EUCAST European Committee on Antimicrobial Susceptibility Testing

Corynebacterium spp.
other than *C. diphtheriae* and *C. ulcerans*

Calibration of zone diameter breakpoints to MIC values

Version 6.2
January 2026

Corynebacterium spp.
MIC and zone diameter correlates

- The following histograms present inhibition zone diameter distributions from EUCAST antimicrobial susceptibility testing. In most, the different colours of the bars indicate different MIC values. In some, the colours of the bars indicate a resistance gene or a resistance mechanism.

- The distributions include data for wild-type isolates and for isolates with acquired resistance mechanisms. A large number of isolates with MIC values close to the edge of the wild-type distribution and/or close to EUCAST clinical breakpoints were intentionally included. These distributions can not be used to infer resistance rates or the performance of the tests with routine isolates.

- For some agents, isolates were tested on more than one occasion, including parallel tests with disks and media from several manufacturers. When this is the case, data are presented as both the “number of isolates tested” and the “total number of MIC-zone diameter correlates”, including replicate tests and parallel tests with disks and media from different sources.

Corynebacterium spp. Materials and methods

- Antimicrobial susceptibility testing was performed on clinical isolates of *Corynebacterium* spp. other than *C. diphtheriae* and *C. ulcerans.* Disk diffusion was performed according to EUCAST methodology and MIC determination was performed with broth microdilution using MH-F broth. Species identification was performed with MALDI-TOF MS.

- Note that breakpoints in this presentation apply only to *Corynebacterium* spp. other than *C. diphtheriae* and *C. ulcerans.* Distributions and breakpoints for *C. diphtheriae* and *C. ulcerans* are presented in a separate document.

- The distributions of MIC vs. zone diameter in this presentation are the result of a collaboration between EUCAST, Hosp. Univ. Marqués de Valdecilla, Santander, Spain, JMI Laboratories, North Liberty, USA and Dr. Mustafa, Dr. Richter OG, Salzburg, Austria.

- This presentation is based on EUCAST Clinical Breakpoint Tables v. 16.0.

Changes from previous version (6.1)

Changes
• No changes. Breakpoints checked against latest version of EUCAST Clinical Breakpoint Tables.

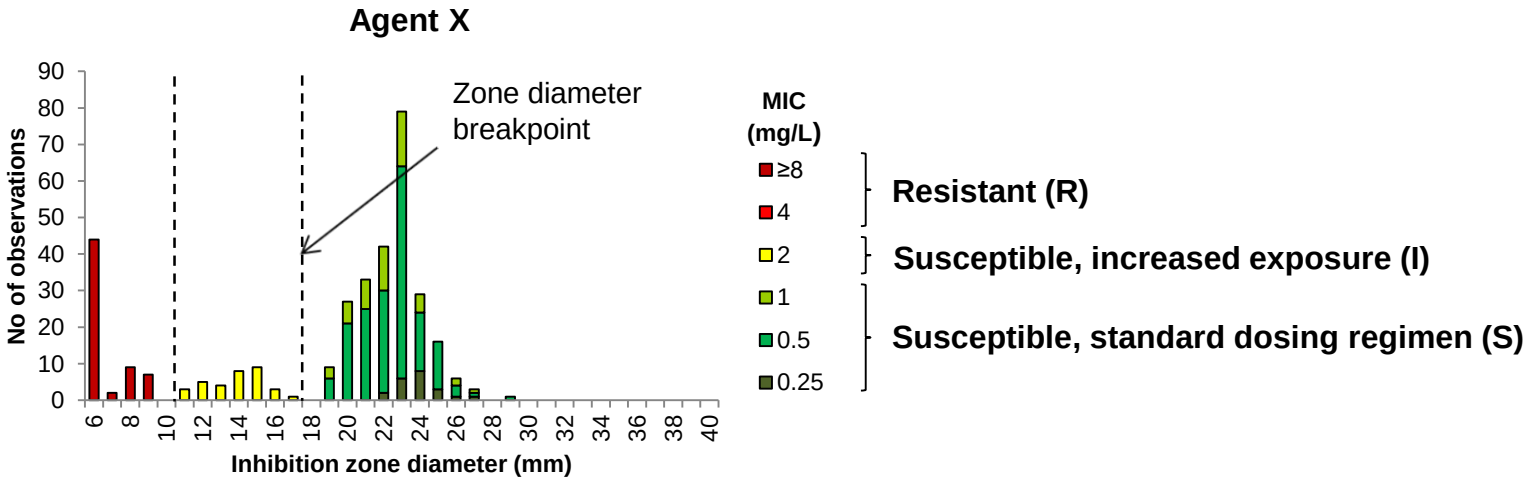
Corynebacterium species according to MALDI-TOF

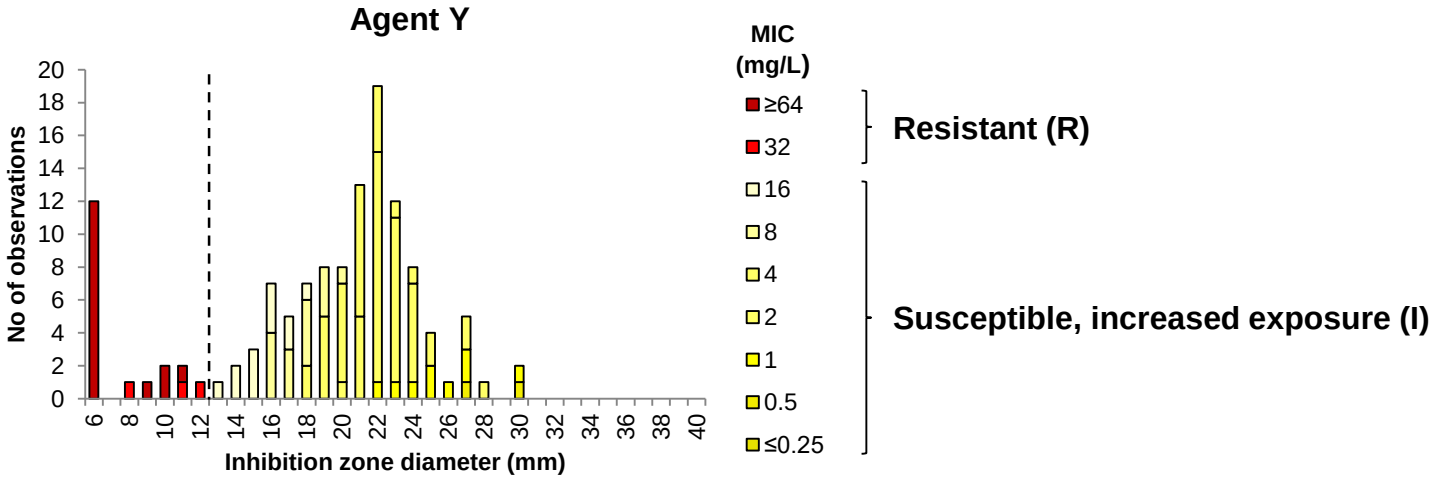
- 284 clinical isolates:
  - *C. striatum* (n=78)
  - *C. amycolatum* (n=63)
  - *C. jeikeium* (n=35)
  - *C. pseudodiphtheriticum* (n=23)
  - *C. urealyticum* (n=18)
  - *C. glucuronolyticum* (n=16)
  - *C. afermentans* (n=9)
  - *C. aurimucosum* (n=8)
  - *C. propinquum* (n=8)
  - *C. singulare* (n=4)
  - *C. macginleyi* (4)
  - Other: (n=18)

    C. coyleae, C. imitans, C. glucuronolyticum, C. minutissimum, C. xerosis, C. freneyi, C. mucifaciens, C. riegelii, and *C. simulans*.

Explanation of graphs:

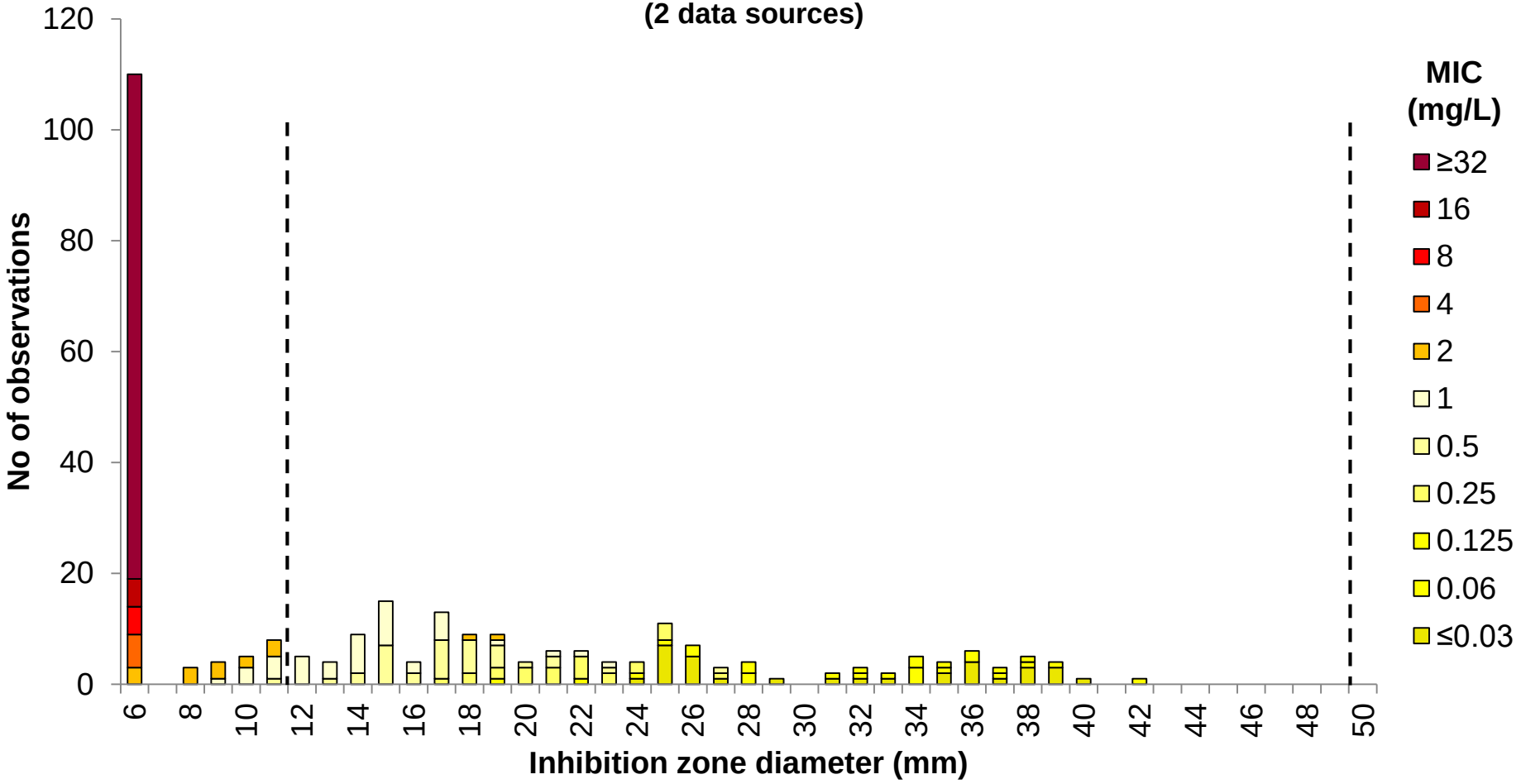
- These graphs show zone diameter distributions with MIC values or resistance mechanisms as coloured bars. Colours are related to current EUCAST MIC breakpoints.





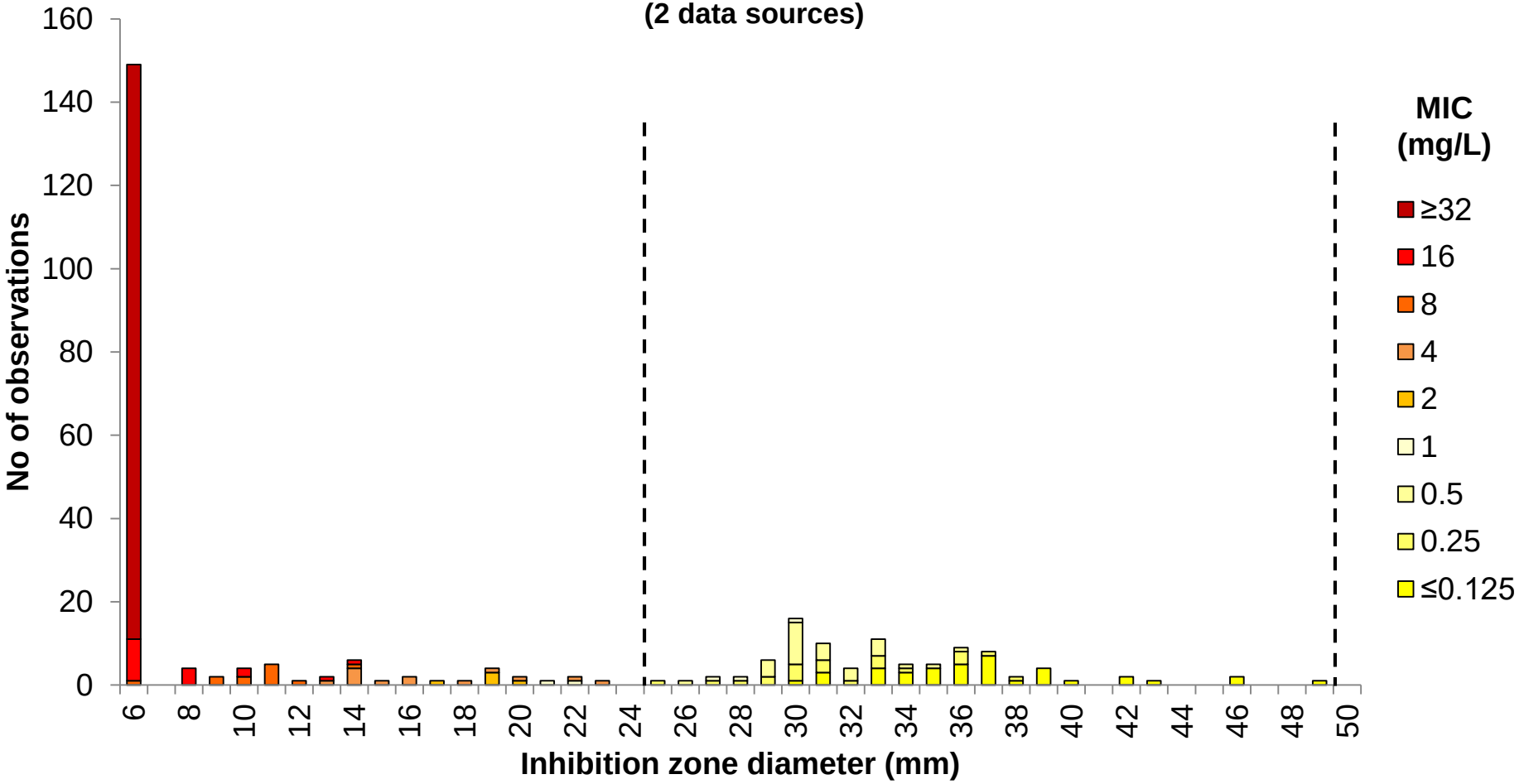
Benzylpenicillin 1 unit vs. MIC
Corynebacterium spp., 284 isolates

(2 data sources)



Breakpoints	
MIC	S≤0.001, R>1 mg/L
Zone diameter	S≥50, R<12 mm

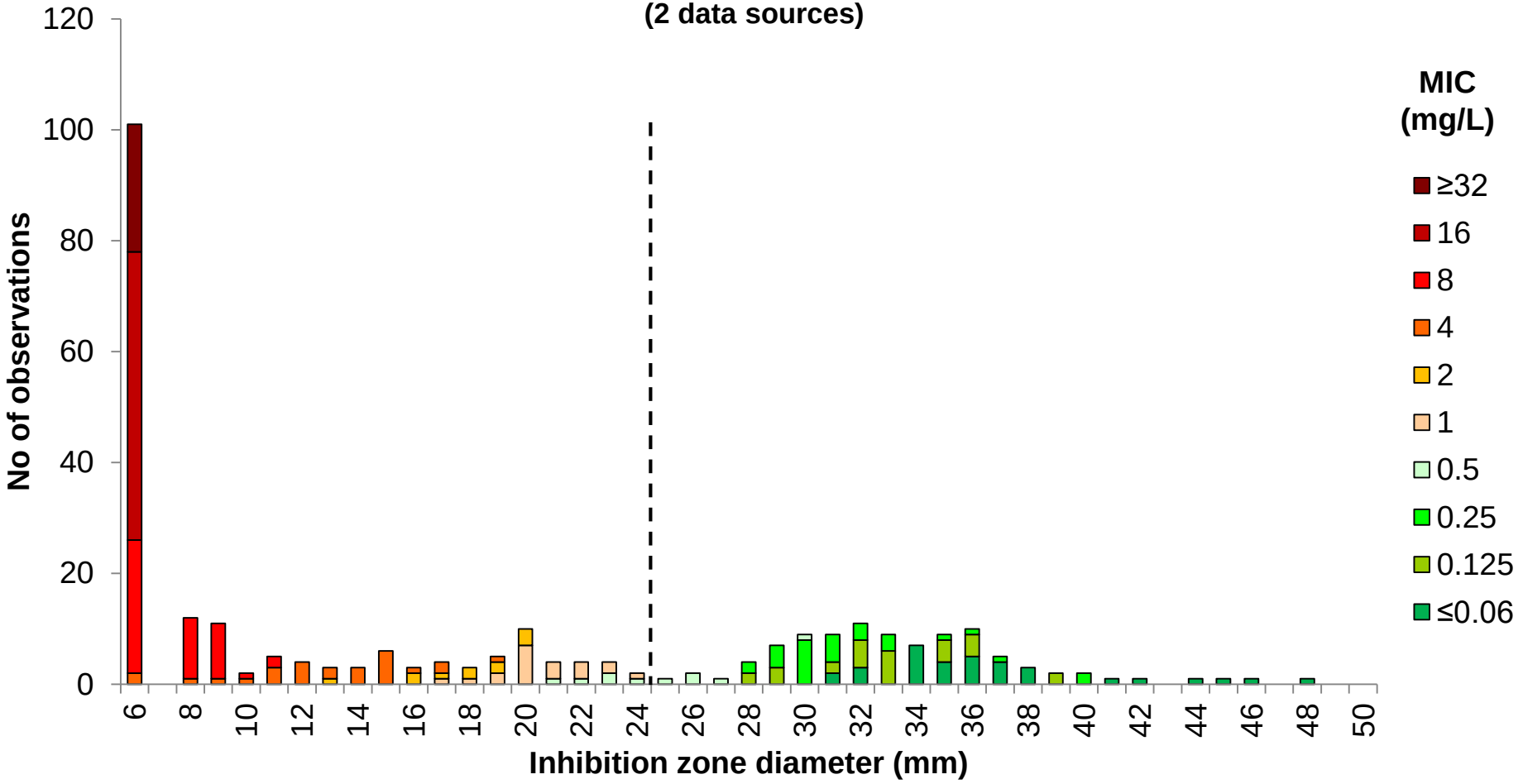
Ciprofloxacin 5 µg vs. MIC
Corynebacterium spp., 281 isolates



Breakpoints	
MIC	S≤0.001, R>1 mg/L
Zone diameter	S≥50, R<25 mm

Moxifloxacin 5 µg vs. MIC
Corynebacterium spp., 283 isolates

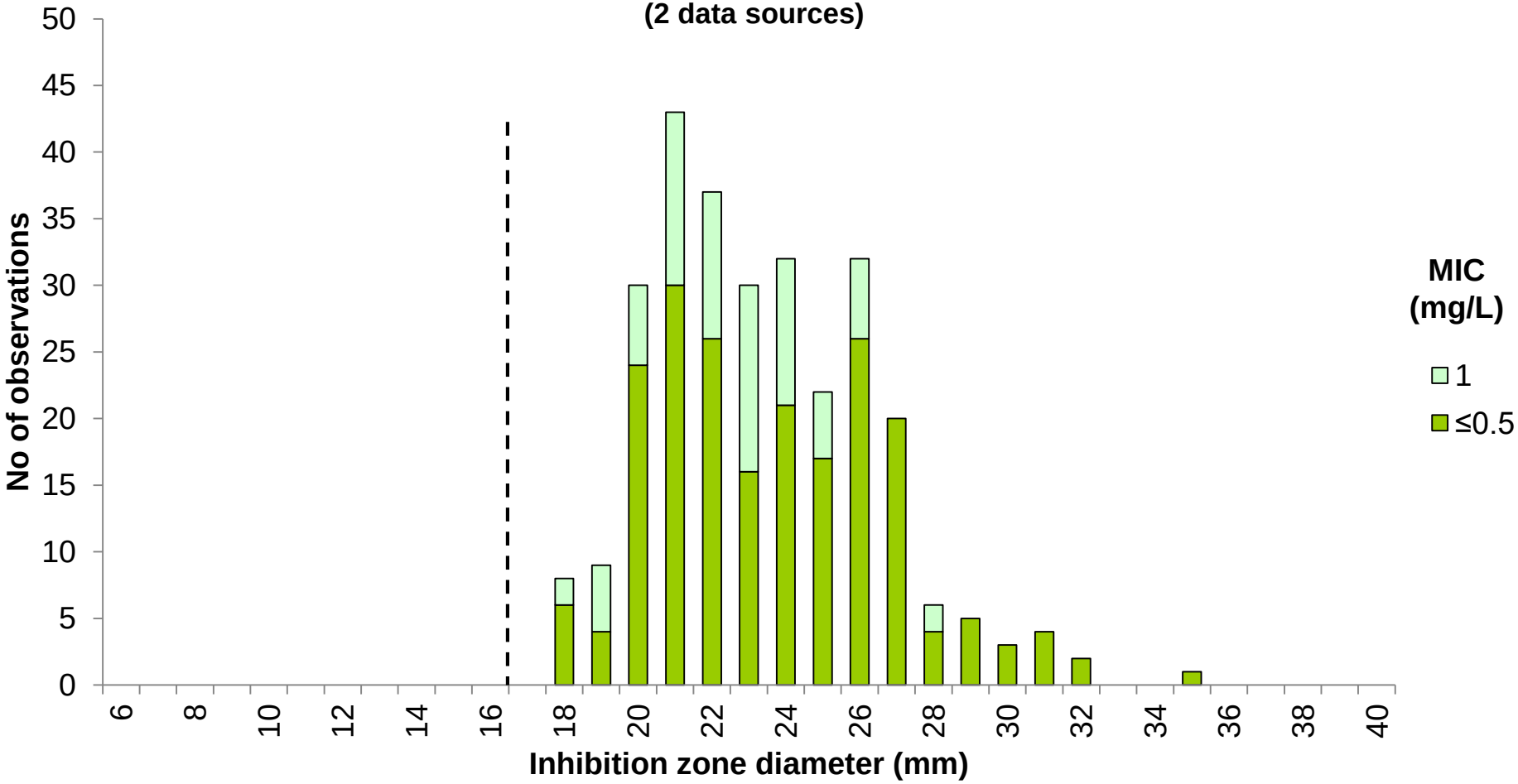
(2 data sources)



Breakpoints	
MIC	S≤0.5, R>0.5 mg/L
Zone diameter	S≥25, R<25 mm

Vancomycin 5 µg vs. MIC
Corynebacterium spp., 284 isolates

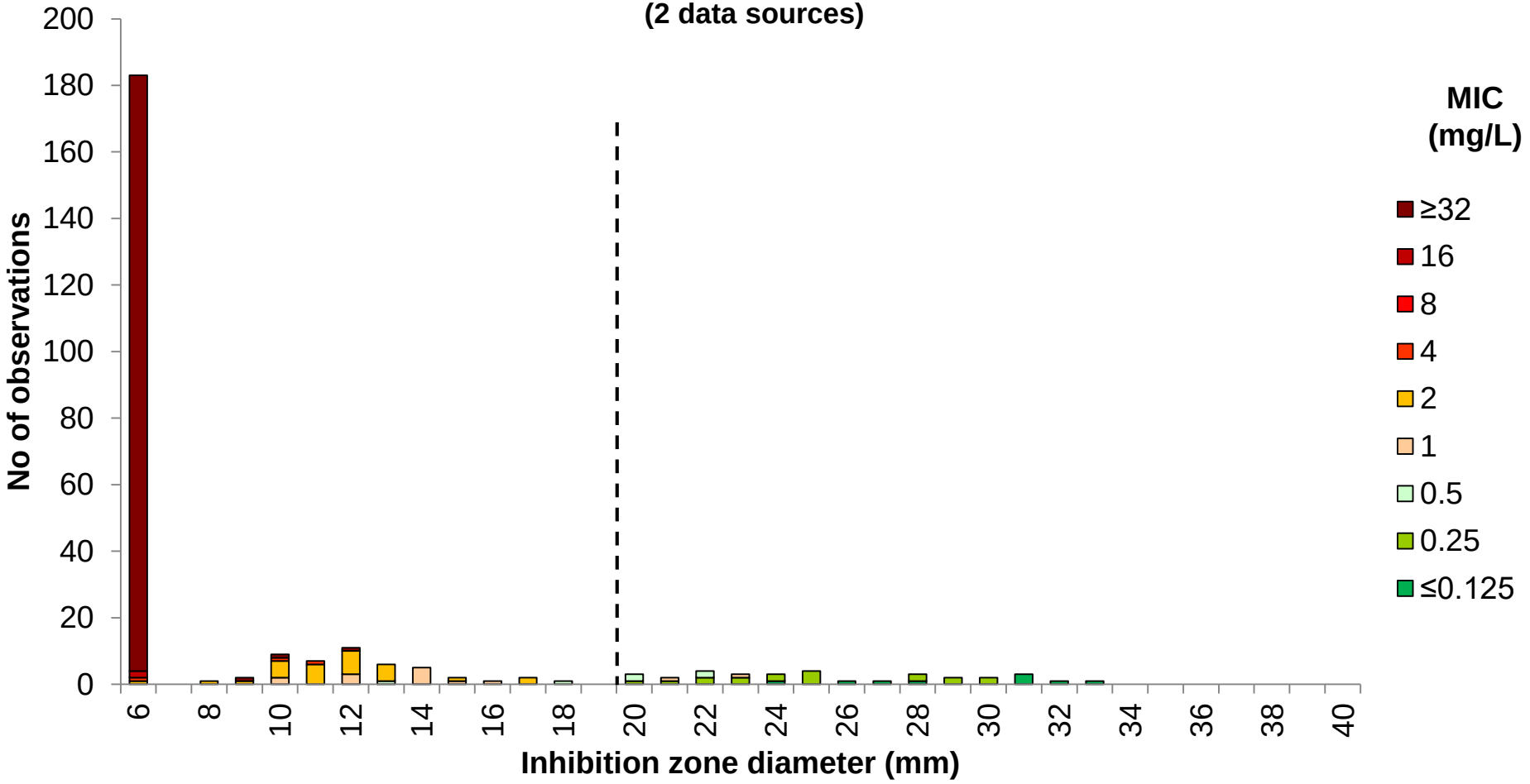
(2 data sources)



Breakpoints	
MIC	S≤2, R>2 mg/L
Zone diameter	S≥17, R<17 mm

Clindamycin 2 µg vs. MIC
Corynebacterium spp., 263 isolates

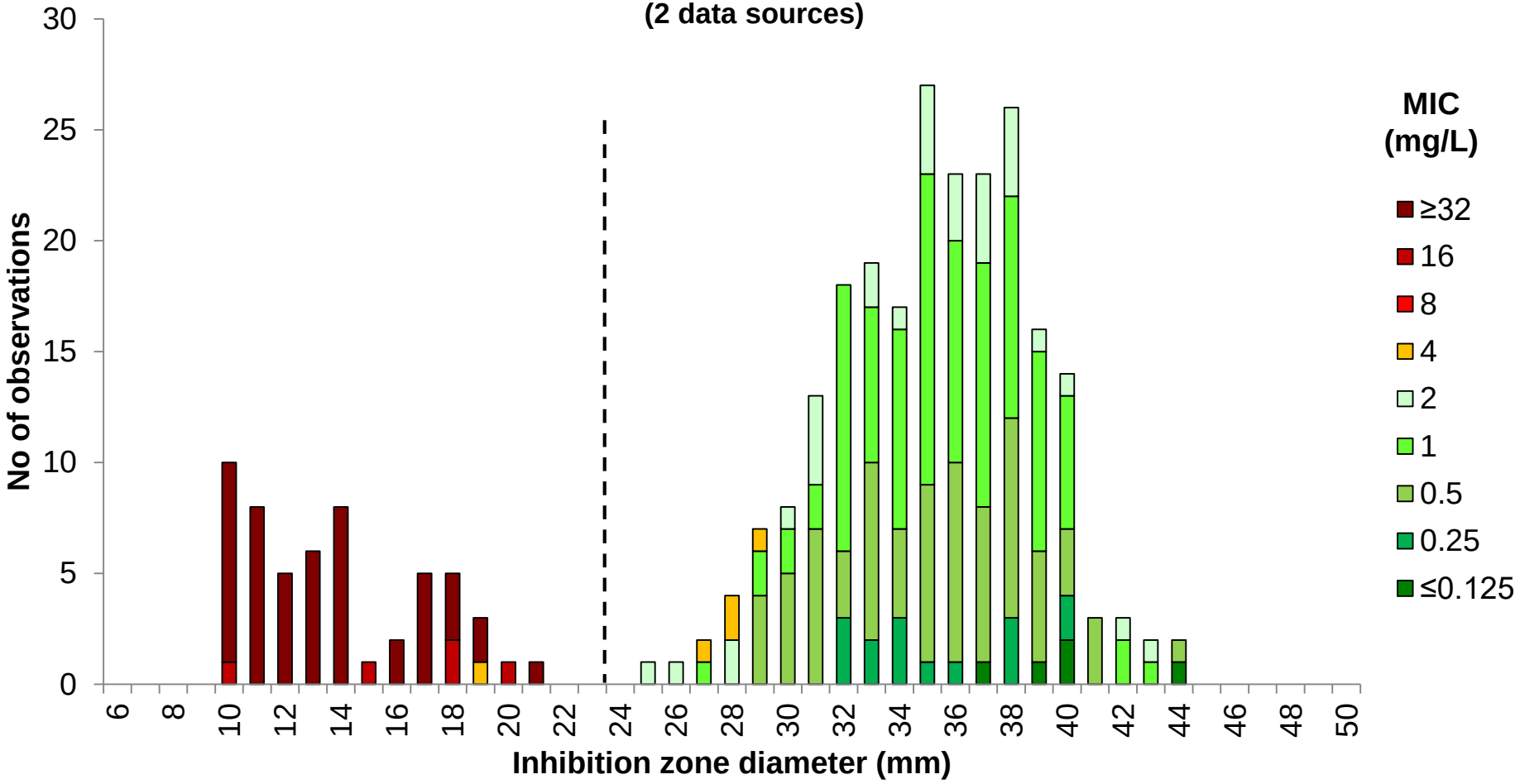
(2 data sources)



Breakpoints	
MIC	S≤0.5, R>0.5 mg/L
Zone diameter	S≥20, R<20 mm

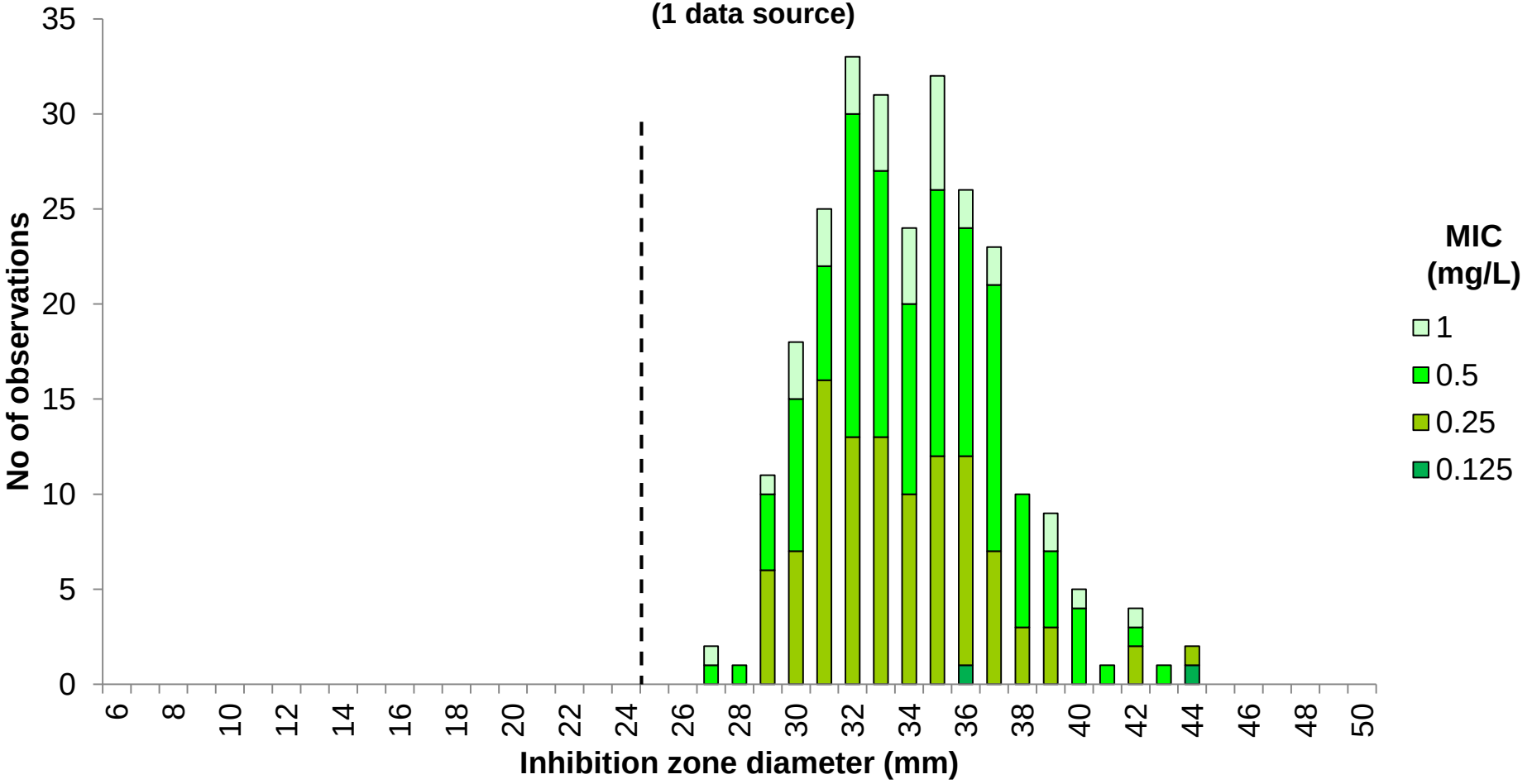
Tetracycline 30 µg vs. MIC
Corynebacterium spp., 284 isolates

(2 data sources)



Breakpoints	
MIC	S≤2, R>2 mg/L
Zone diameter	S≥24, R<24 mm

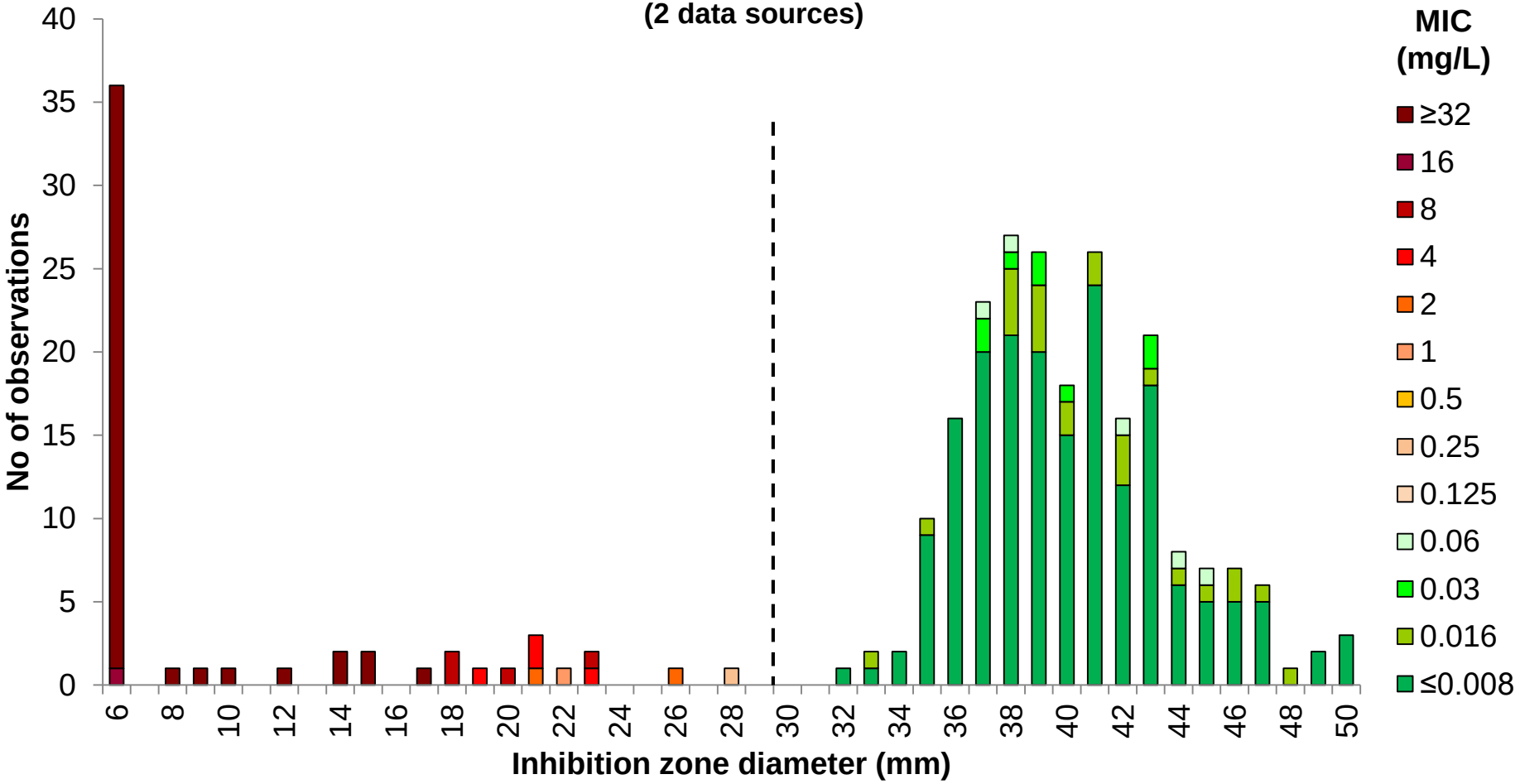
Linezolid 10 µg vs. MIC
Corynebacterium spp., 258 isolates



Breakpoints	
MIC	S≤2, R>2 mg/L
Zone diameter	S≥25, R<25 mm

Rifampicin 5 µg vs. MIC
Corynebacterium spp., 279 isolates

(2 data sources)

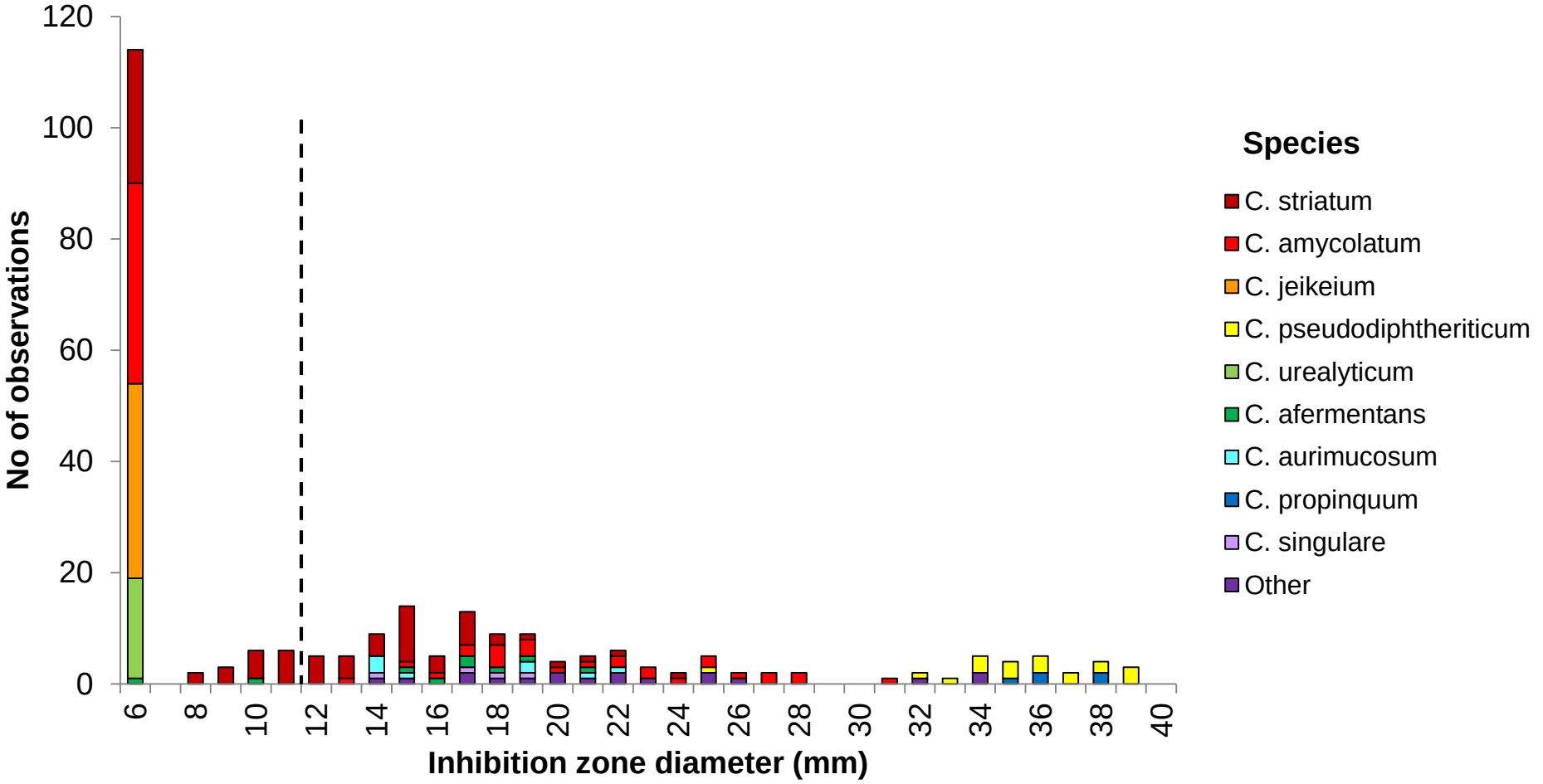


Breakpoints	
MIC	S≤0.06, R>0.06 mg/L
Zone diameter	S≥30, R<30 mm

***Corynebacterium* spp.**

Zone diameter distributions vs. species

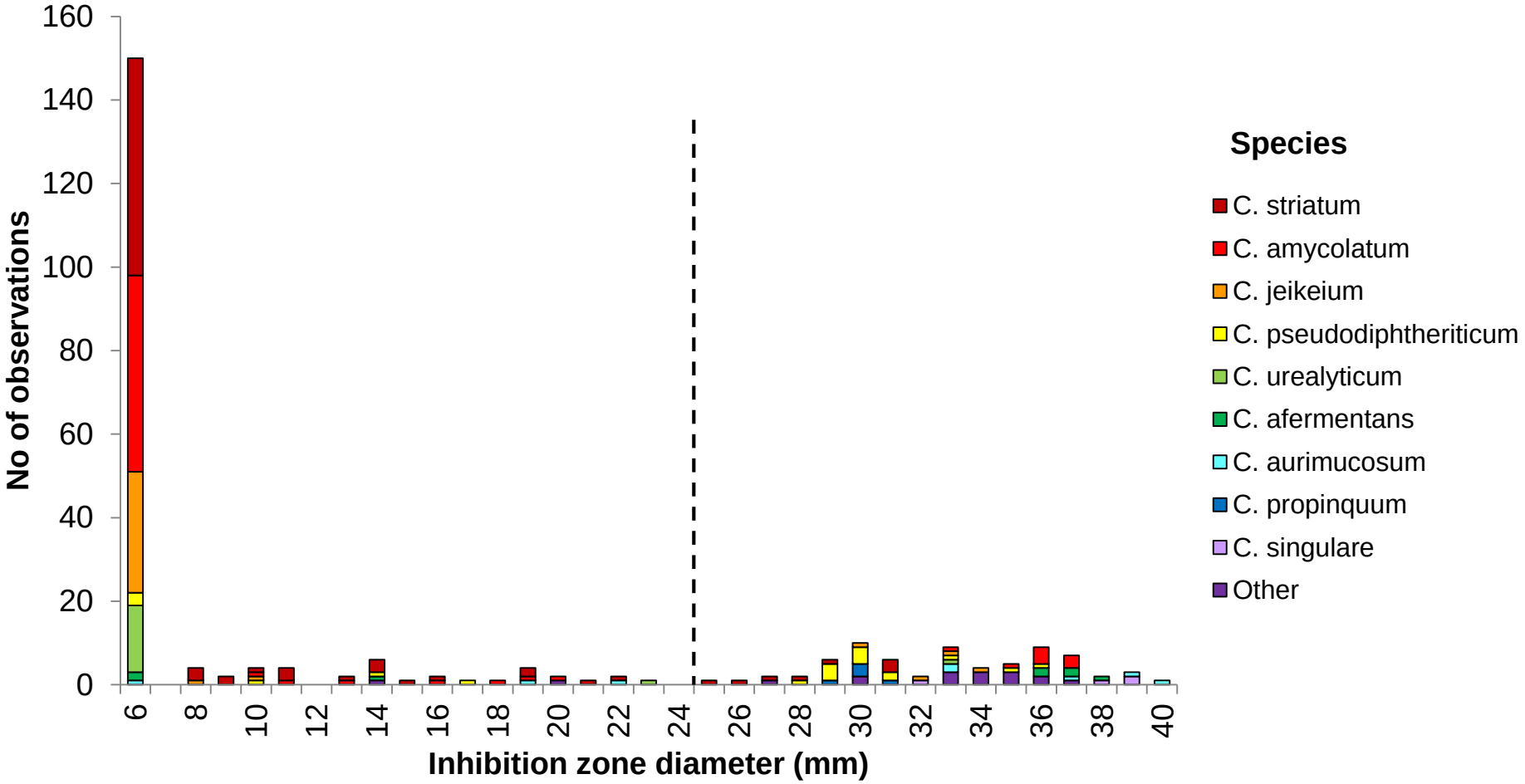
Benzylpenicillin 1 unit vs. species *Corynebacterium* spp., 258 isolates



Breakpoints

Zone diameter S≥50, R<12 mm

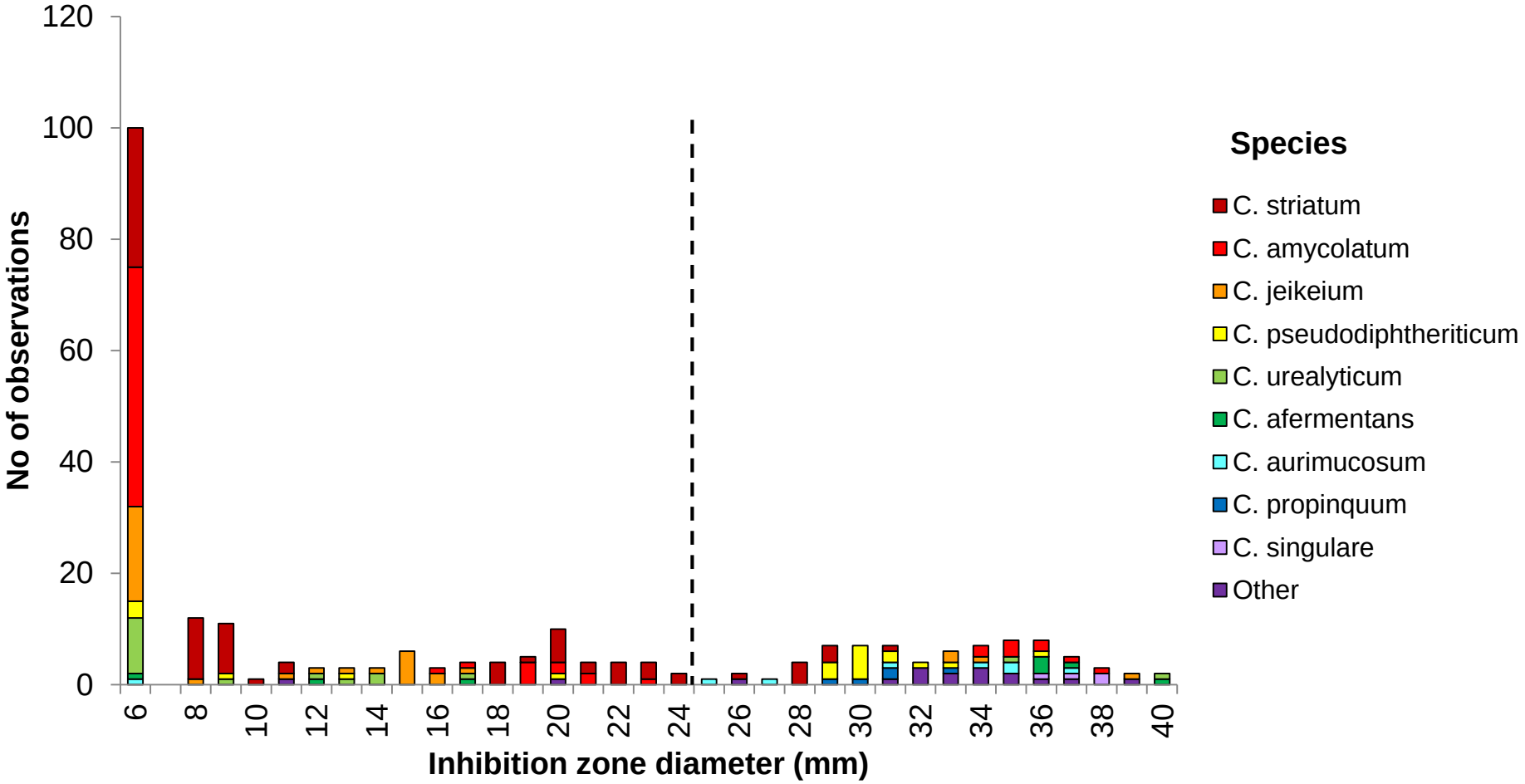
Ciprofloxacin 5 µg vs. species
Corynebacterium spp., 257 isolates



Breakpoints

Zone diameter S≥50, R<25 mm

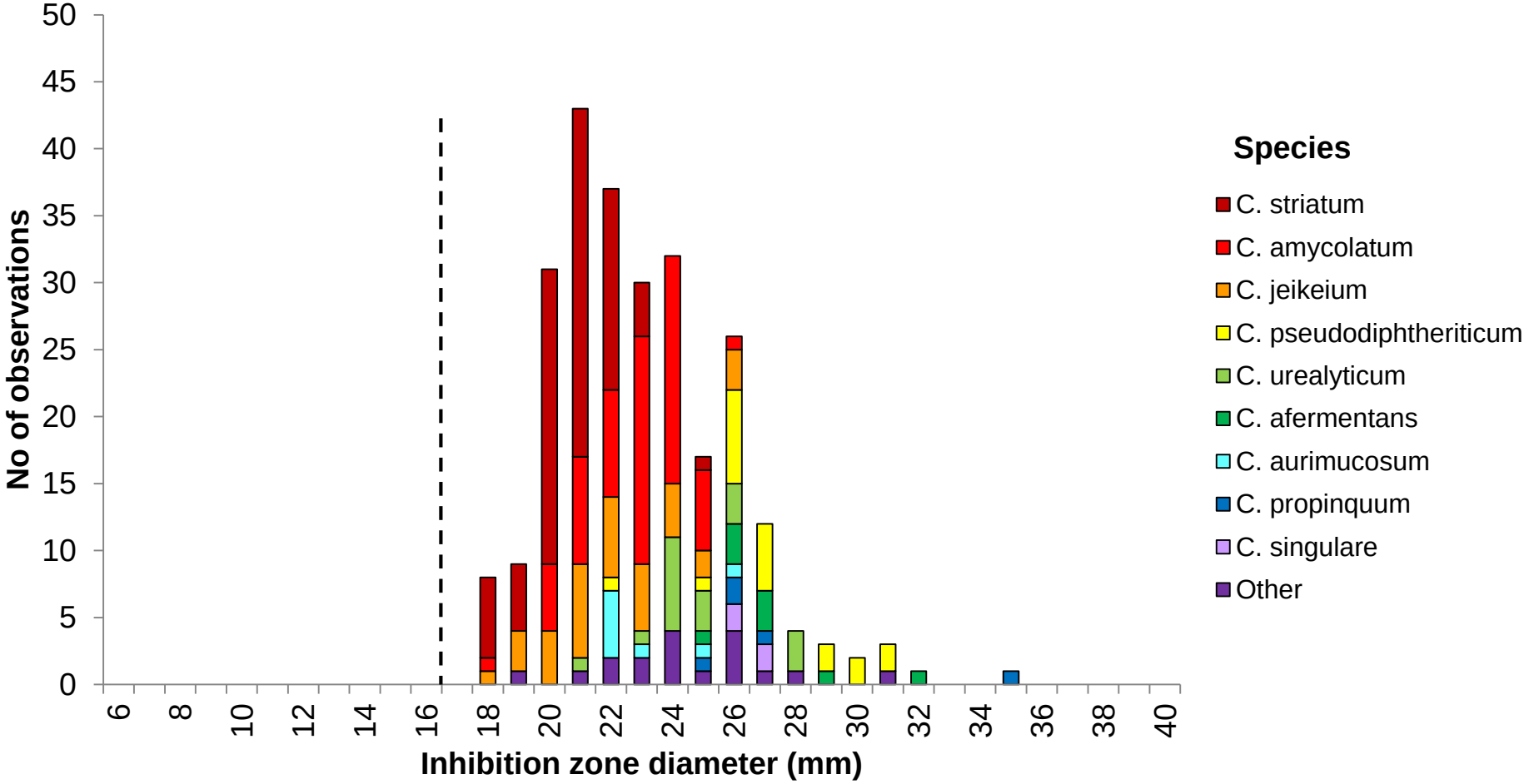
Moxifloxacin 5 µg vs. species
Corynebacterium spp., 257 isolates



Breakpoints

Zone diameter S≥25, R<25 mm

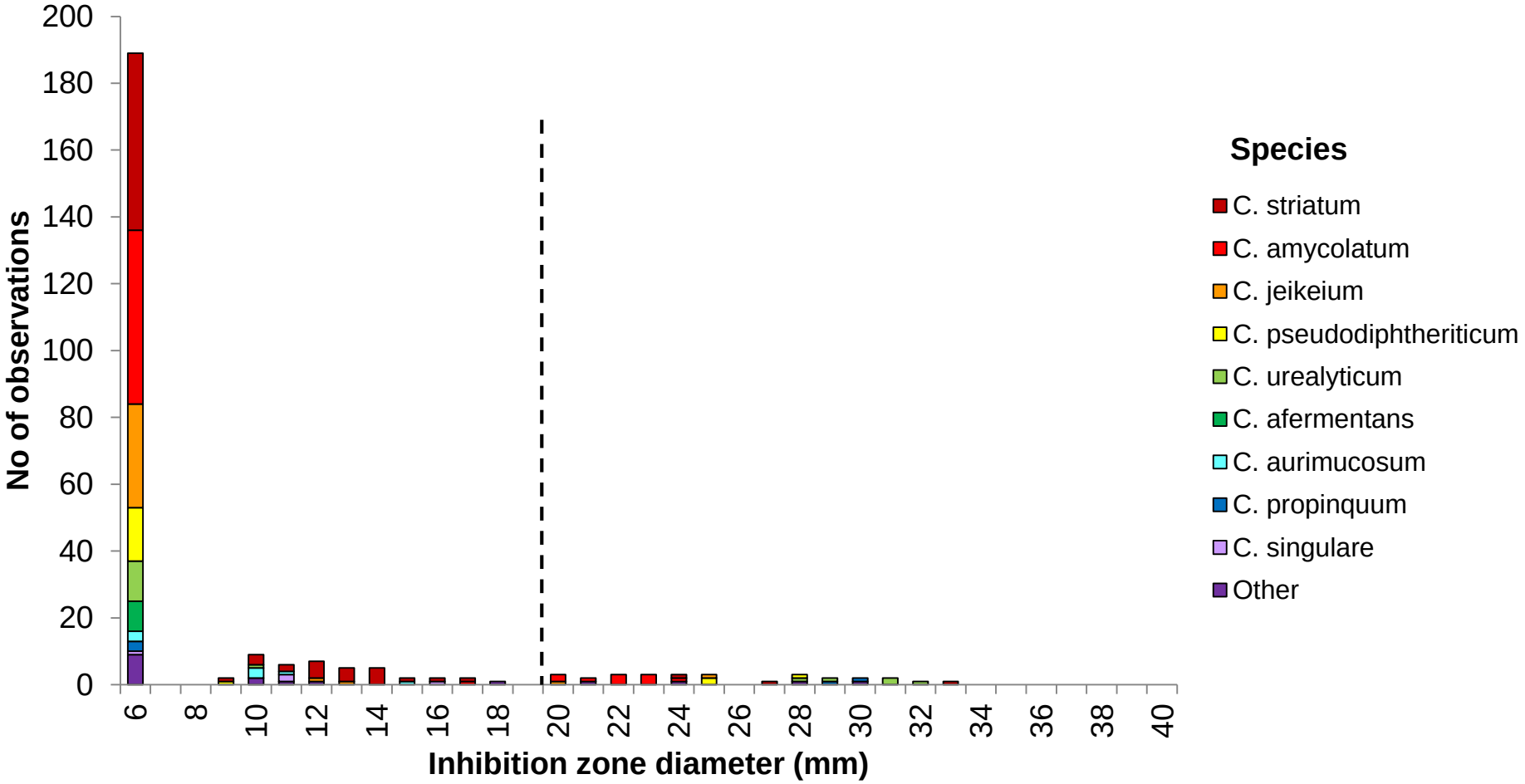
Vancomycin 5 µg vs. species
Corynebacterium spp., 258 isolates



Breakpoints

Zone diameter S≥17, R<17 mm

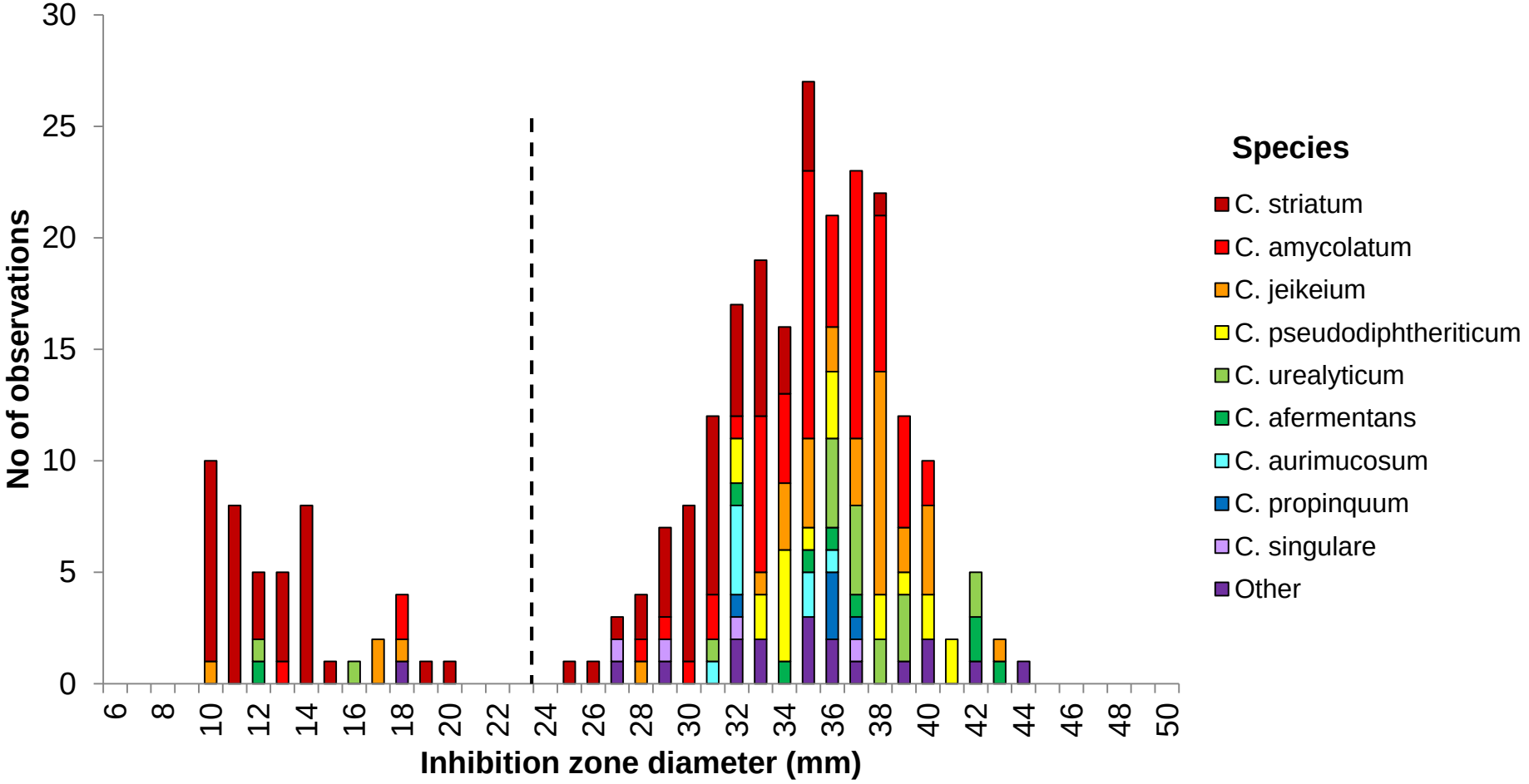
Clindamycin 2 µg vs. species
Corynebacterium spp., 258 isolates



Breakpoints

Zone diameter S≥20, R<20 mm

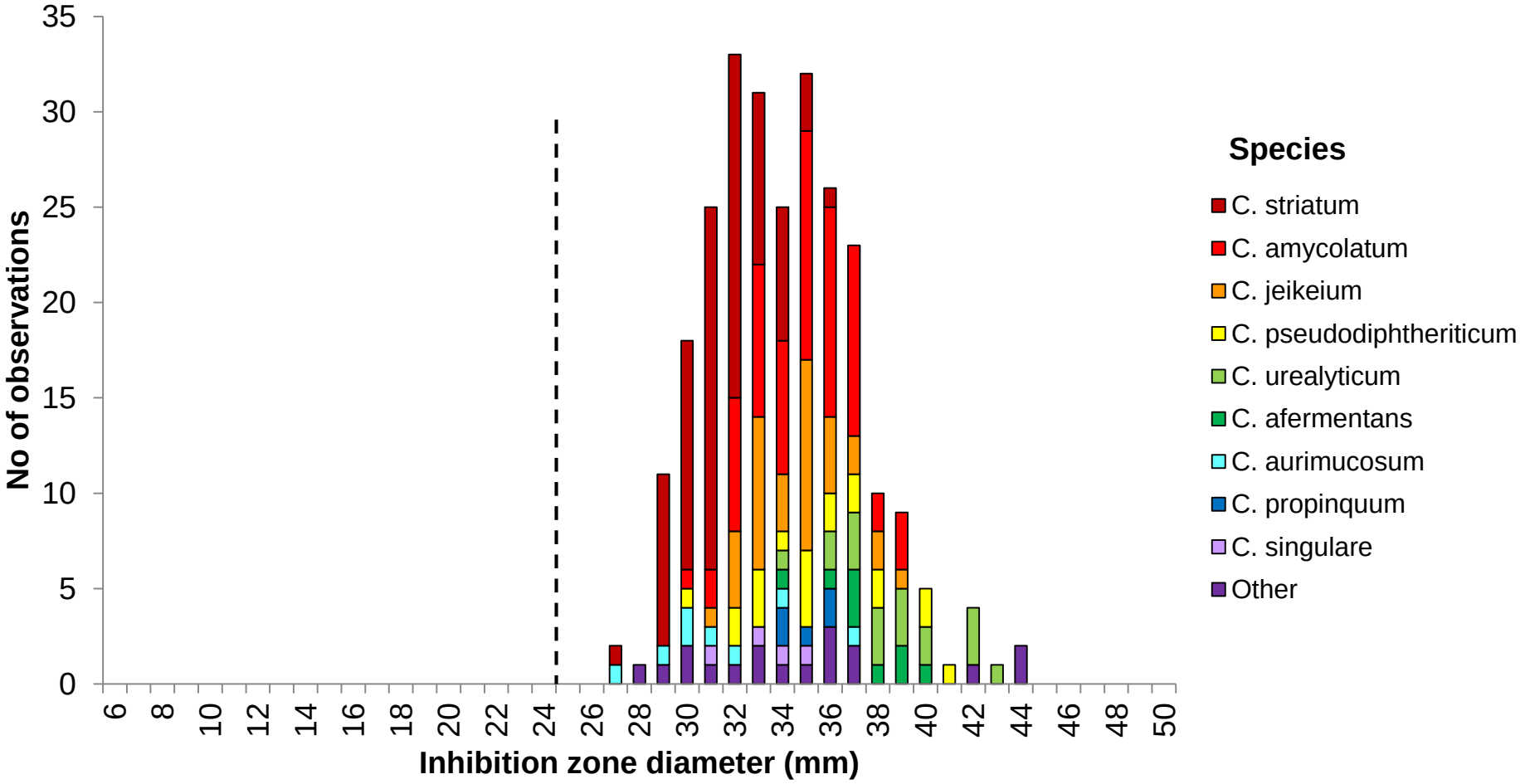
Tetracycline 30 µg vs. species *Corynebacterium* spp., 258 isolates



Breakpoints

Zone diameter S≥24, R<24 mm

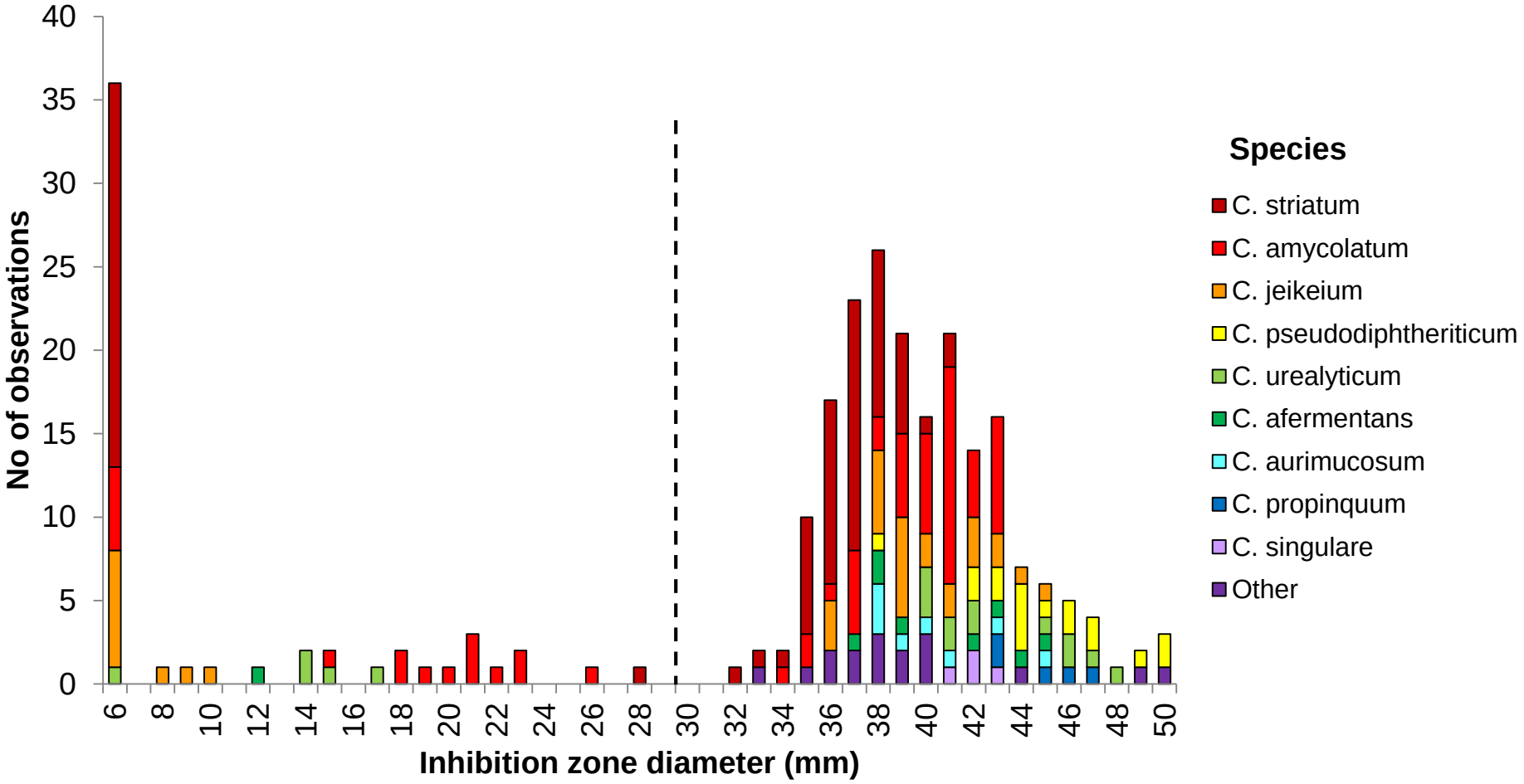
Linezolid 10 µg vs. species
Corynebacterium spp., 258 isolates



Breakpoints

Zone diameter S≥25, R<25 mm

Rifampicin 5 µg vs. species
Corynebacterium spp., 254 isolates



Breakpoints

Zone diameter S≥30, R<30 mm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