Supplementary information

Manuscript: The relationship between oxidant levels and gut physiology in a litter-feeding termite

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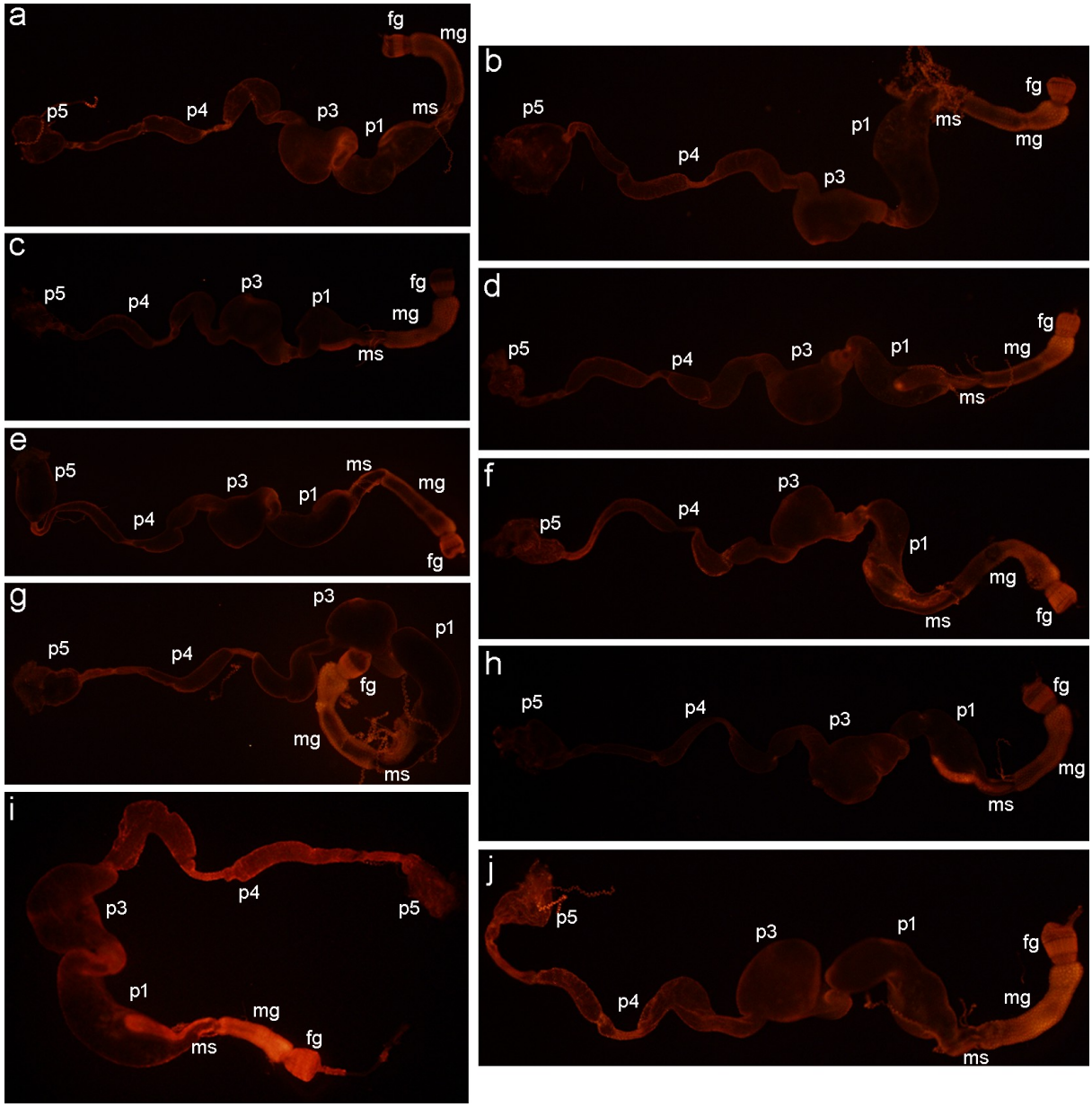

Fig. S1. Additional images to straight the profile of oxidant levels along *C. cumulans* alimentary canal. The guts were incubated with DHE and analyzed under a fluorescence stereomicroscope. Foregut (fg), midgut (mg), mixed segment (ms) and hindgut compartments – p1, p3, p4 and p5.

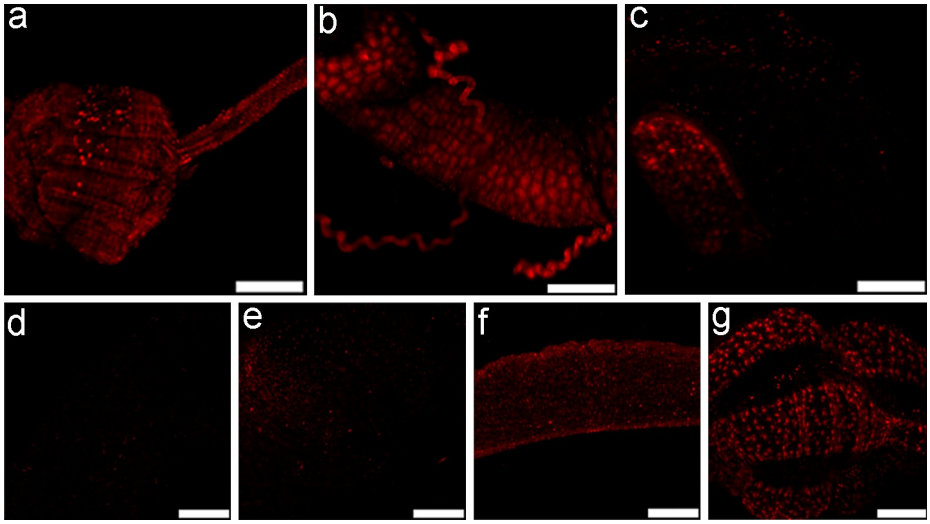

Fig. S2. Further details of oxidant levels along *C. cumulans* alimentary canal. Guts labelled with DHE and analyzed under a confocal microscope employing the "z-stack" function and overlap of 350 µm. **a** Foregut, **b** midgut, **c** mixed segment and hindgut **d** p1, **e** p3, **f** p4 and **g** p5 compartments. Bars = 100 µm.

Fig. S3. Multiple amino acid sequence alignment of *C. cumulans* SOD with sequences from other insects. The protein was denominated Cc (*C. cumulans*) SOD and compared to *Zootermopsis nevadensis* (ZnSOD – KDR12362), *Coptotermes gestroi* (CgSOD – ALM23457) and *Coptotermes formosanus* (CfSOD – AGM32998). Identic amino acids (black), amino acids from the same classification group according to the side chain (grey) and codon coding for a termination amino acid (*). The highest score blast X matches to *C. cumulans* SOD was 8e-98 for SOD1 (*C. gestroi*). Sequence ID: ALM23457.1.

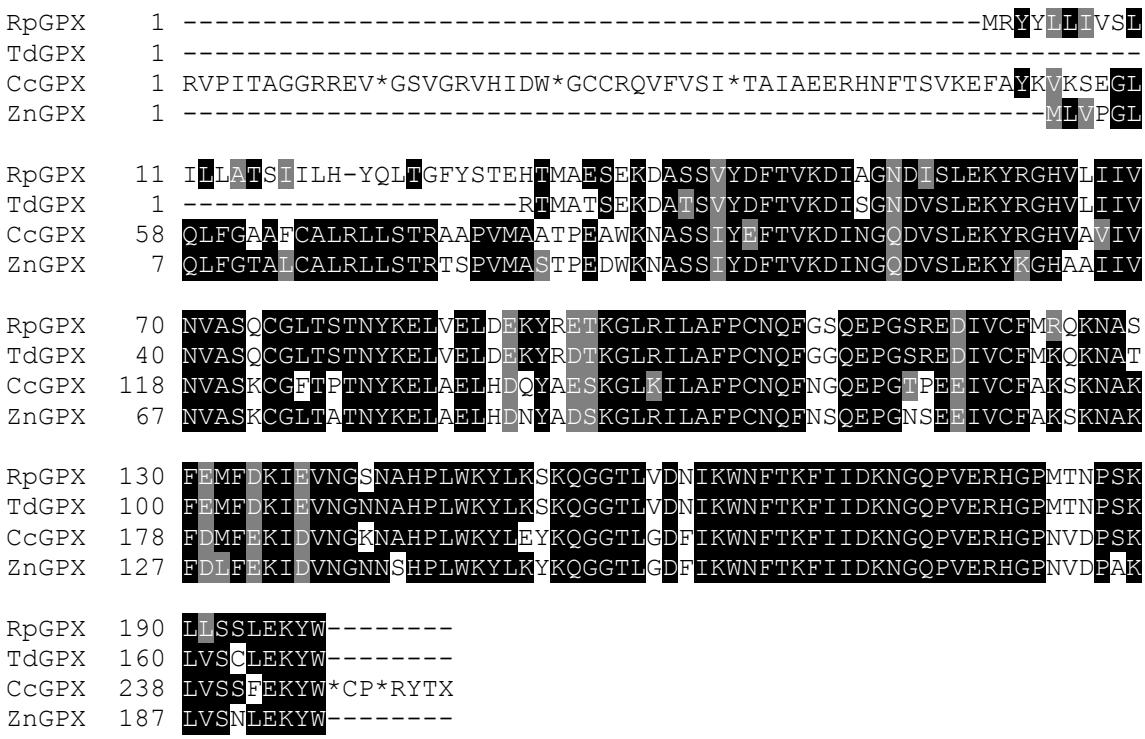

Fig. S4. Multiple amino acid sequence alignment of *C. cumulans* GPX with sequences from other insects. The protein was denominated Cc (*C. cumulans*) GPX and compared to *Rhodnius prolixus* (RpGPX – JAA75589), *Triatoma dimidiata* (TdGPX – JAP03111) and *Zootermopsis nevadensis* (ZnGPX – KDR22003). Identic amino acids (black), amino acids from the same classification group according to the side chain (grey) and codon coding for a termination amino acid (*). The highest score blast X matches to *C. cumulans* GPX was 4e-124 for phospholipid hydroperoxide GPX isoform X1 (*Z. nevadensis*). Sequence ID: XP_021914630.1.

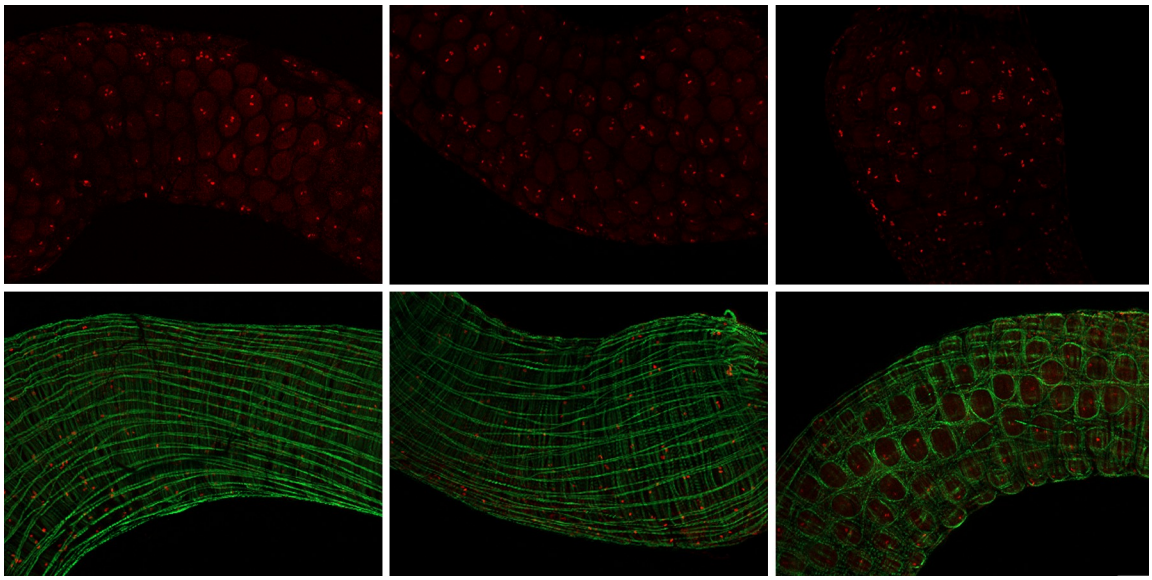

Fig. S5. Additional images to straight the profile of midgut cell renewal. The mitotic cells were revealed by anti-pHH3 antibody (red). The co-marking of Alexa Fluor 488 phalloidin (green) highlights muscle fibers. Analysis under a fluorescence stereomicroscope employing the “z-stack” function and overlap of 350 µm.

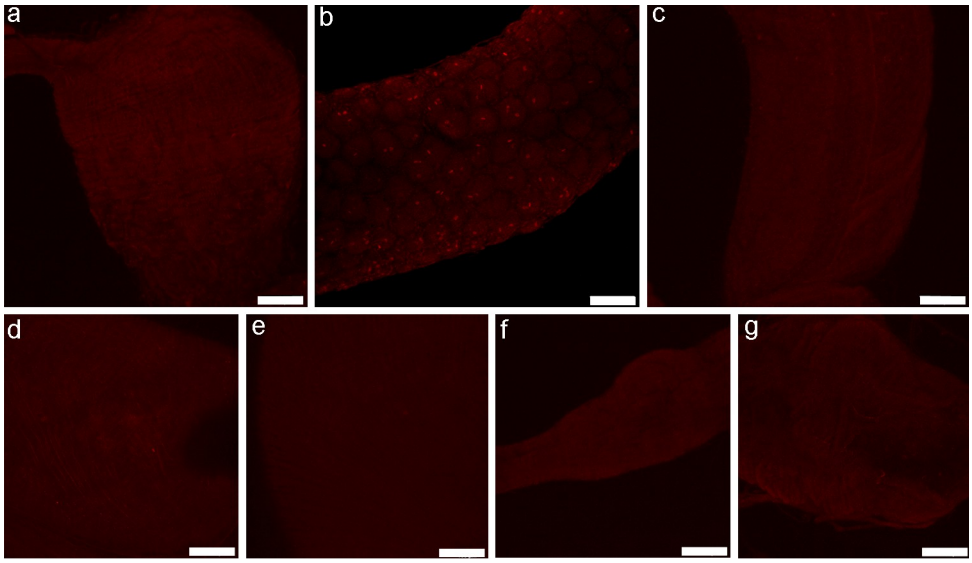

Fig. S6. Further details of mitotic profile of *C. cumulans* alimentary canal. Mitotic cells revealed by anti-pHH3 antibody (red) and analyzed under a confocal microscope employing the “z-stack” function and overlap of 350 µm. **a** Foregut, **b** midgut, **c** mixed segment and hindgut **d** p1, **e** p3, **f** p4 and **g** p5 compartments. Bars = 100 µm.