



# Validering av zonbrytpunkter för streptokocker viridansgruppen

NordicAST workshop 2012

Erika Matuschek

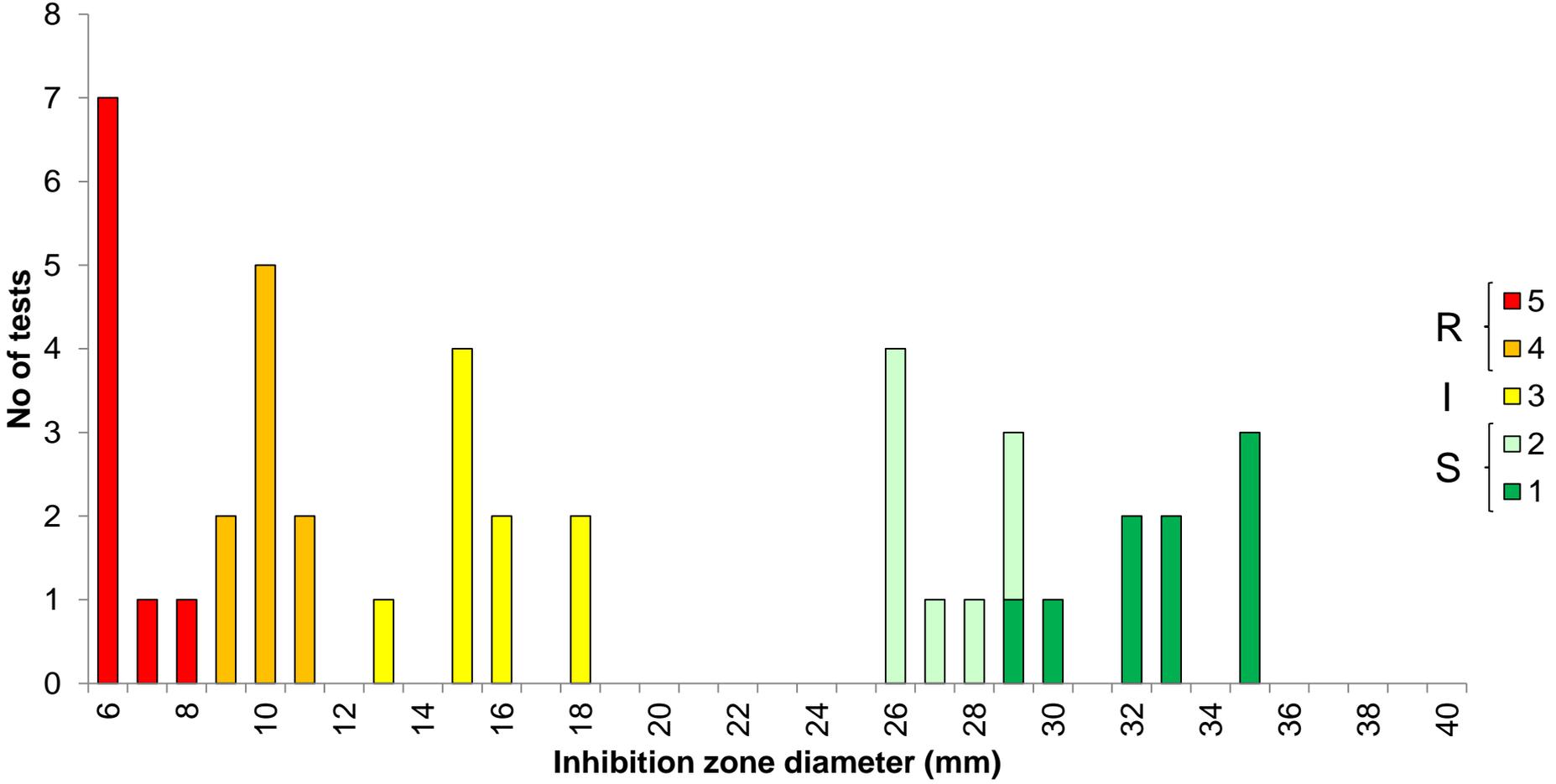
# Valideringsprojekt

- Korrelation mellan zon och MIC för alla antibiotika med zonbrytpunkter
- Validering av av PCG som screen för betalaktamresistens
- 10 deltagande laboratorier
- Lappdiffusion och MIC-bestämning (MH-F)
  - 5 gemensamma kliniska isolat för reproducerbarhet
  - 10-20 lokala kliniska isolat per laboratorium

Reproducerbarhet

# Benzylpenicillin 1 unit

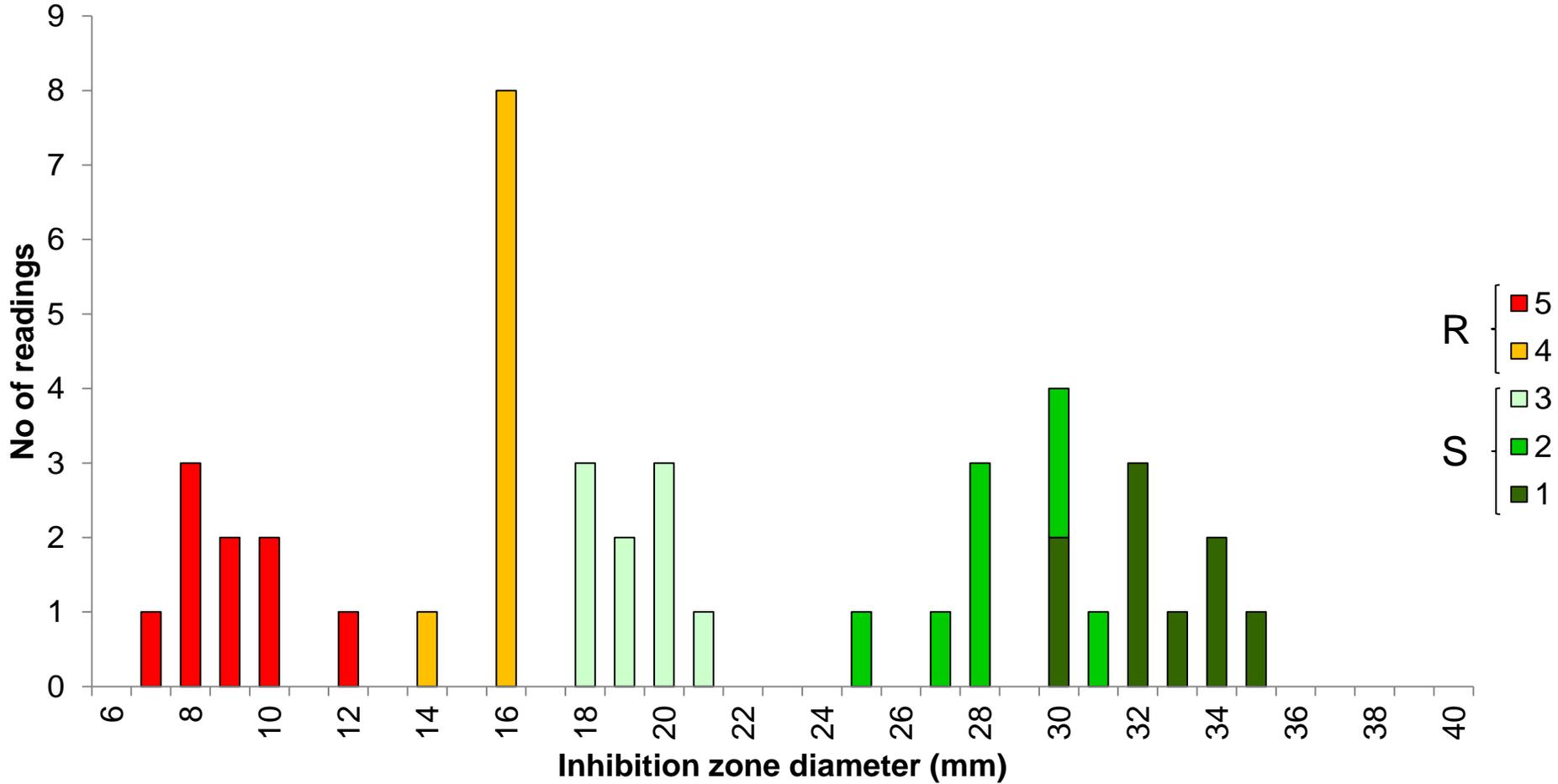
## Viridans streptococci, 5 isolates tested at 9 sites



SIR-kategorisering enligt tidigare MIC-bestämning

# Ampicillin 2 µg

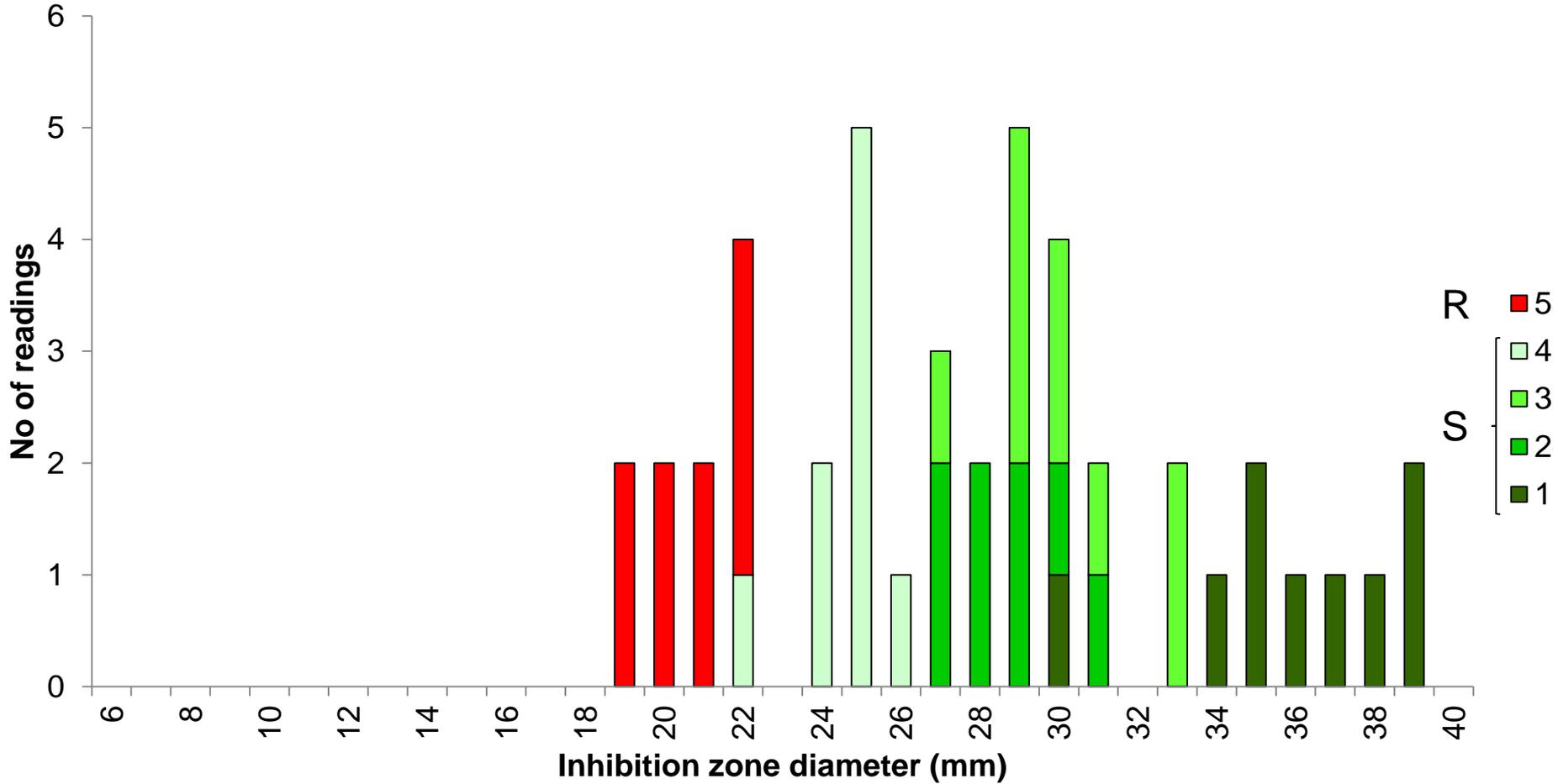
## Viridans streptococci, 5 isolates tested at 9 sites



SIR-kategorisering enligt tidigare MIC-bestämning

# Cefotaxime 5 µg vs. MIC

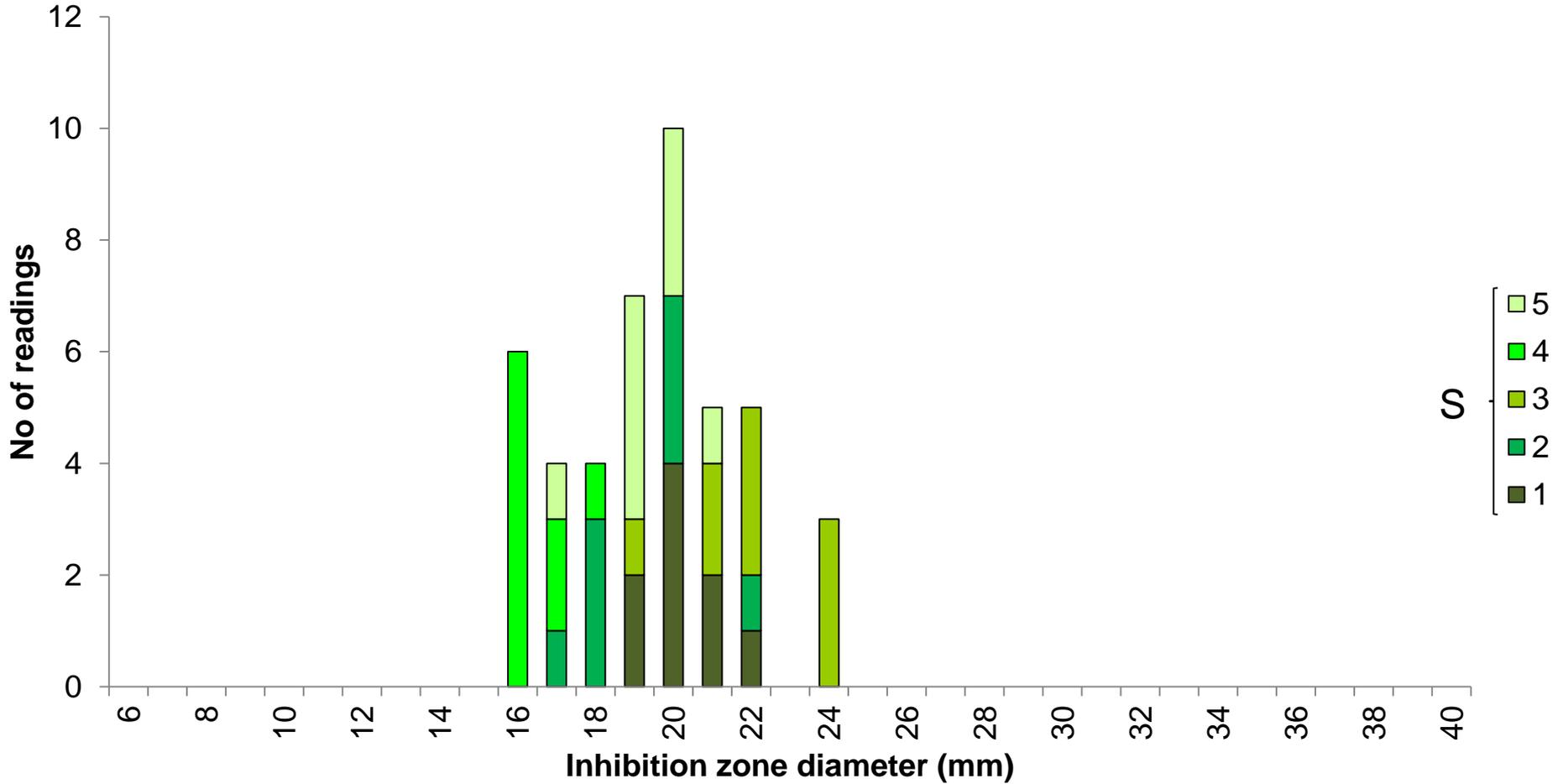
## Viridans streptococci, 5 isolates tested at 9 sites



SIR-kategorisering enligt tidigare MIC-bestämning

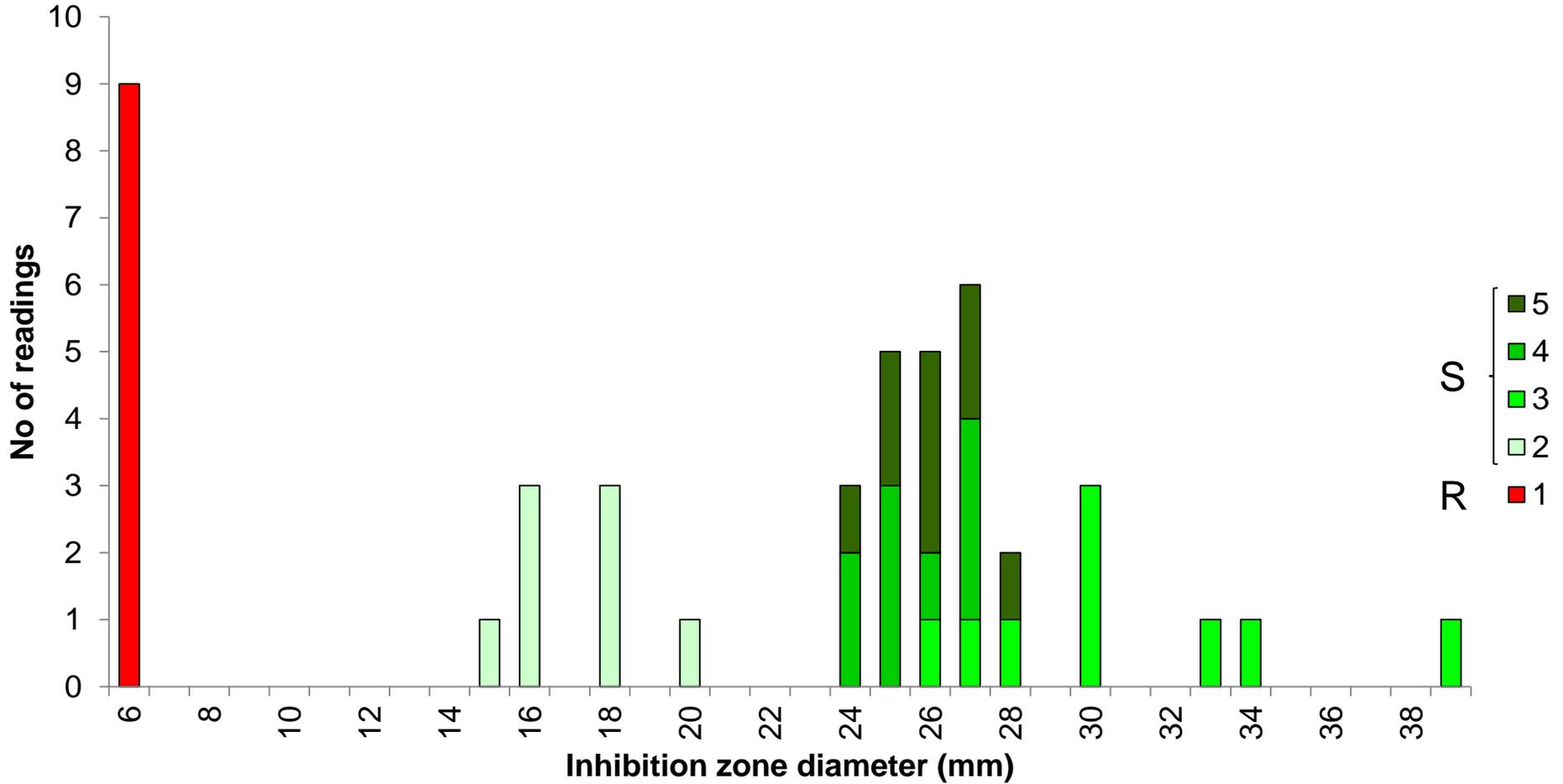
# Vancomycin 5 µg

## Viridans streptococci, 5 isolates tested at 9 sites



SIR-kategorisering enligt tidigare MIC-bestämning

# Clindamycin 2 µg Viridans streptococci, 5 isolates tested at 9 sites

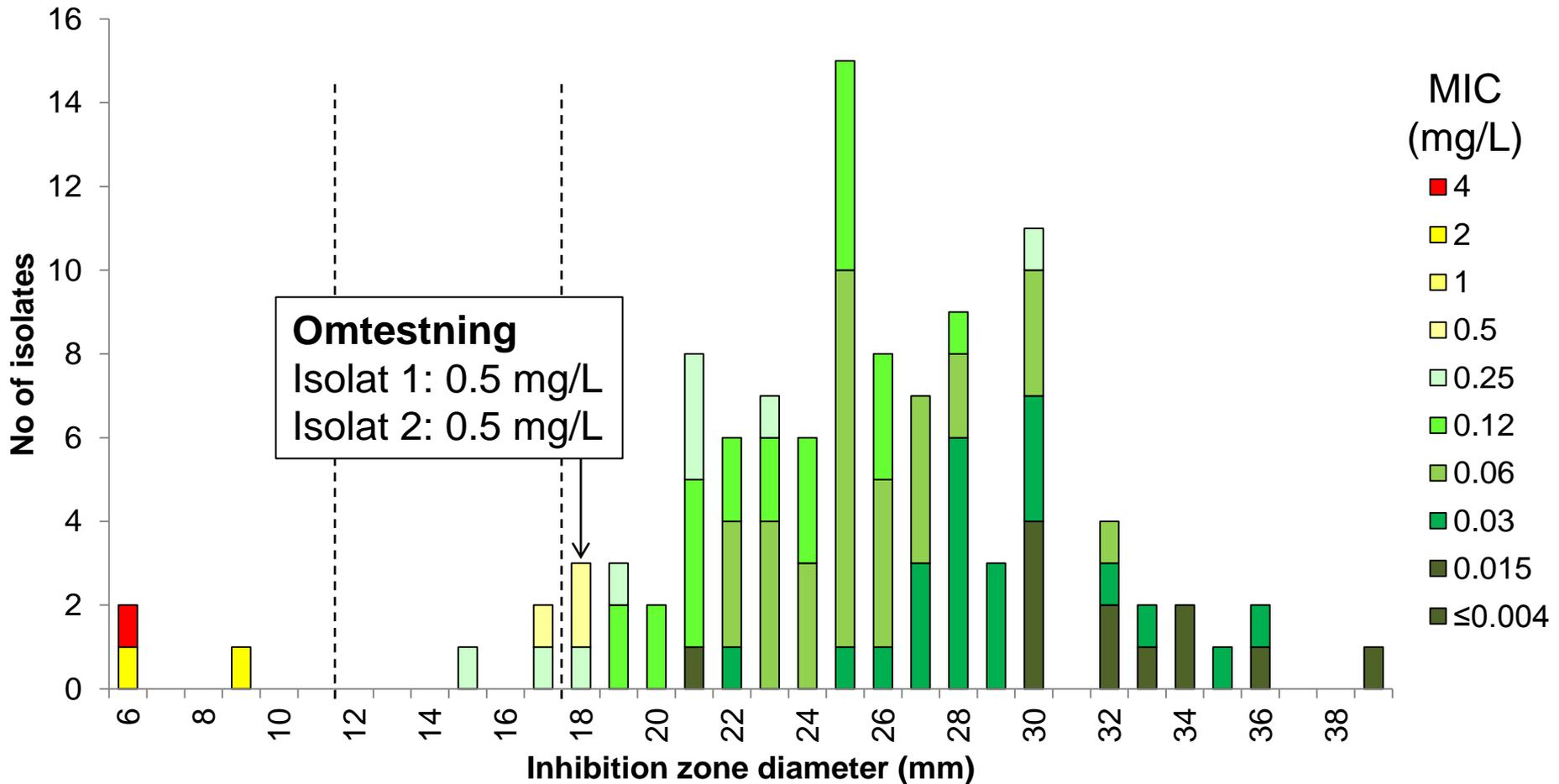


SIR-kategorisering enligt tidigare MIC-bestämning

**Lokala kliniska isolat**

# Benzylpenicillin 1 unit vs. MIC

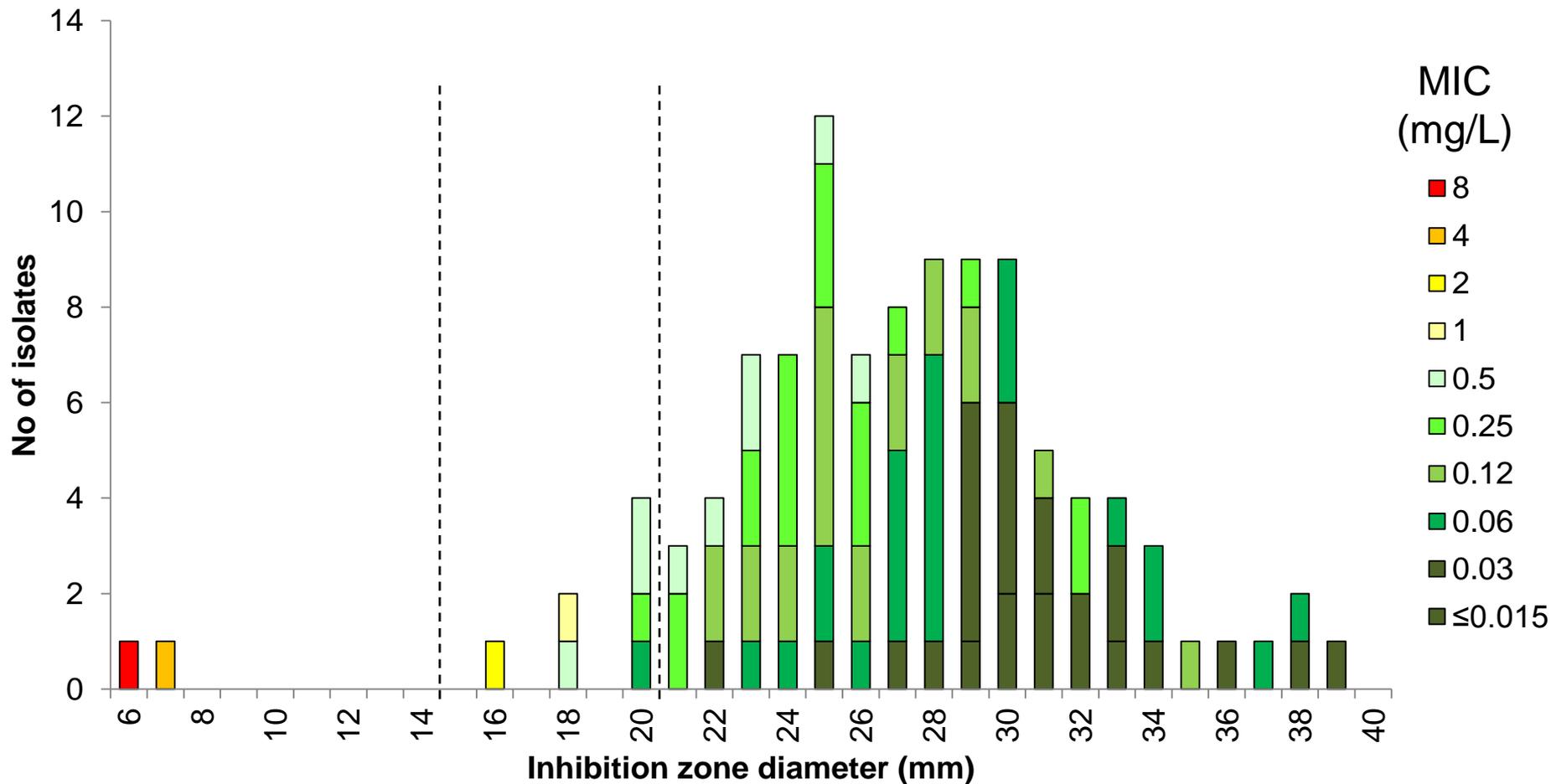
## Viridans group streptococci, 106 clinical isolates



Breakpoints	
MIC	S ≤ 0.25, R > 2 mg/L
Zone diameter	S ≥ 18, R < 12 mm

# Ampicillin 1 $\mu$ g vs. MIC

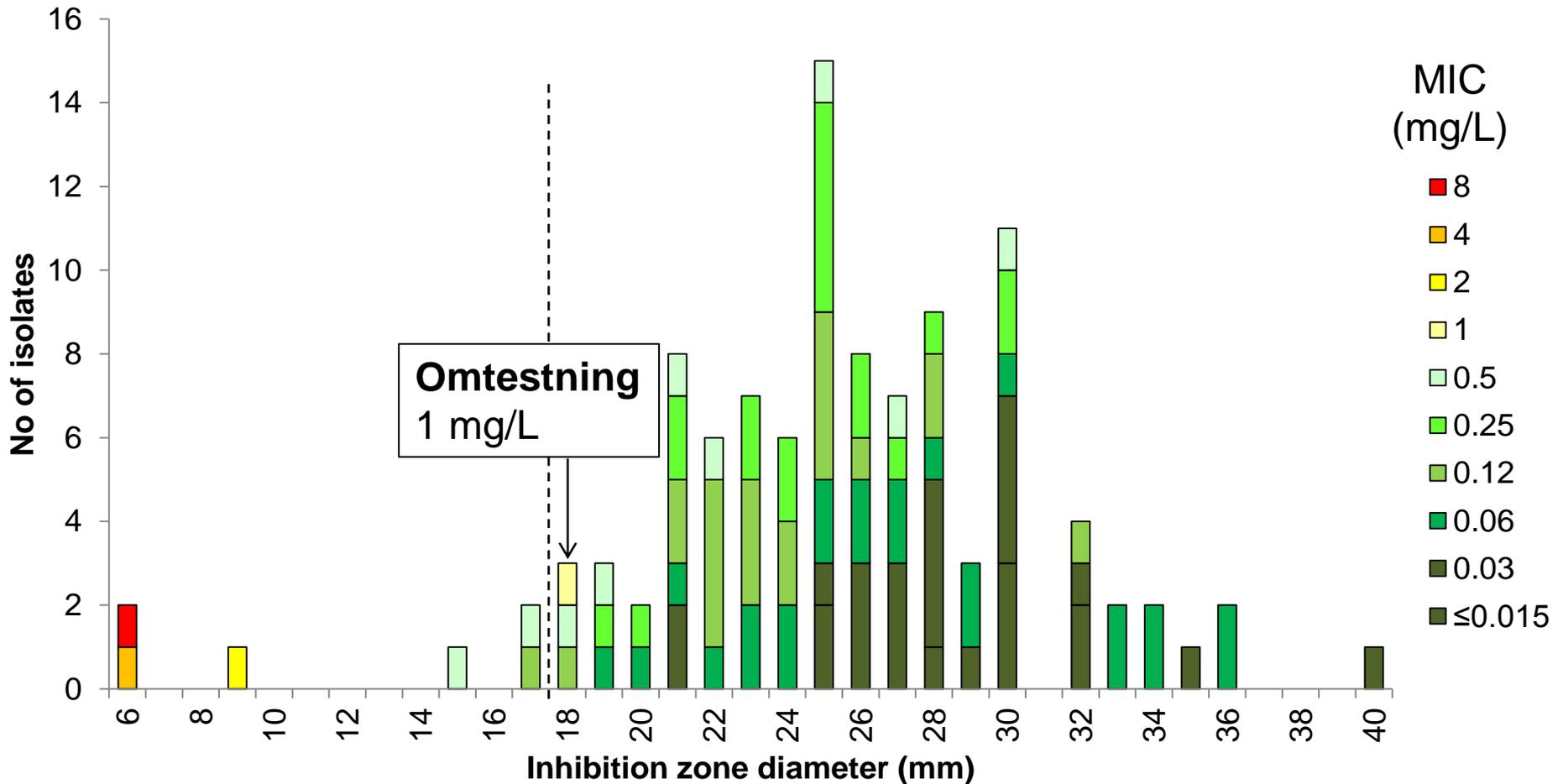
## Viridans group streptococci, 106 clinical isolates



<b>Breakpoints</b>	
MIC	S $\leq$ 0.5, R $>$ 2 mg/L
Zone diameter	S $\geq$ 21, R $<$ 15 mm

# Benzylpenicillin 1 unit vs. Ampicillin MIC

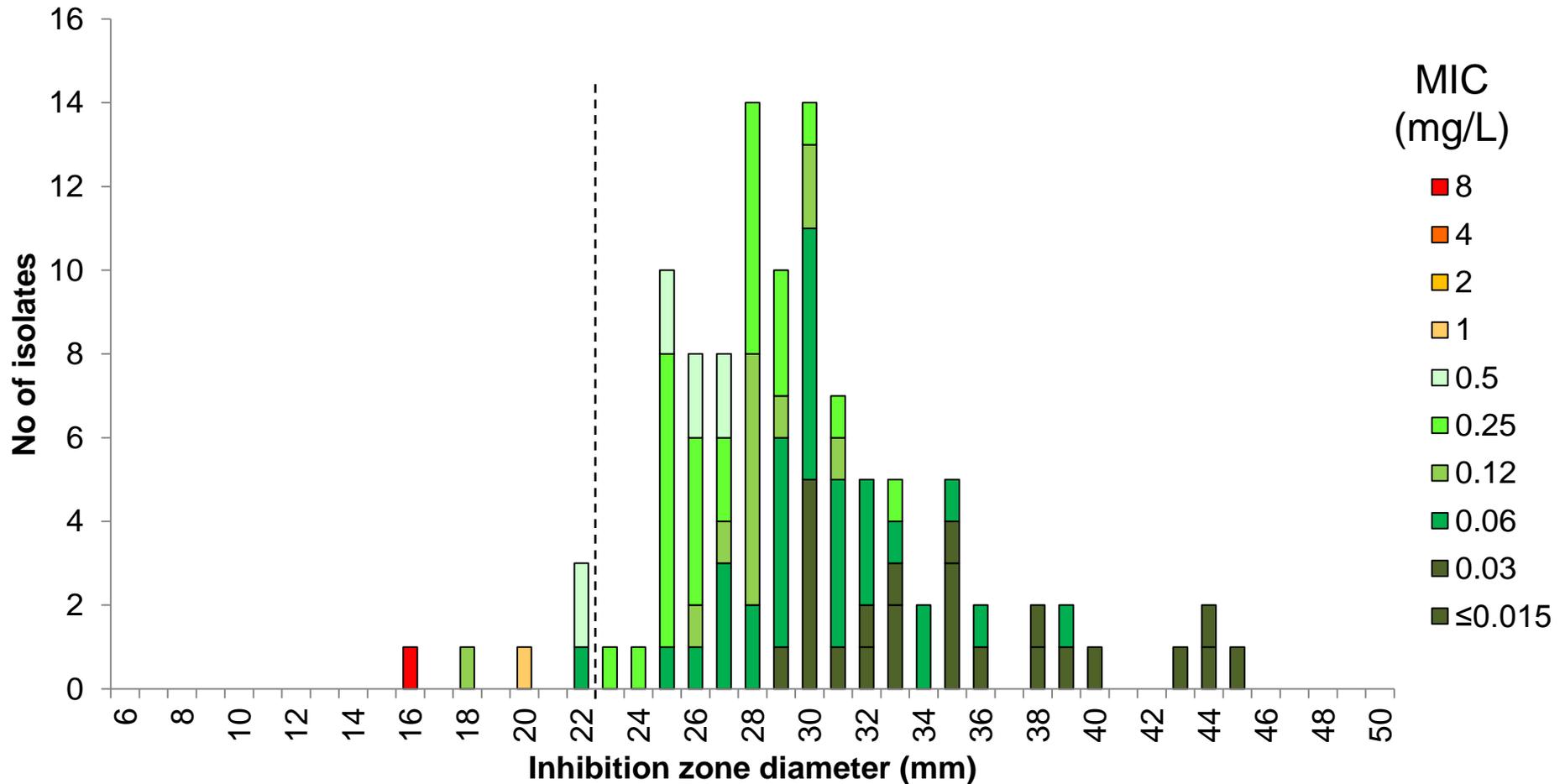
## Viridans group streptococci, 106 clinical isolates



<b>Breakpoints</b>	
Ampicillin MIC	S ≤ 0.5, R > 2 mg/L
PCG Zone diameter	S ≥ 18 mm (screen)

# Cefotaxime 5 µg vs. MIC

## Viridans group streptococci, 107 clinical isolates

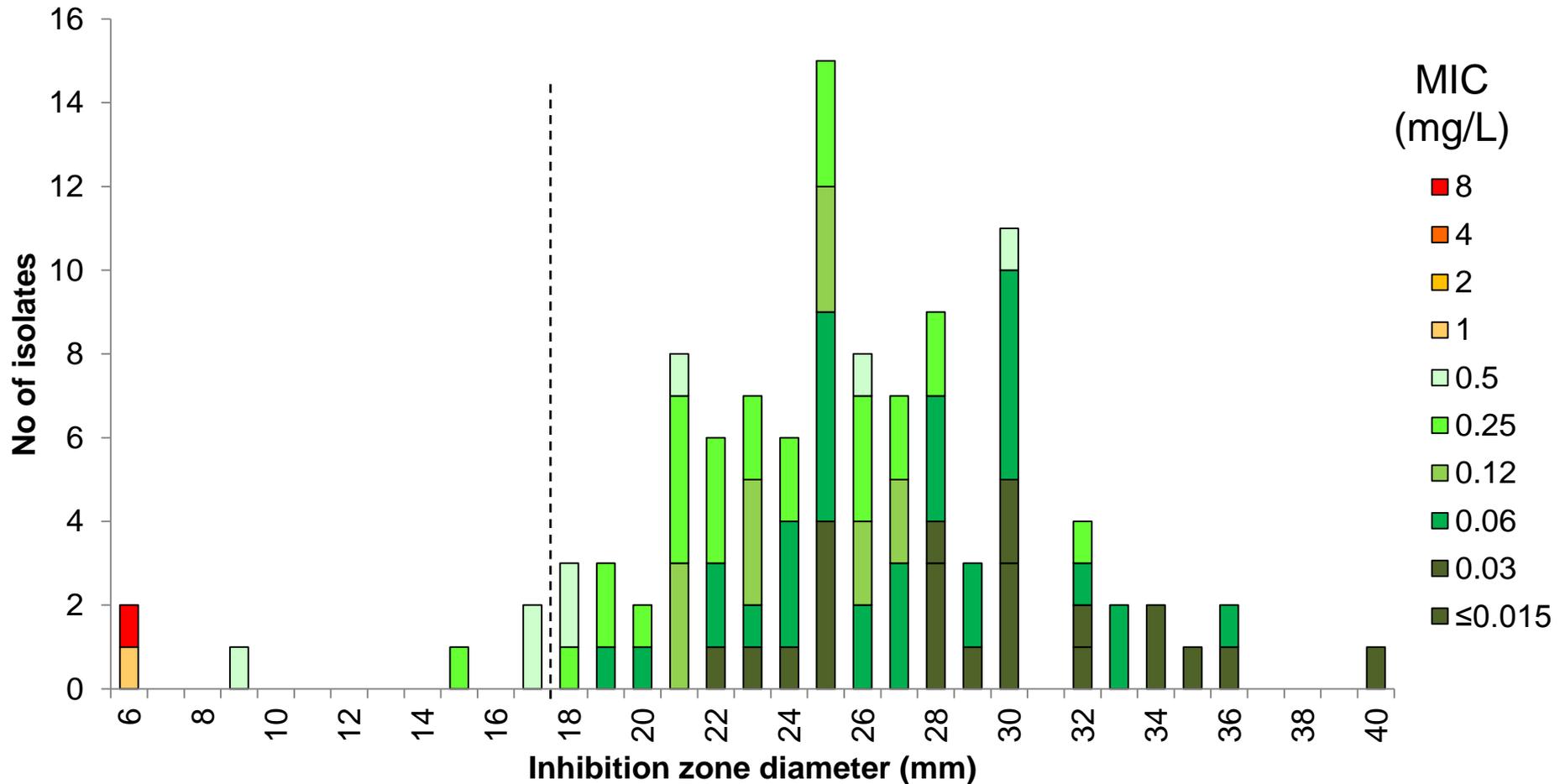


**Breakpoints**

MIC	S ≤ 0.5, R > 0.5 mg/L
Zone diameter	S ≥ 23, R < 23 mm

# Benzylpenicillin 1 unit vs. Cefotaxime MIC

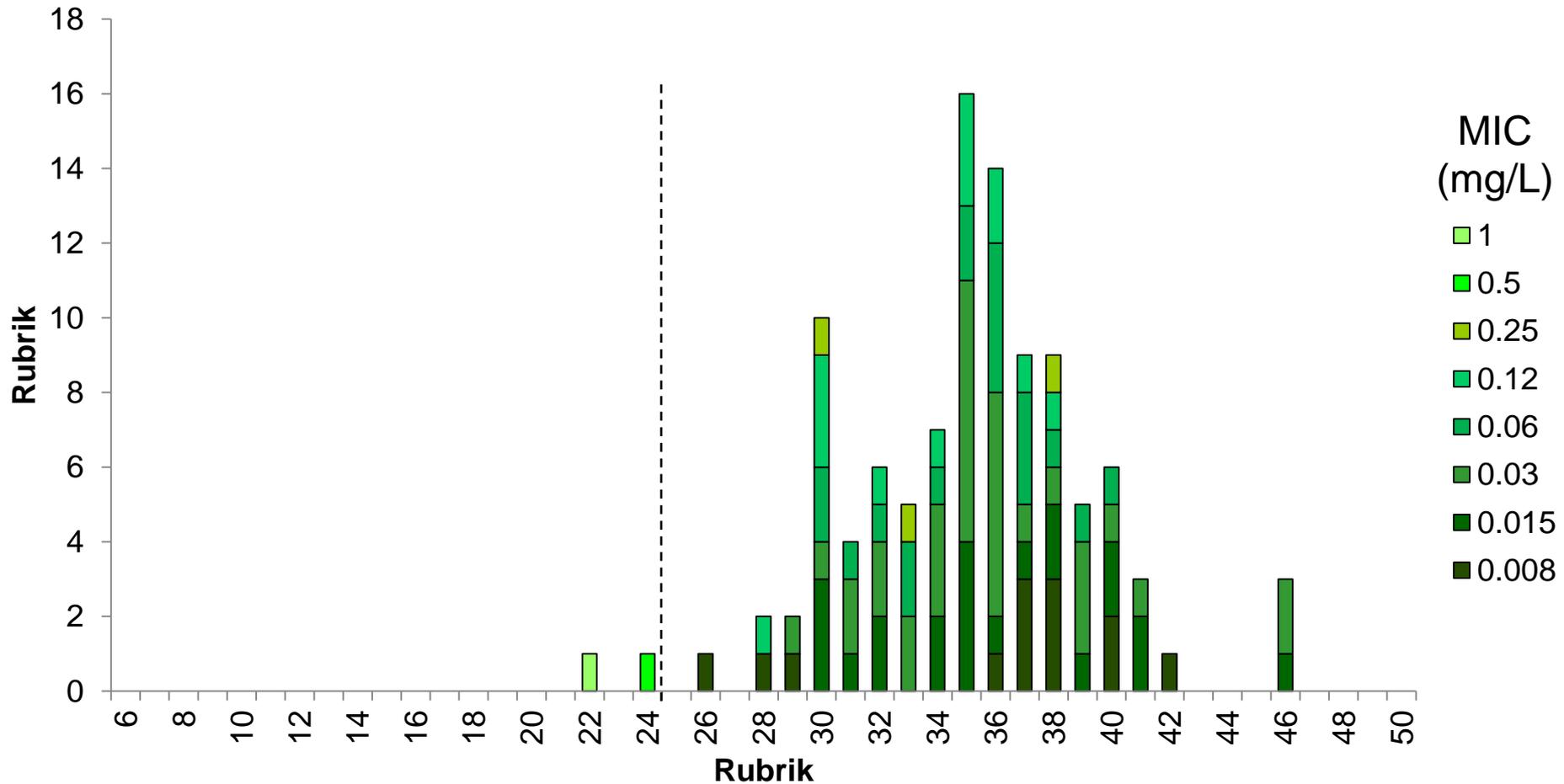
## Viridans group streptococci, 107 clinical isolates



<b>Breakpoints</b>	
Cefotaxime MIC	S≤0.5, R>0.5 mg/L
PCG Zone diameter	S≥18 mm (screen)

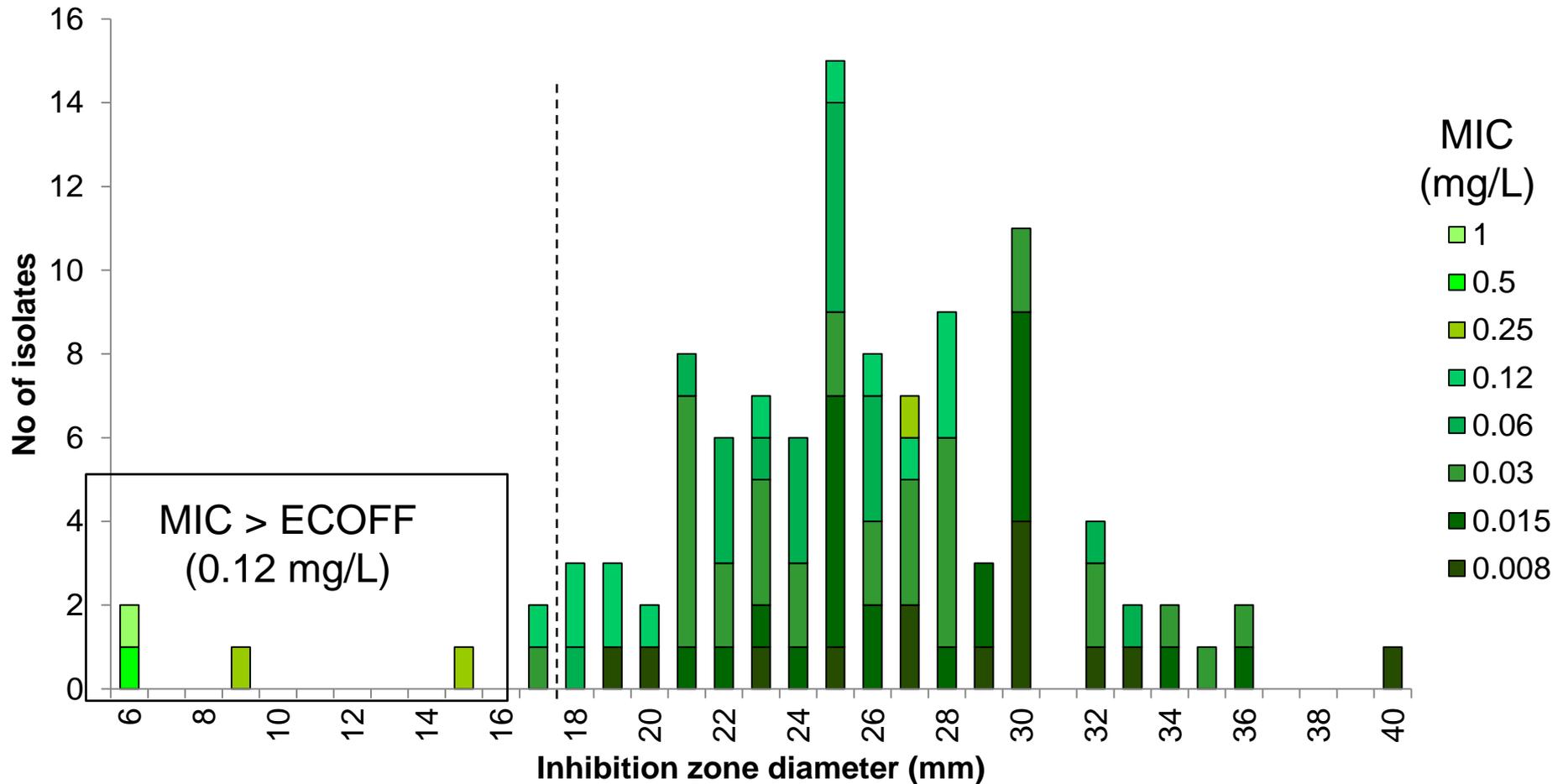
# Meropenem 10 µg vs. MIC

## Viridans group streptococci, 105 clinical isolates



# Benzylpenicillin 1 unit vs. Meropenem MIC

## Viridans group streptococci, 106 clinical isolates



### Breakpoints

Meropenem MIC

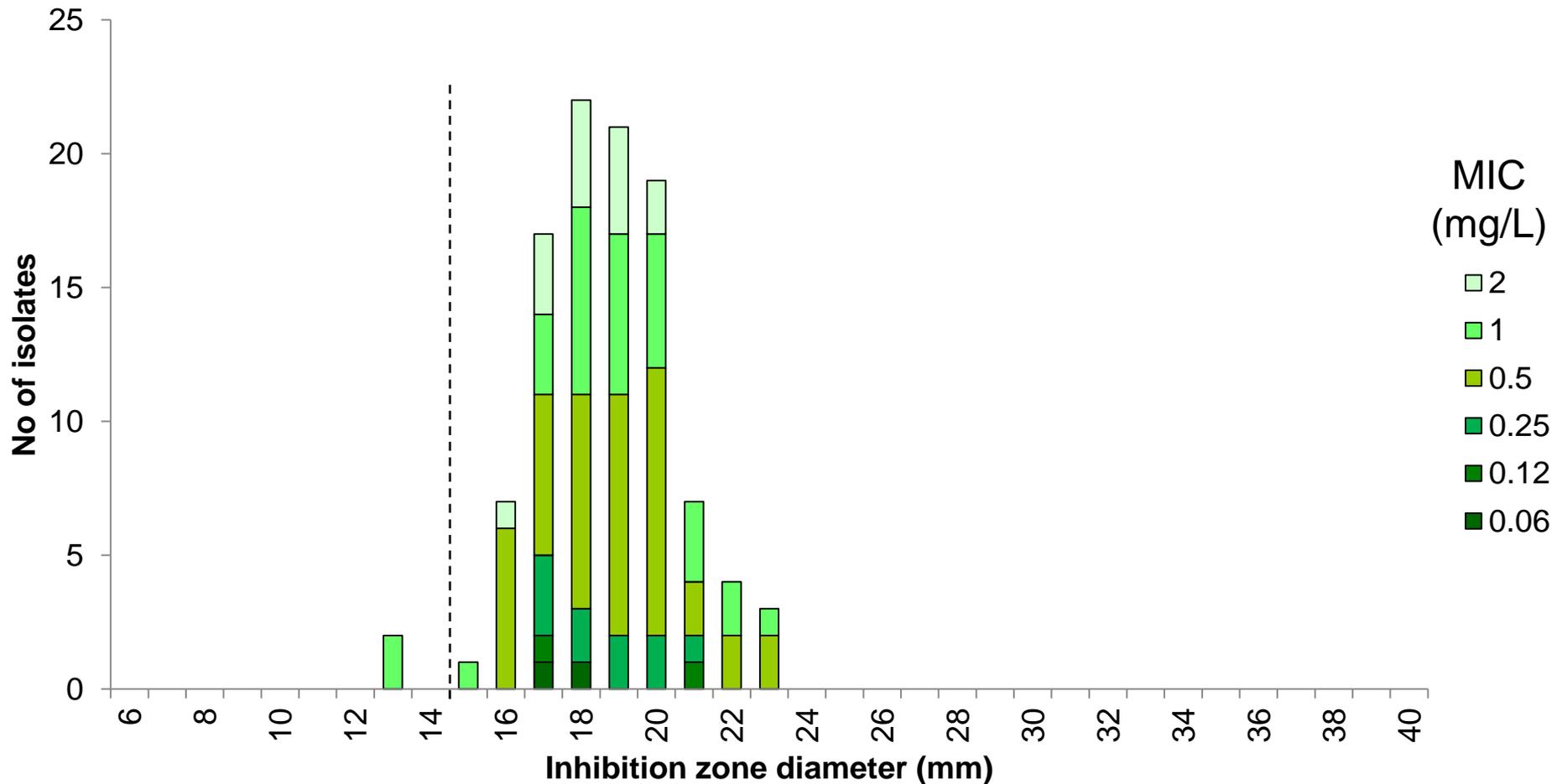
$S \leq 2$ ,  $R > 2$  mg/L

PCG Zone diameter

$S \geq 18$  mm (screen)

# Vancomycin 5 µg vs. MIC

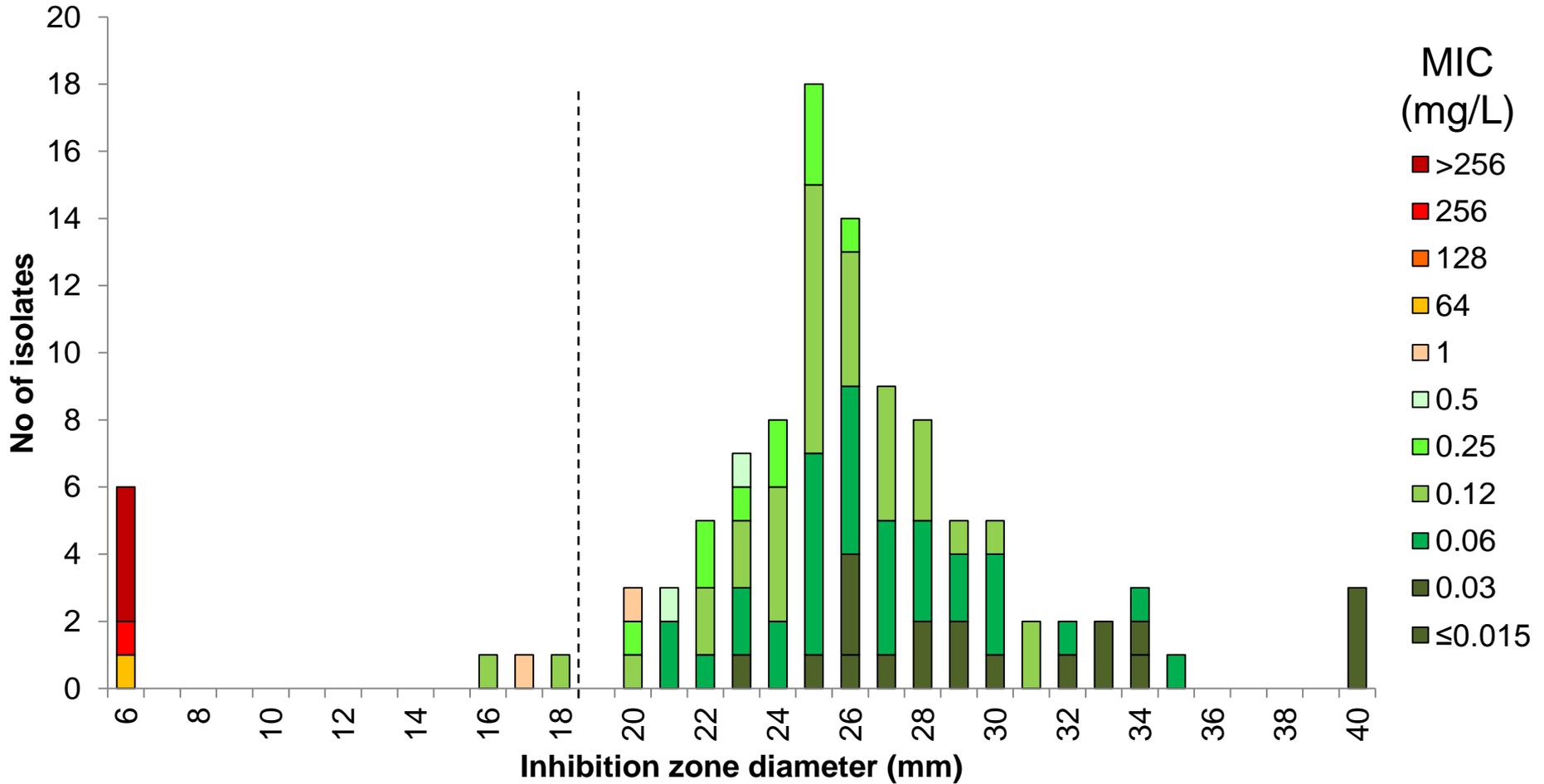
## Viridans group streptococci, 103 clinical isolates



Breakpoints	
MIC	$S \leq 2$ , $R > 2$ mg/L
Zone diameter	$S \geq 15$ , $R < 15$ mm

# Clindamycin 2 µg vs. MIC

## Viridans group streptococci, 107 clinical isolates



Breakpoints	
MIC	S ≤ 0.5, R > 0.5 mg/L
Zone diameter	S ≥ 19, R < 19 mm

# Slutsatser

- God reproducerbarhet mellan laboratorierna
- Små justeringar av vissa zonbrytpunkter
- Screeningbrytpunkten för PCG 1 unit utvärderas med ytterligare resultat

# PCG 1 unit vs. MIC

Organism	PCG 1 unit		PCG MIC	AMP MIC	CTX MIC	MER MIC
	1st test	Retest				
<i>S. mitis/oralis</i>	6	6	2	4	1	0.5
<i>S. mitis</i>	6	6	4	8	8	1
<i>S. vestibularis</i>	9	8	2	2	0.5	0.25
<i>S. mitis/oralis</i>	15	14	0.25	0.5	0.25	0.25
<i>S. salivarius</i>	17	16	0.25	0.5	0.5	0.032
<i>S. salivarius</i> gruppen	17	18	0.5	0.125	0.5	0.125
<i>S. parasanguinis</i>	18	18	0.5	1	0.25	0.064
<i>S. salivarius</i>	18	16	0.25	0.5	0.5	0.125
<i>S. salivarius</i> gruppen	18	19	0.5	0.125	0.5	0.125
<i>S. anginosus</i>	19	22	0.12	0.06	0.064	0.008
<i>S. anginosus</i>	20	23	0.125	0.25	0.25	0.125
<i>S. massiliensis</i>	21	18	0.25	0.25	0.5	0.032

S
I
R
Above ECOFF