

Fig. S1 – *Beauveria bassiana*-infected mandibular muscle demonstrates diffuse presence of fungal cells. Similar to *O. kimflemingiae*-infected muscle, *B. bassiana* is widely distributed throughout the mandibular muscle space (n=3). While *O. kimflemingiae* forms interconnected networks of individual fungal cells, *B. bassiana* exhibits a long, extended phenotype. Arrows denote muscle cells and arrowheads mark *B. bassiana* cells. Scale = 10 μ m.



Fig. S2 – Neuromuscular junctions are maintained in *Beauveria bassiana*-infected mandibular muscle. Intact neuromuscular junctions (arrowhead) are observed in *B. bassiana*-infected mandibular muscle (n=3). Arrow denotes a motor neuron. Scale = 2 μ m.

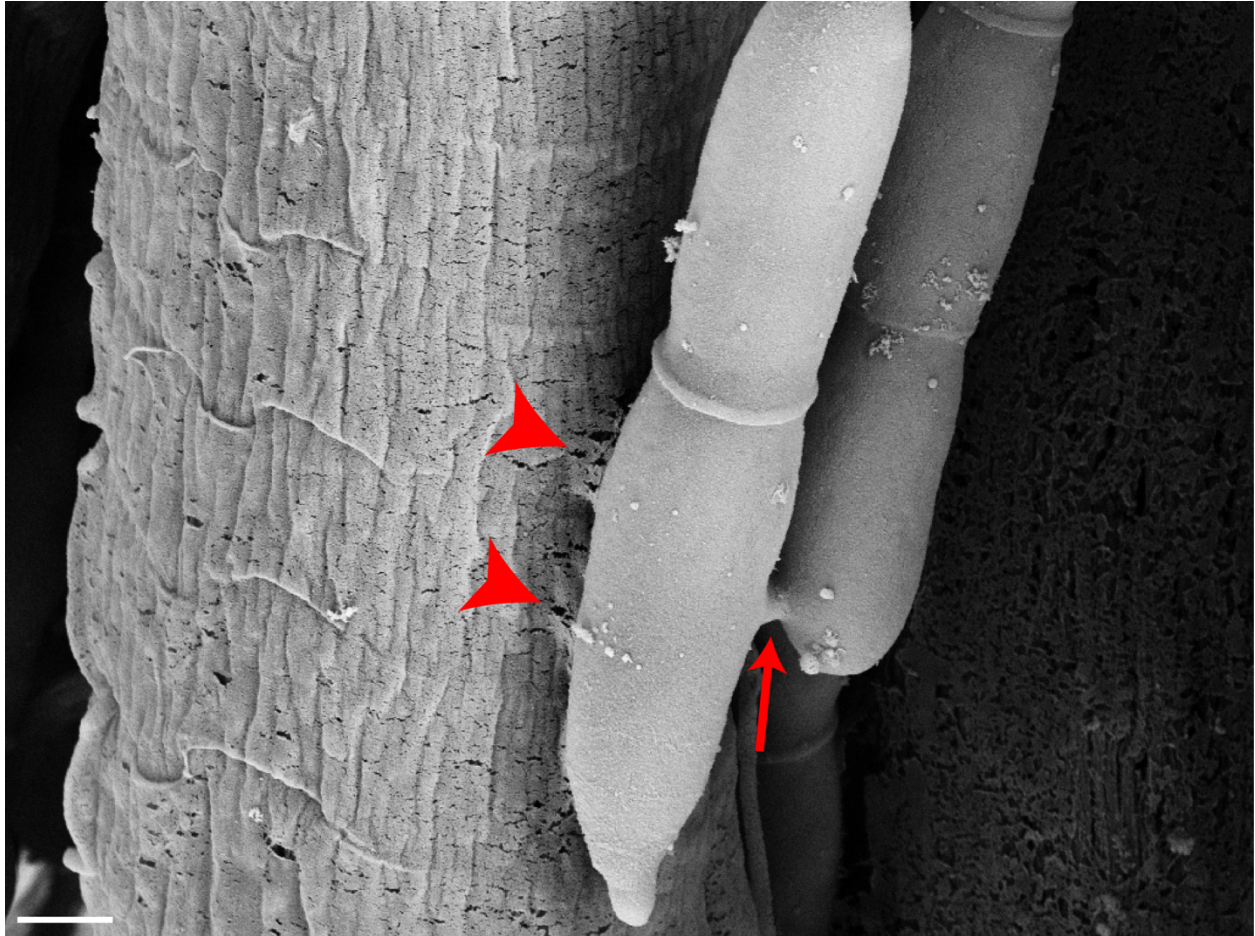


Fig. S3 – *Ophiocordyceps kimflemingiae* cells are closely associated with host muscle. Individual *O. kimflemingiae* cells rest and remain on host muscle, potentially via direct attachment to the sarcolemma (arrowheads). Arrow indicates anastomosis tube. Scale = 2 μm . Controls, n=3; infected, n=6.

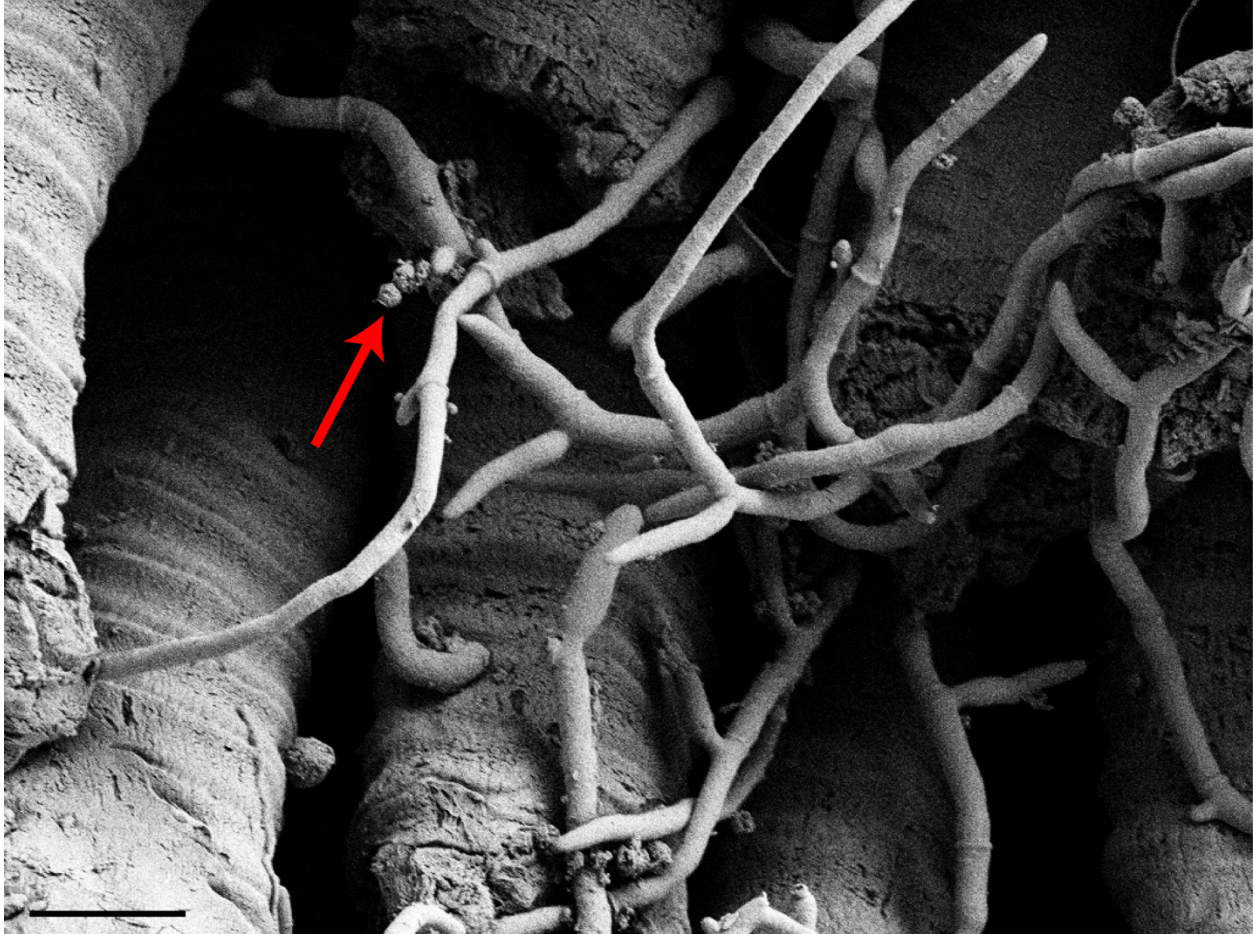


Fig. S4 – Extracellular vesicles are evident in *B. bassiana*-infected muscle. Similar to *O. kimflemingiae*, *B. bassiana*-infected muscle demonstrates the presence of extracellular vesicles (arrow) (n=3). Scale = 10 μ m.