

1 **Supporting Figures for:**

2 **Discovery of a novel inner-membrane-associated bacterial structure related to**  
3 **the flagellar type III secretion system**

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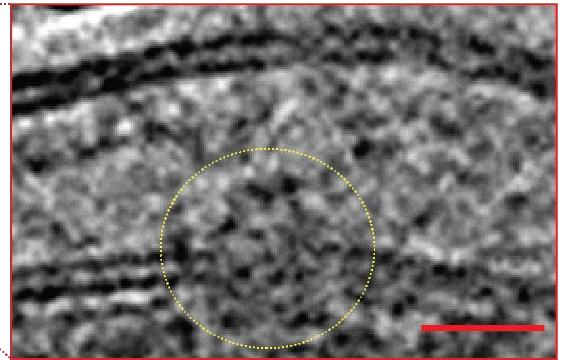
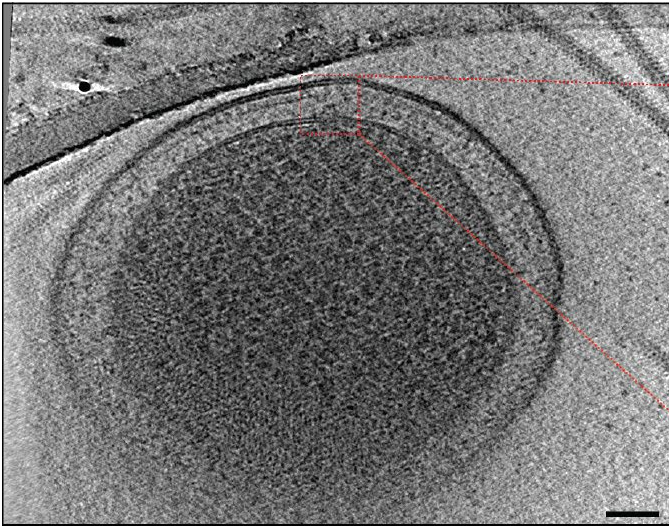
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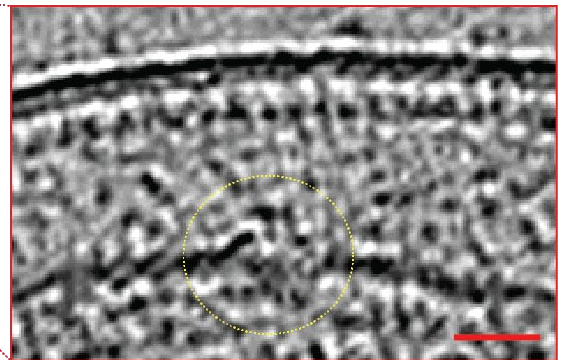
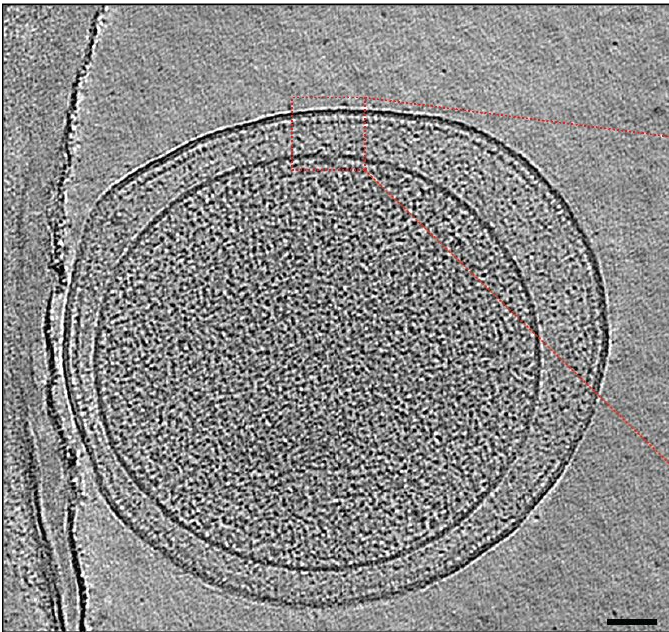
26 \*Corresponding author: grant\_jensen@byu.edu

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*S. enterica*



*E. coli*



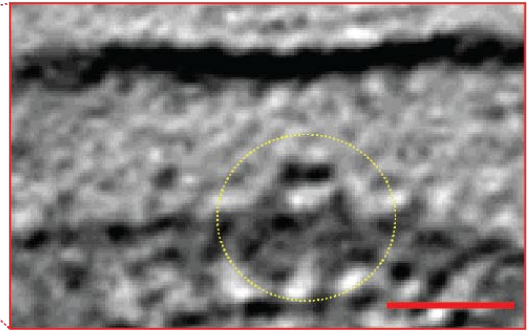
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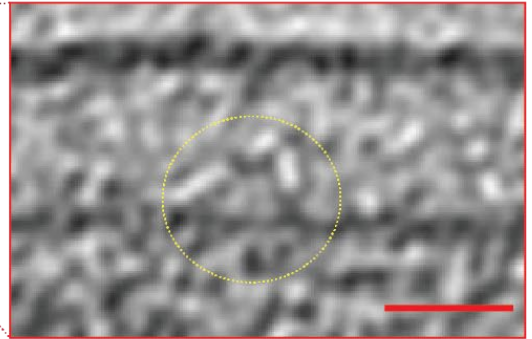
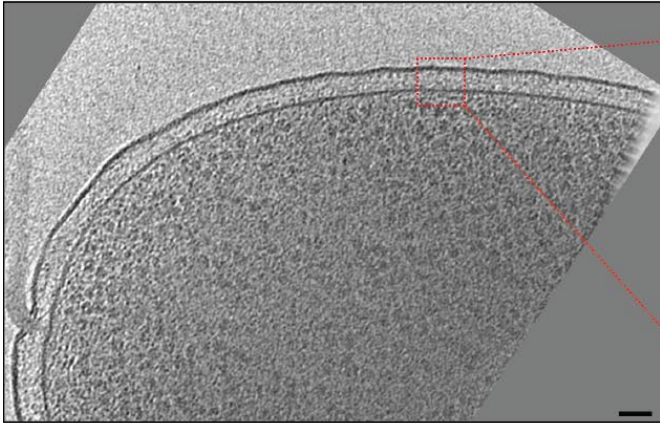
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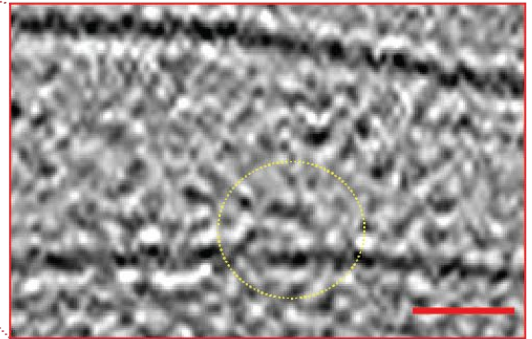
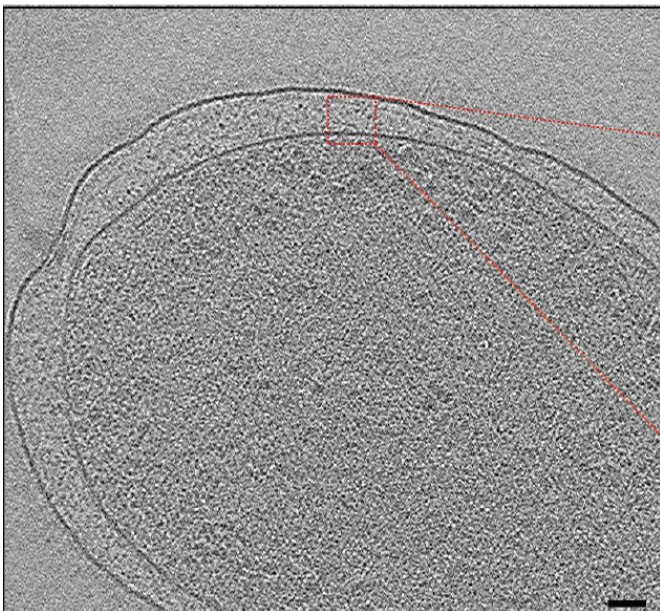
*V. cholerae*



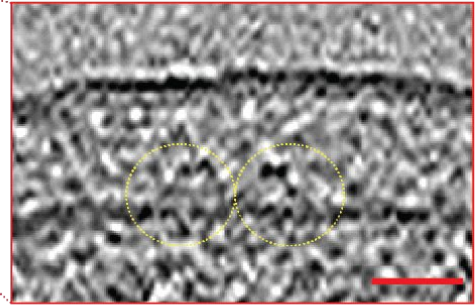
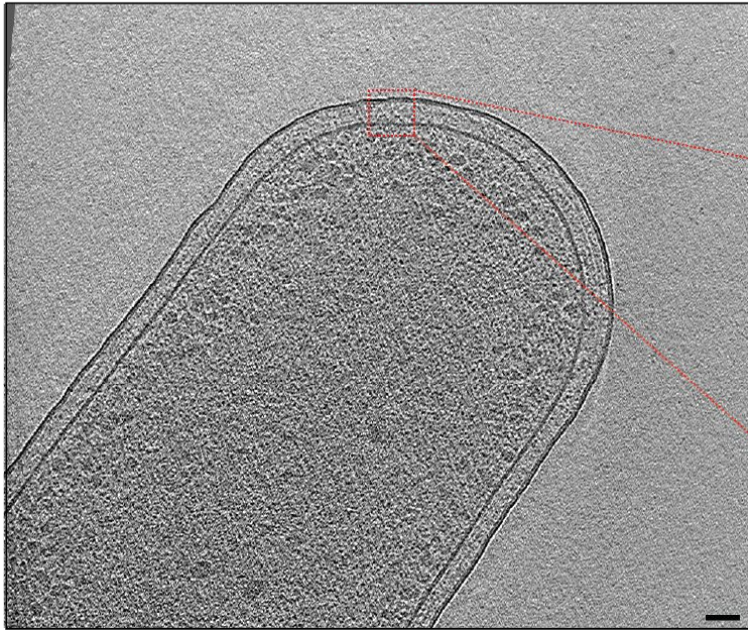
*V. fischeri*



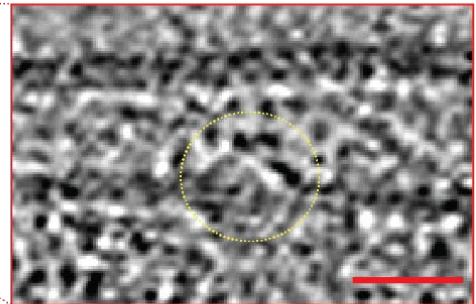
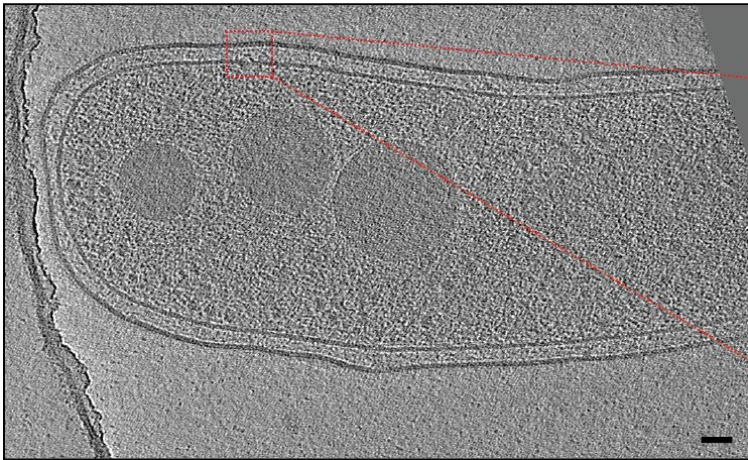
*V. harveyi*



*P. aeruginosa*



*L. pneumophila*



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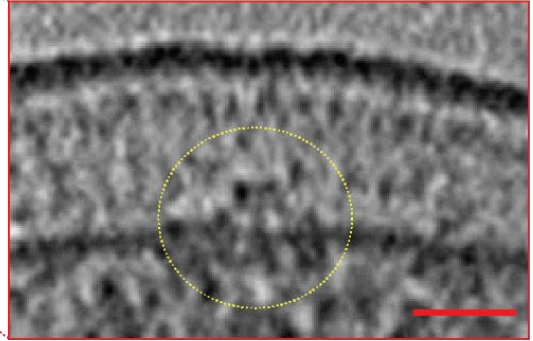
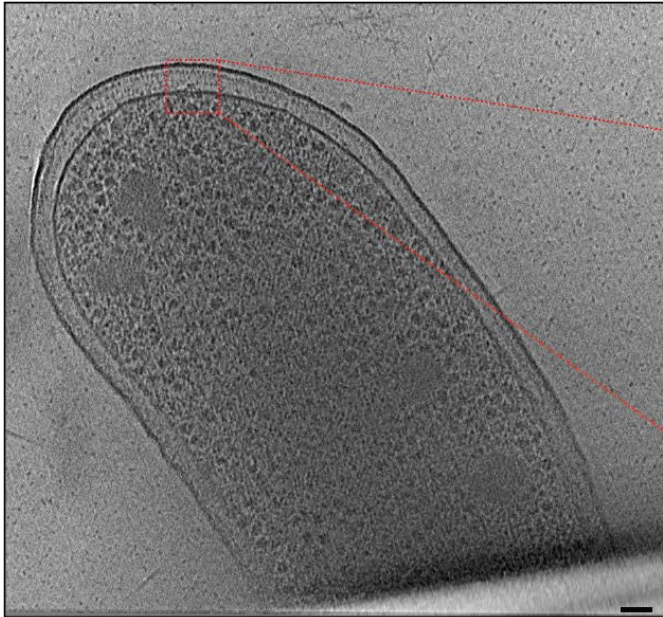
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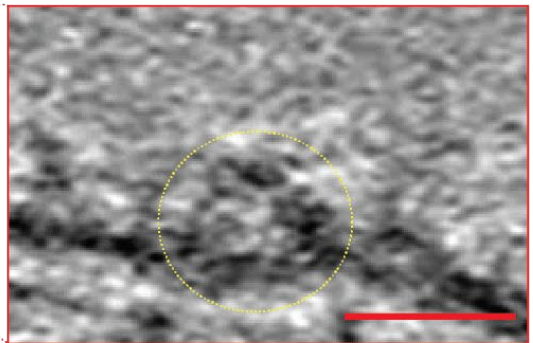
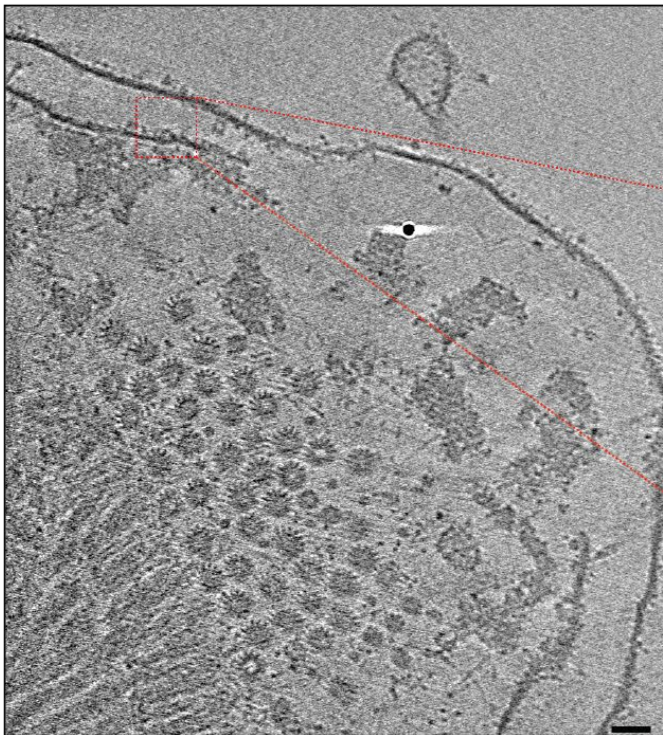
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*X. citri*



*P. luteoviolacea*

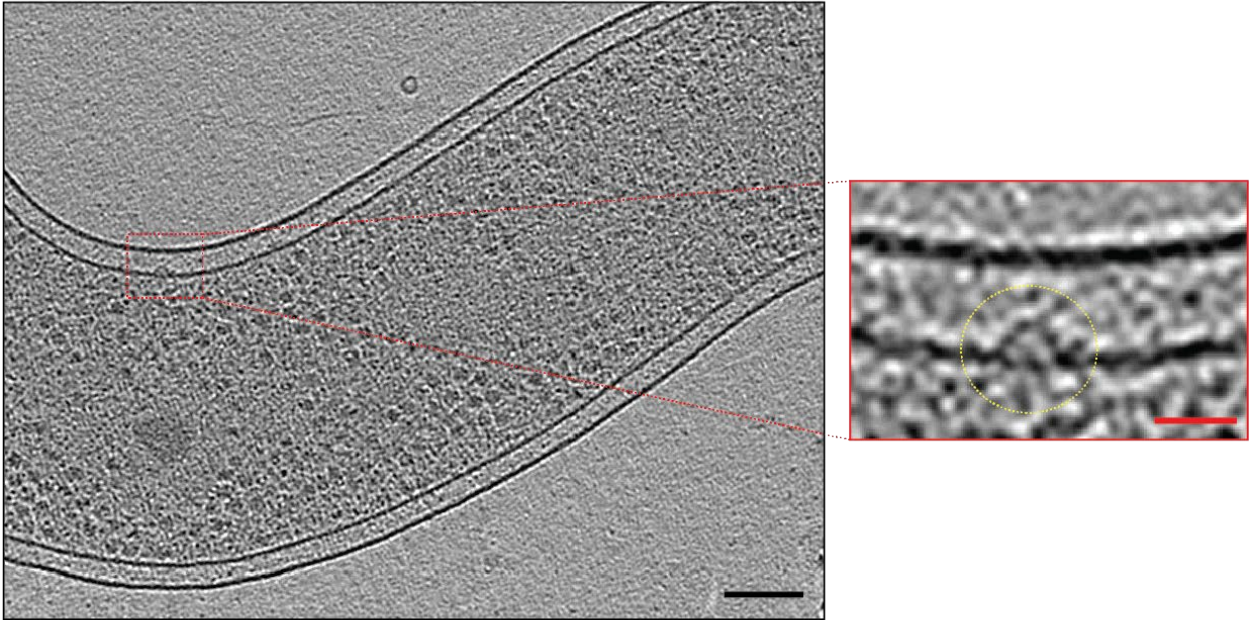


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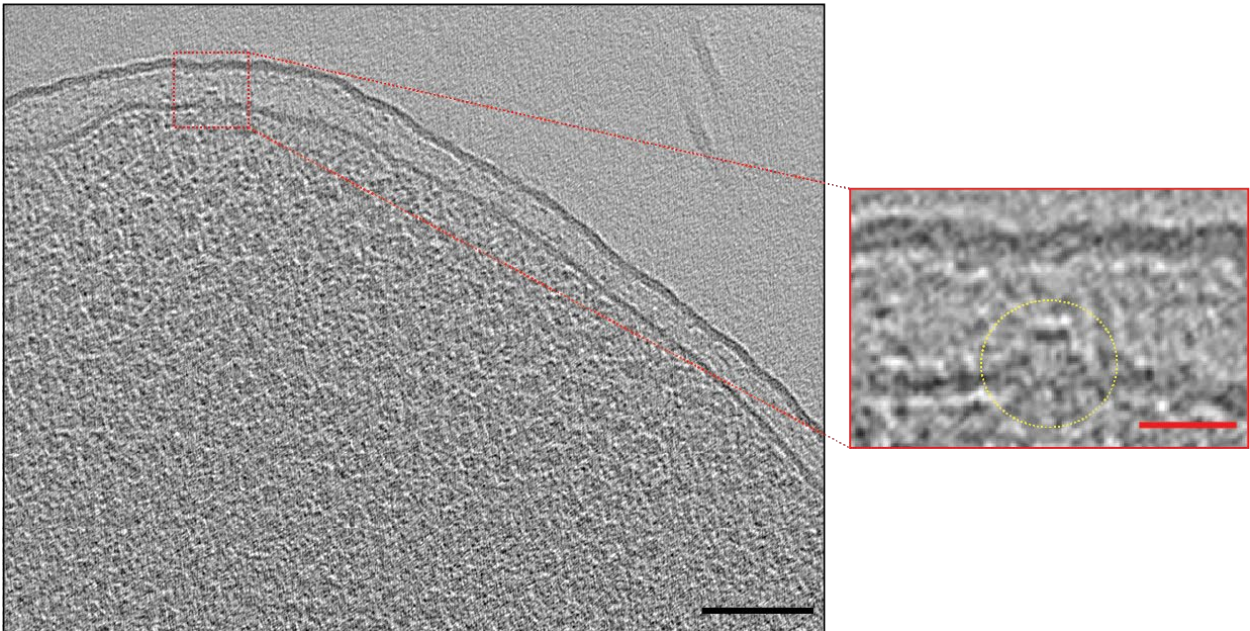
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*P. flexibilis*



*P. mirabilis*



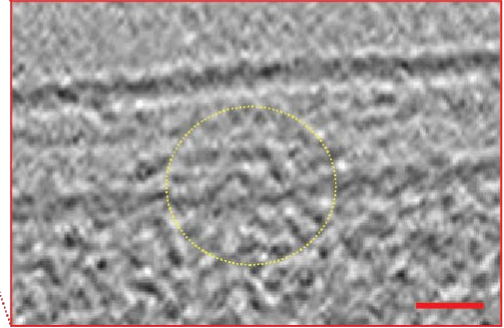
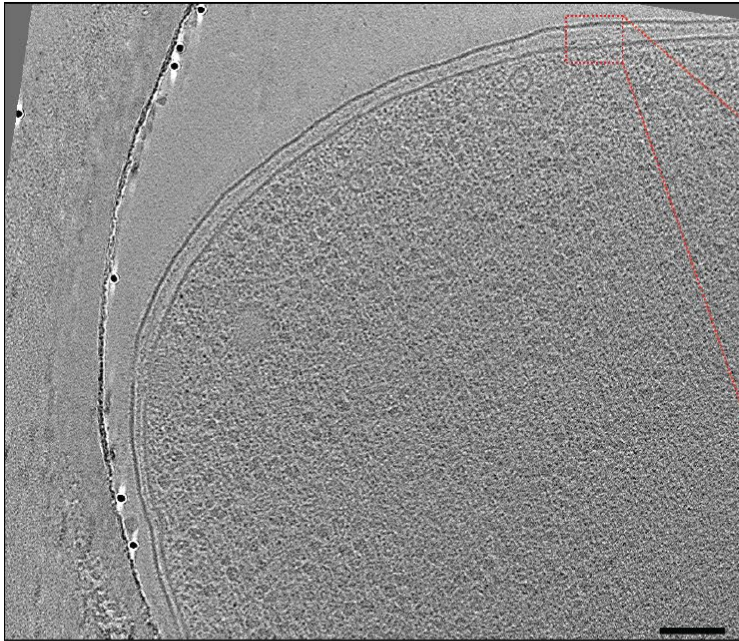
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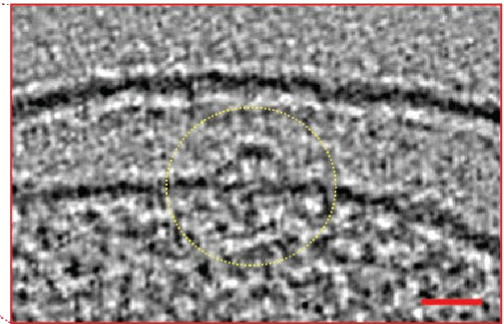
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*A. brasilense*



*B. abortus*



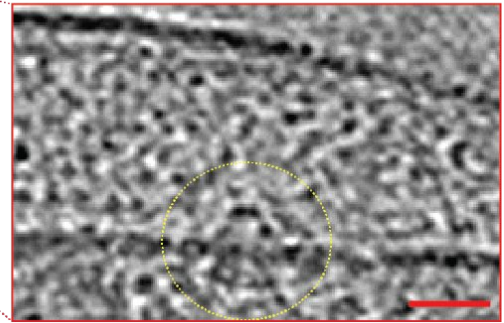
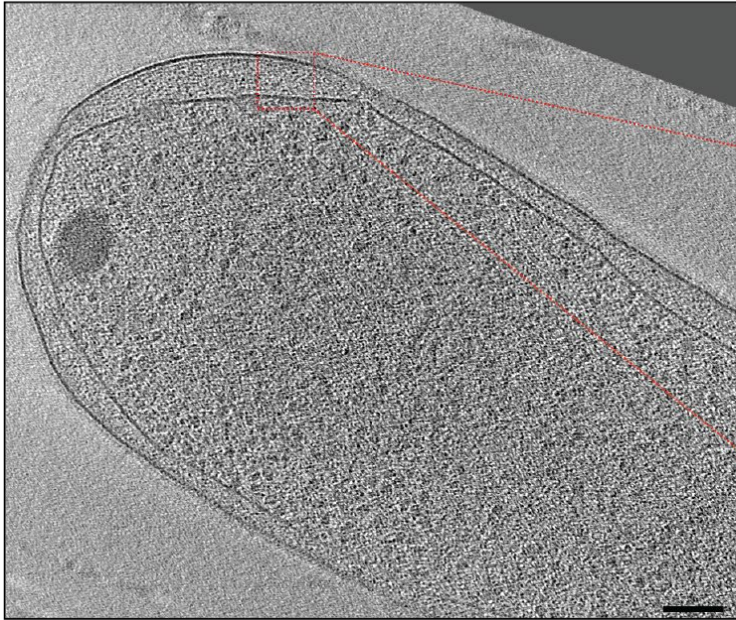
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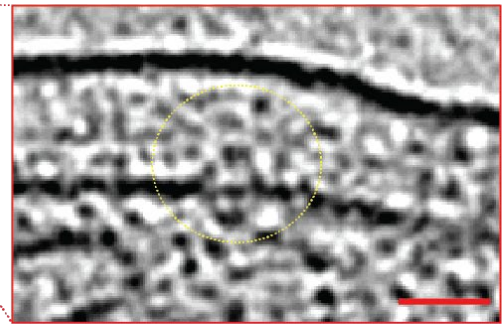
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*A. tumefaciens*



*H. neptunium*



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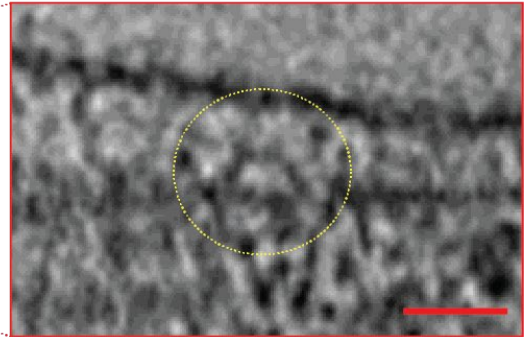
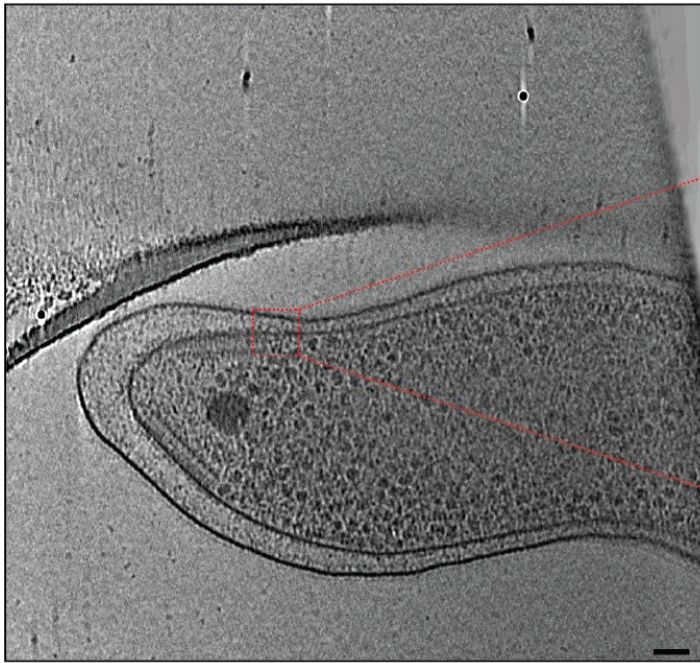
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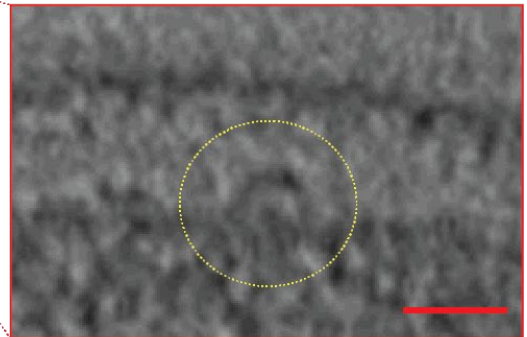
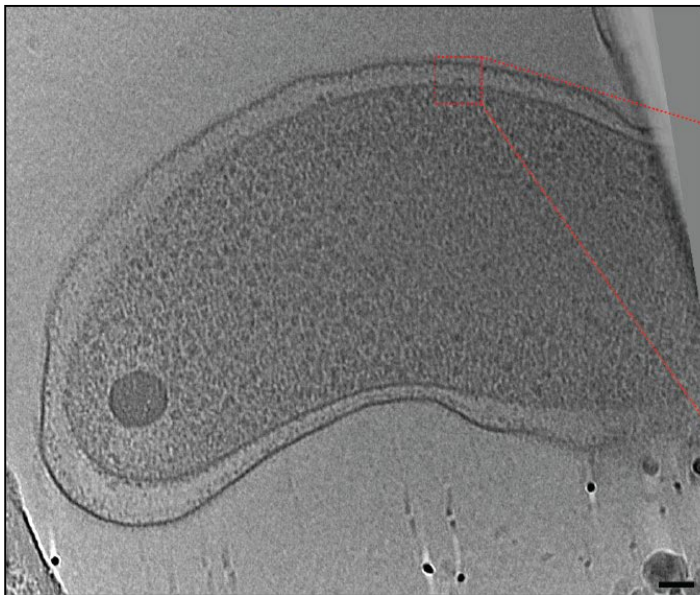
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*C.jejuni*  $\Delta flhAc$



*C.jejuni*  $\Delta flhBc$



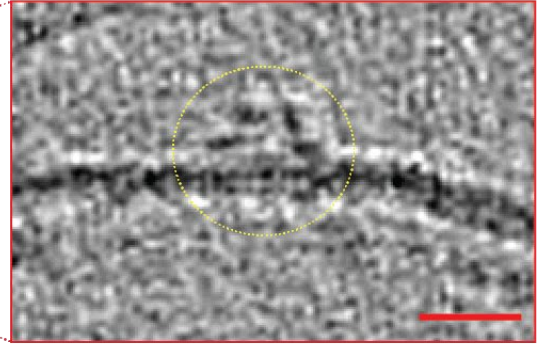
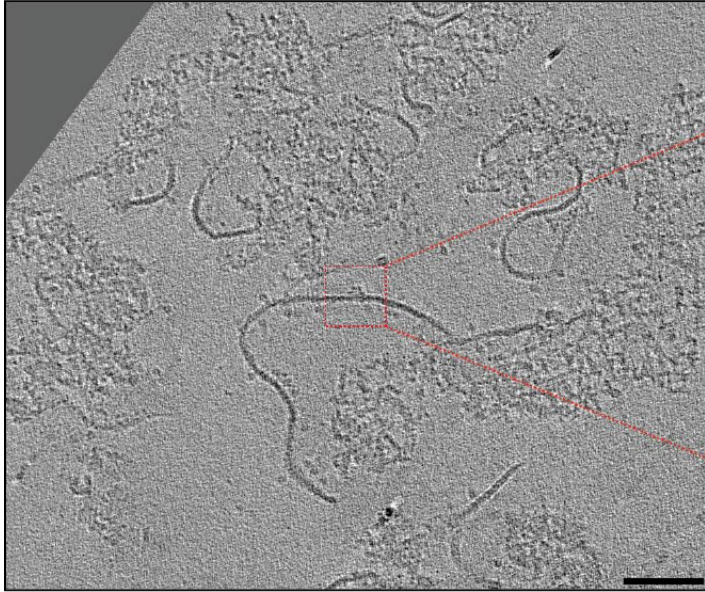
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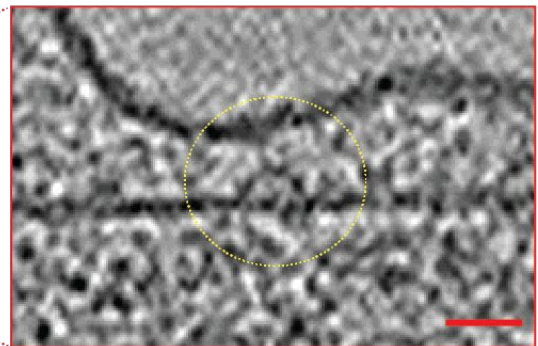
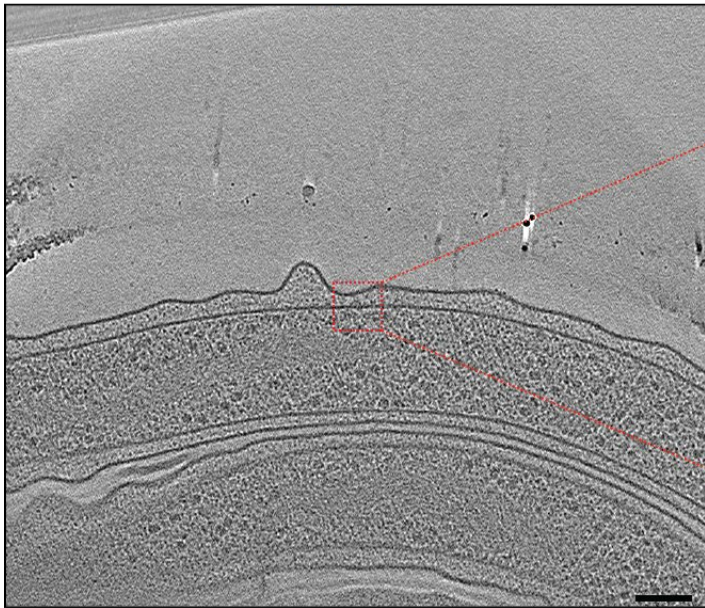
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lysed *B. subtilis*



*H. gracilis*



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63 **Figure S1: The hat-like structure is widespread in various bacterial species.** Slices through  
64 electron cryo-tomograms of various bacterial species highlighting the presence of hat-like  
65 complexes (yellow circles in the enlarged views). Black scale bars 100 nm, red scale bars 20 nm.

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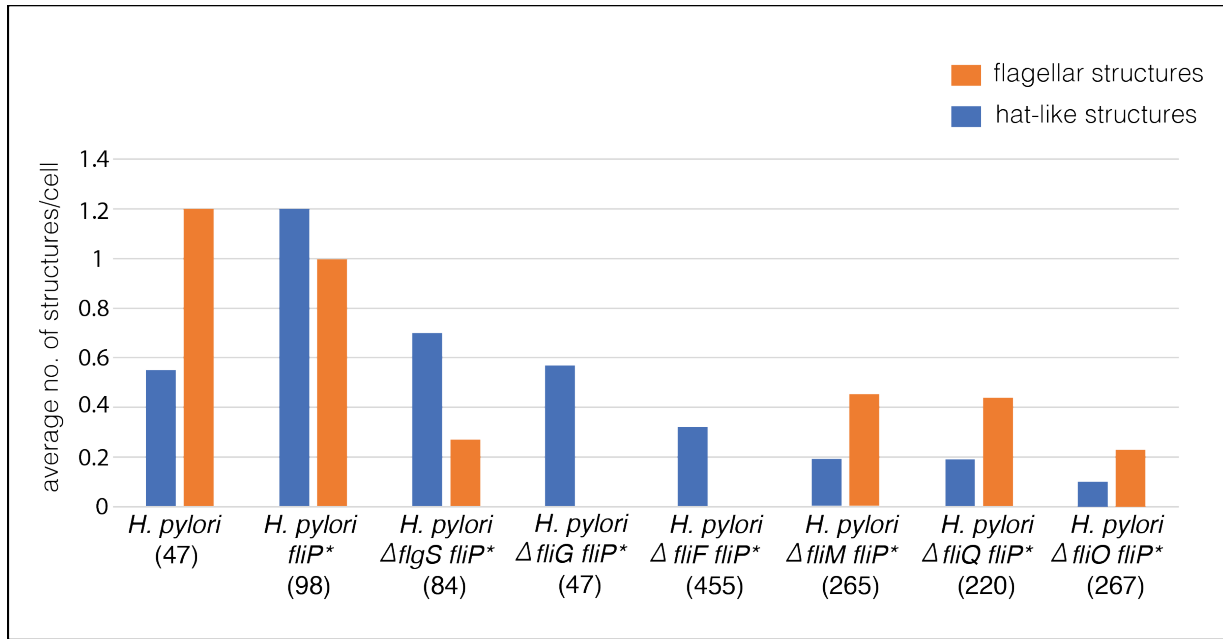
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87 **Figure S2: Abundance of hat-like and flagellar structures in motile *H. pylori* cells and various**

88 **mutants.** The bar chart shows the average number of hat-like structures and flagellar structures

89 per cell in motile *H. pylori* and various mutants. The number of cells examined for each strain is

90 indicated in parentheses. Flagellar structures include fully-assembled flagella and any intermediate

91 assembly stage where the MS-ring is present. In two mutants ( $\Delta fliG fliP^*$  and  $\Delta fliF fliP^*$ ), only

92 hat-like structures were identified but no flagellar structures.

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*Myxococcus xanthus*



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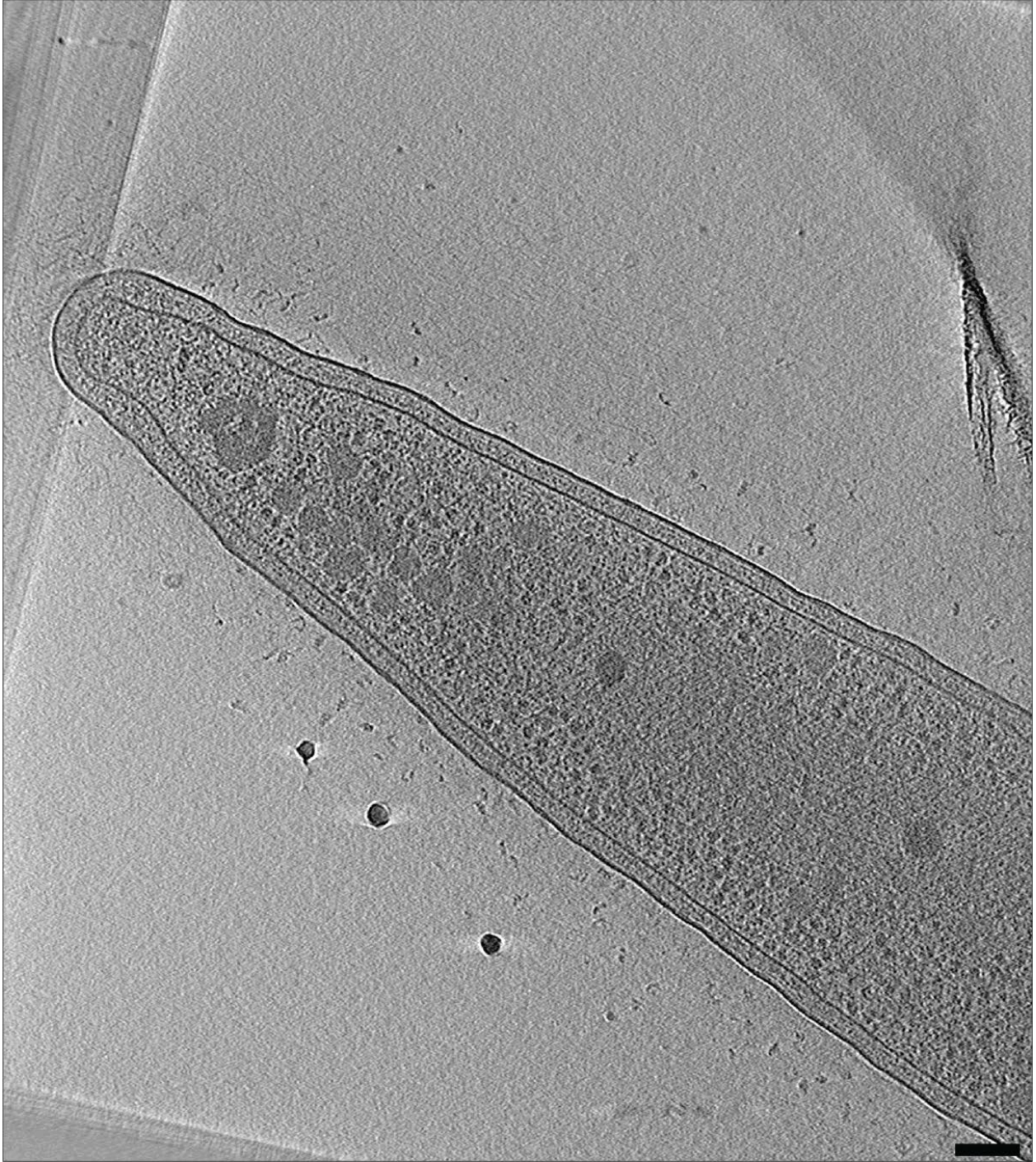
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*Prosthecobacter vanneervanii*



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Enteropathogenic  
*Escherichia coli* (EPEC)



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*Flavobacterium johnsoniae*



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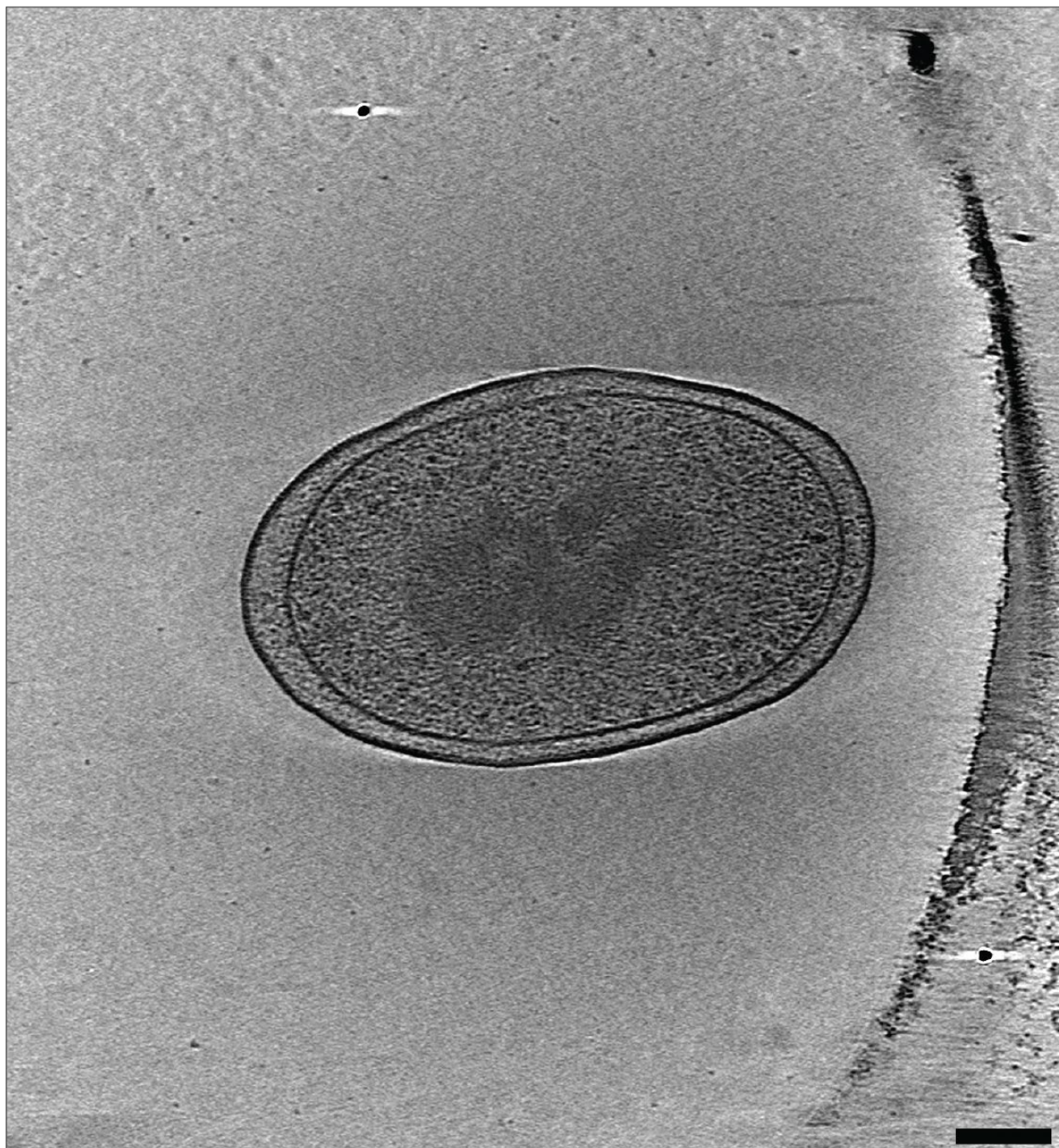
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*Coxiella burnetii*



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*Amoebophilus asiaticus*



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125 **Figure S3: Species where no hat-like structures were identified.** Slices through cryo-electron  
126 tomograms of species in which we found no hat-like structures. Note that the EPEC cell (strain

127 8612) is from a strain which has the NF-T3SScc but lacks the ft3SScc genes (see Materials and  
128 Methods). Scale bar is 100 nm.

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150 **Movie S1:**

151 An electron cryo-tomogram of a partially lysed *E. coli* cell highlighting the presence of multiple  
152 hat-like complexes in the inner membrane (indicated by red circles).

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