram-positive bacteria submitted as gram-negative bacteria

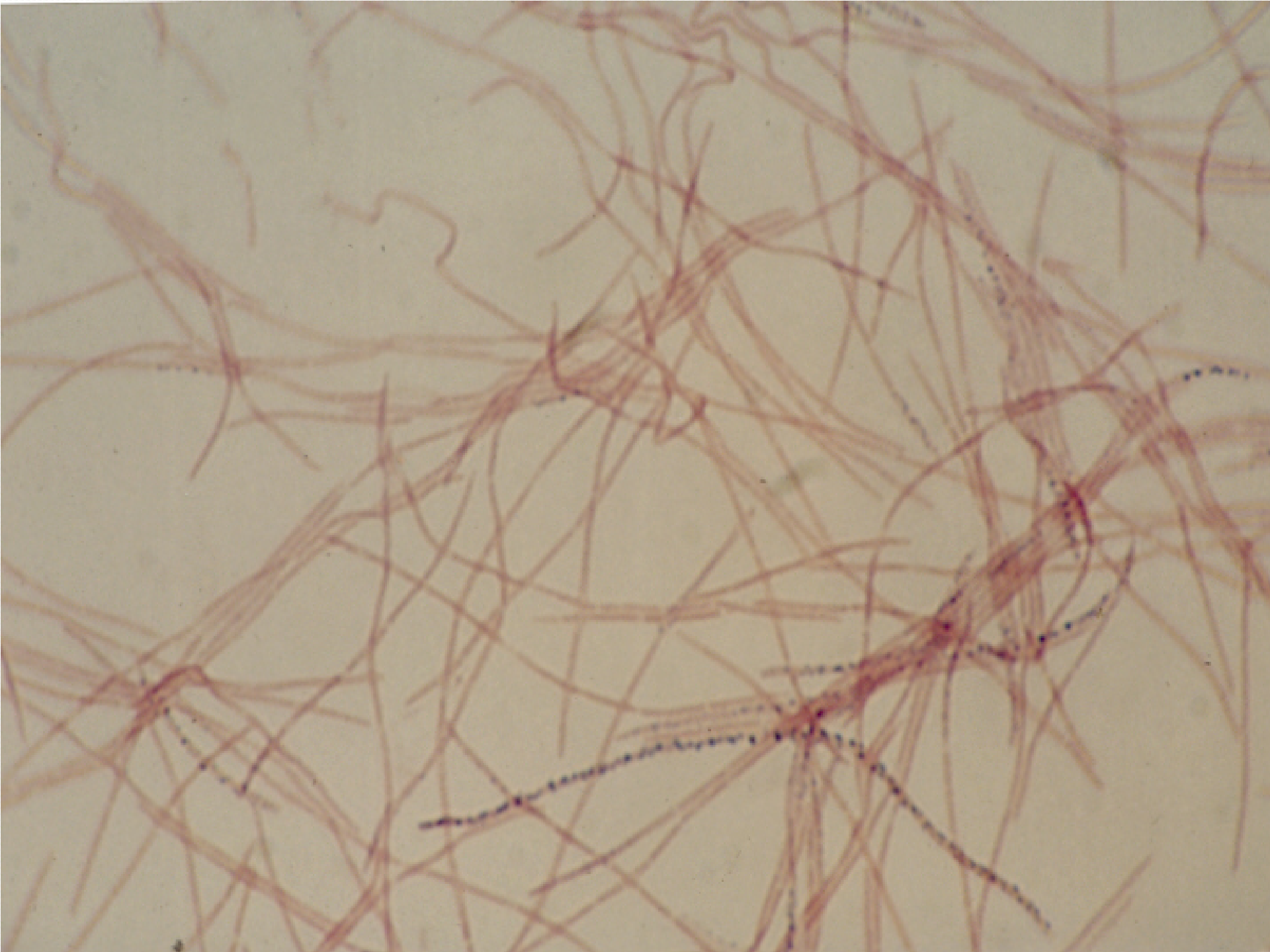
- Arcanobacterium haemolyticum
- Aerobic spore bearers (Brevibacillus, Paenibacillus)
- Clostridium tertium
- Leifsonia (Corynebacterium) aquaticum
- Exiguobacterium acetylicum
- Microbacterium spp.
- Propionibacterium acnes
- Streptococcus spp.

Capnocytophaga



Leptotrichia spp.





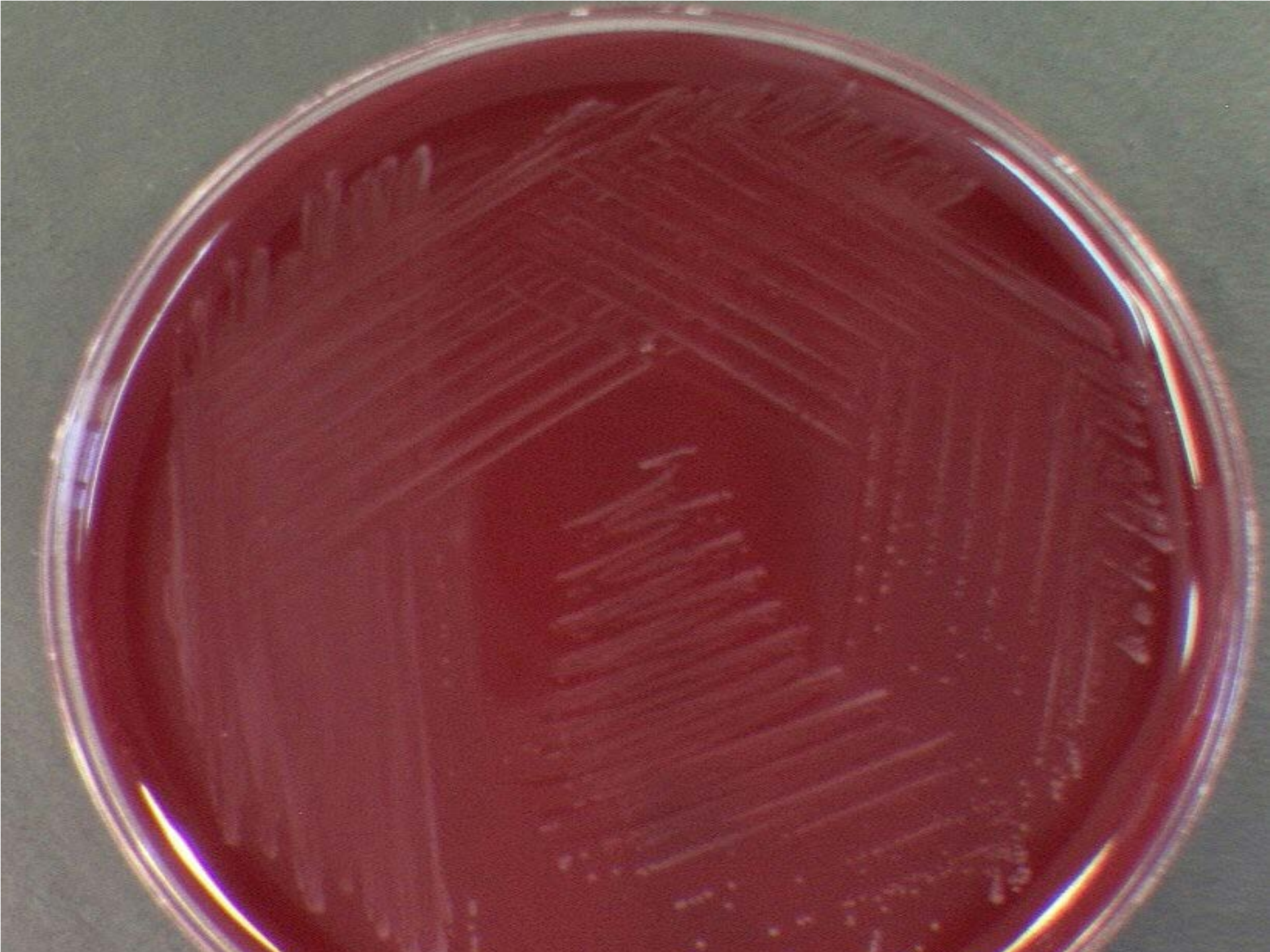
Vancomycin

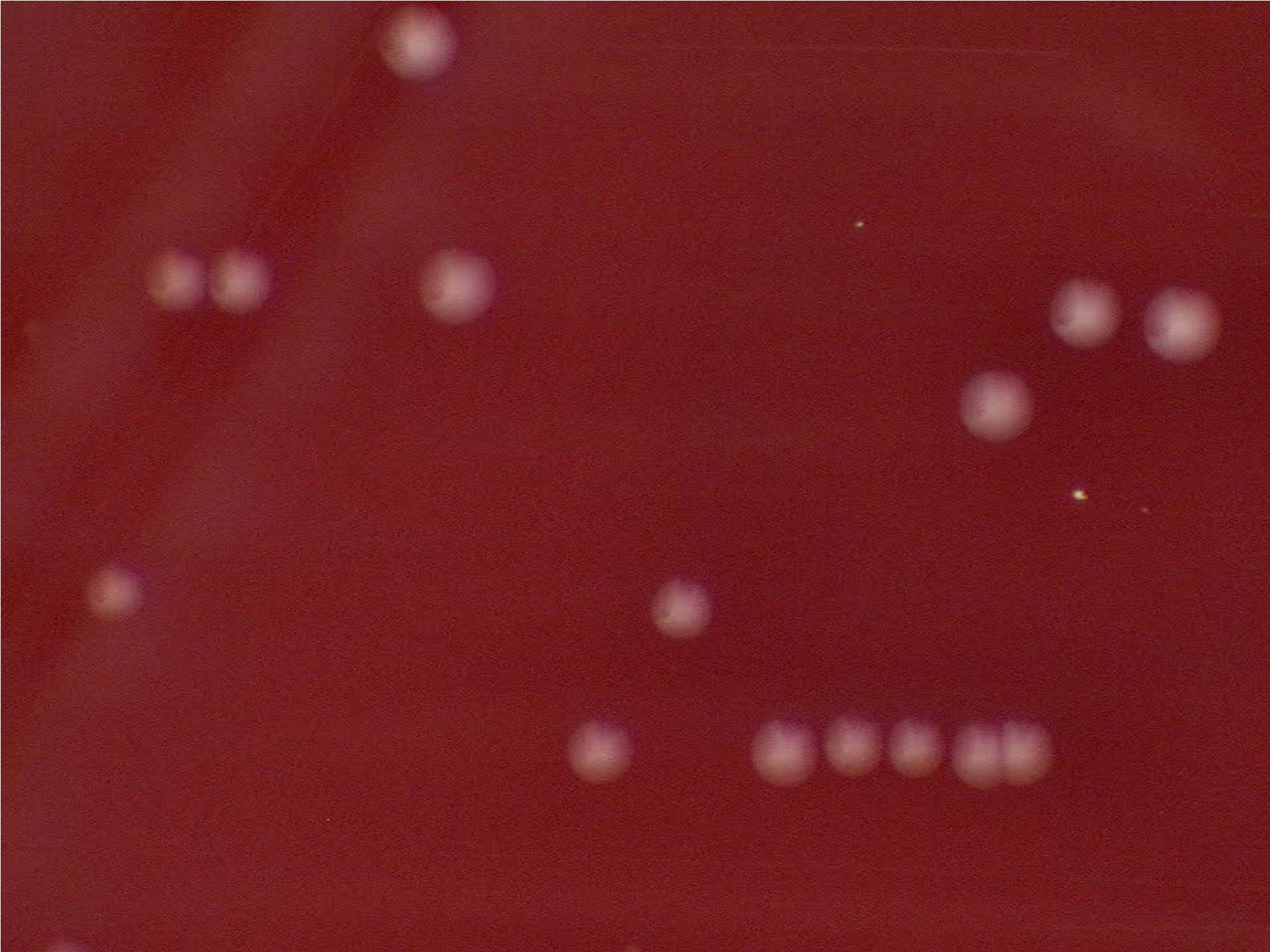
Gram-positive resistant rods

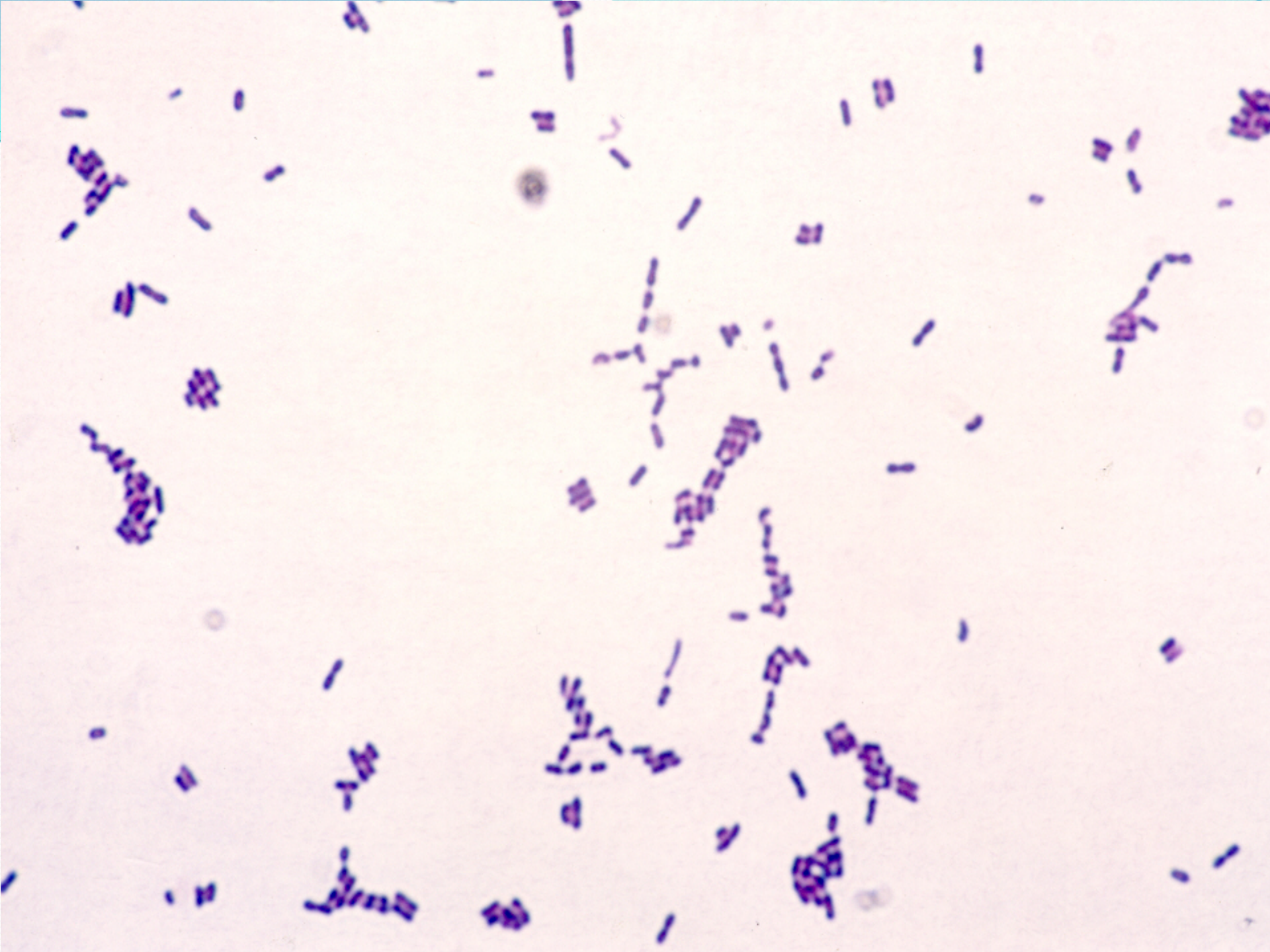
Lactobacillus, Erysipelothrix

Gram-negative sensitive rods/coccobacilli

Moraxella, Acinetobacter

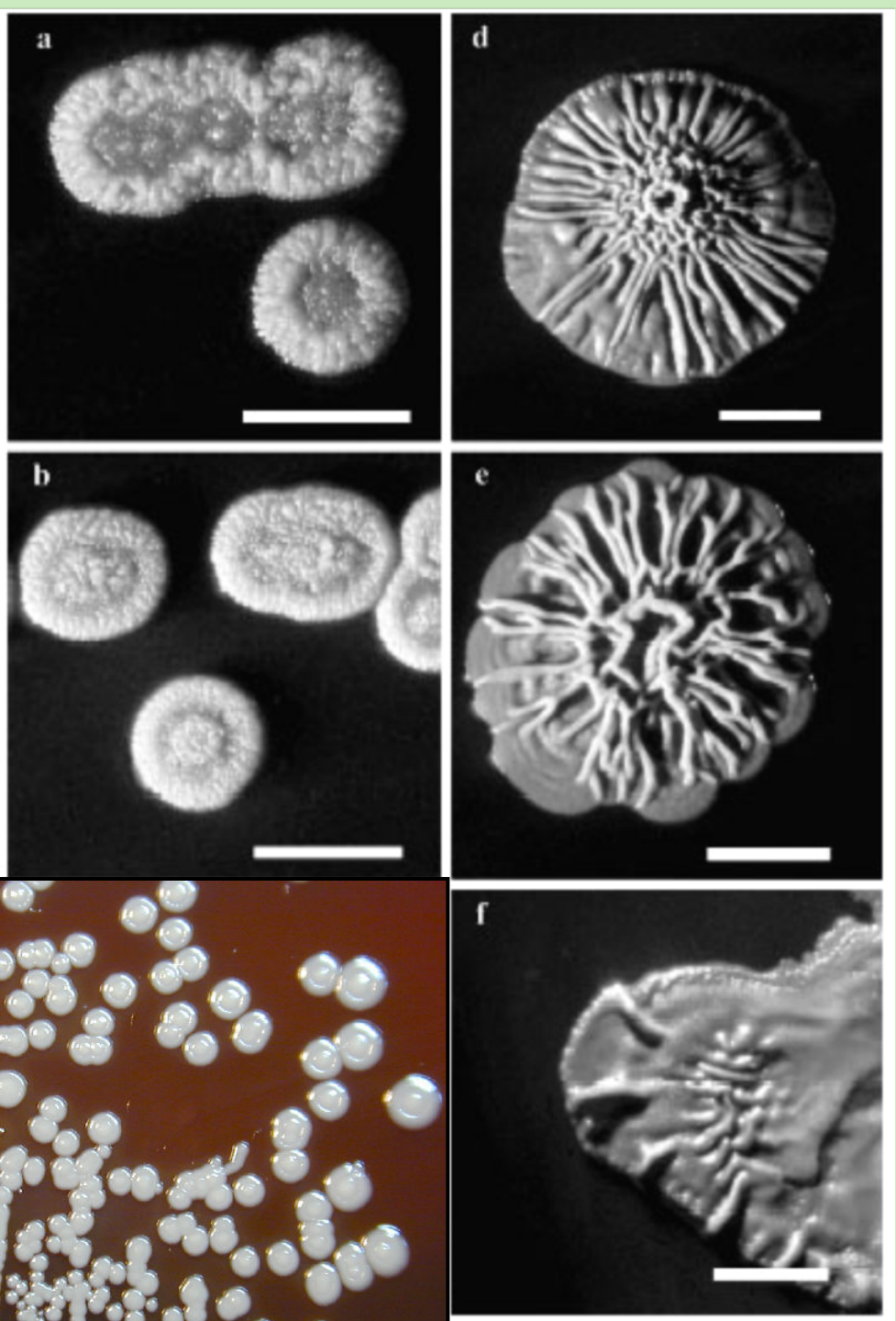






Aerobic spore bearers identifying as Sphingomonas paucimobilis

A Case of Mistaken Identity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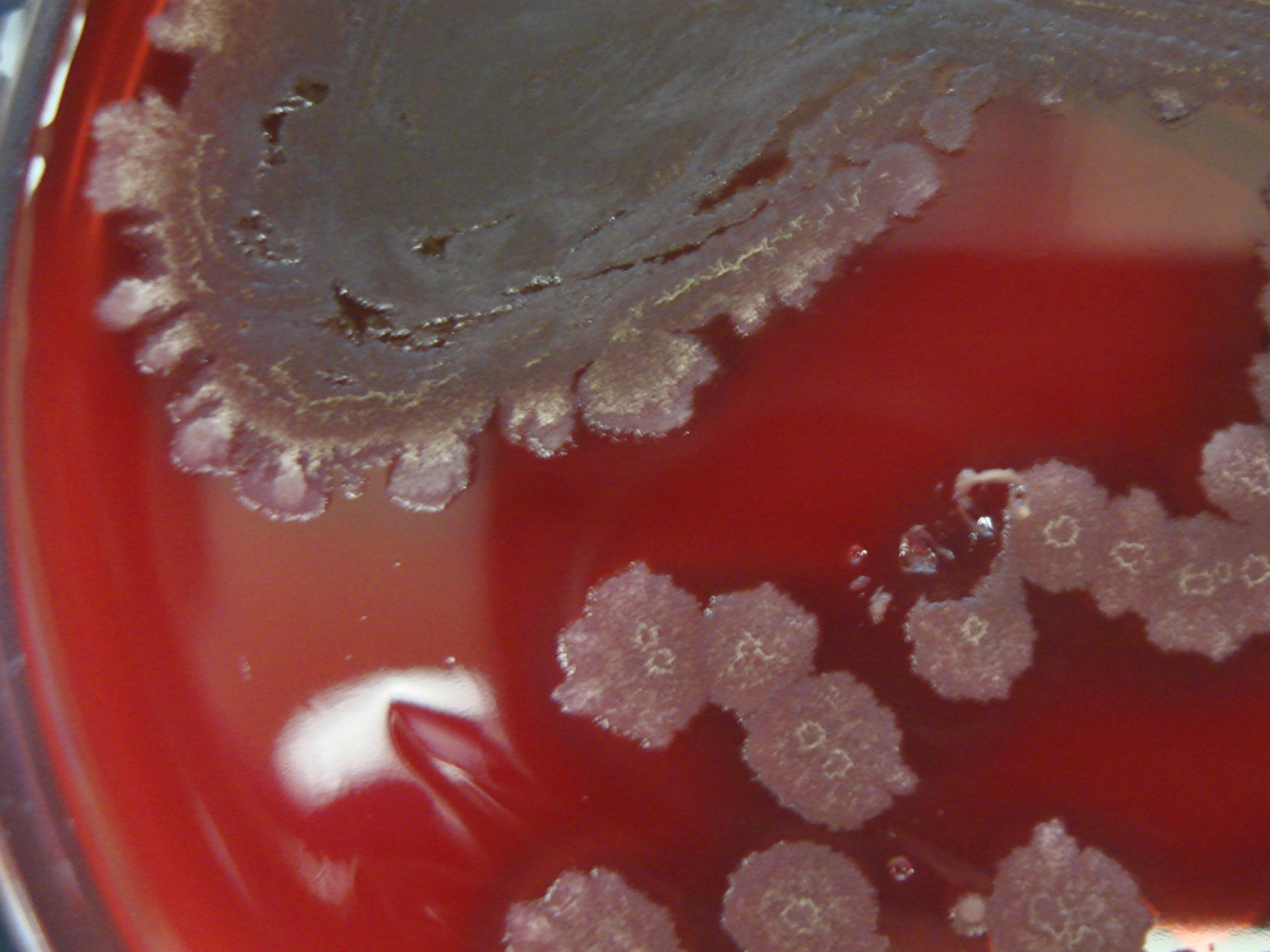

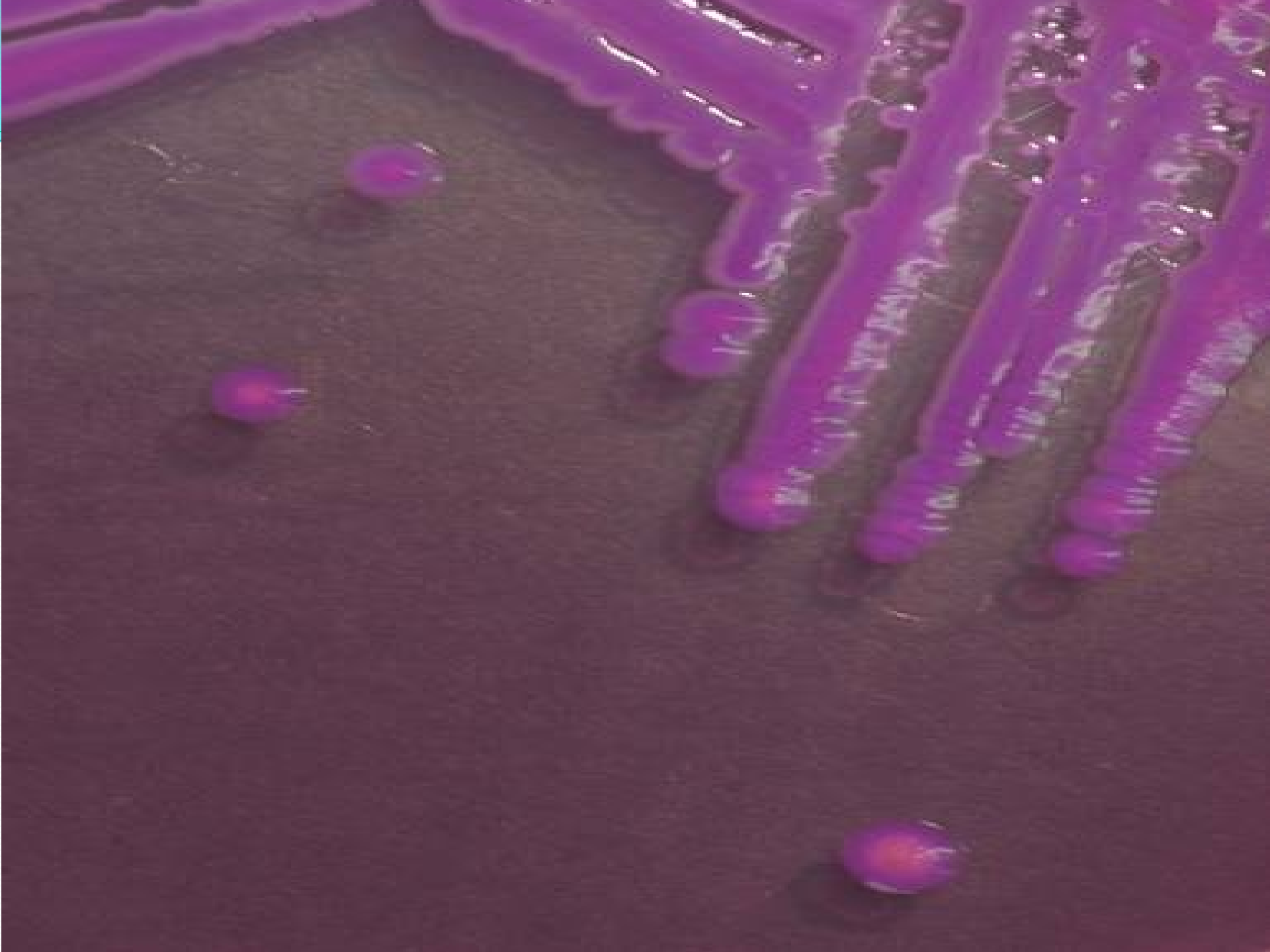

Burkholderia pseudomallei

- **Pseudomonas aeruginosa**
- **Pseudomonas fluorescens**
- **Burkholderia cepacia complex**
- **Chromobacterium violaceum**

Containment level 2 organisms identifying as containment level 3

- **Morganella morganii and Aggregatibacter actinomycetemcomitans identifies as Burkholderia mallei**

- **Chryserobacterium spp. identifies as Francisella tularensis**

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