



**Figure S1** Freeze-fracture TEM images of arrangements of gap junction molecules on germ cell surfaces. (A) Low-magnification image to show distribution of loosely-aggregated large particles on the P-face of a germ cell. Several small clusters of particles may represent sites of nascent gap junction formation. (B) Diagram of (A) with particles indicated as black dots. (C, D) Second germ cell showing larger aggregations of particles. (E) Very large arrangement of pits on the E-face of the sheath, stretching across the entire length of a germ cell (arrowheads mark the limits of the sheath E-face profile). (E') Low-magnification image of (E). (F) Pits in (E) that likely correspond to gap junction particles are indicated with black dots.