

Figure S1. Cross-sections through the spinning apparatus of last silk moth larval instars labeled by Masson trichrome stain. (A) The polyphemus moth, *Antheraea polyphemus*. (B) The Indian moon moth, *Actias selene*. (C) The small emperor moth, *Saturnia pavonia*. (D) The cecropia silk moth, *Hyalophora cecropia*. (E) The Eri silk moth, *Samia cynthia*. (F) The Atlas moth, *Attacus atlas*. Note that the FGs in *H. cecropia*, *S. cynthia*, and *A. atlas* are missing. The arrowheads indicate the ducts of FGs. Abbreviations:

cuticle (c), Filippi's gland (Fg), muscles of the silk press (m), silk gland (sg), and silk press of the spinning apparatus (spr). Scale bars: 100 μ m.

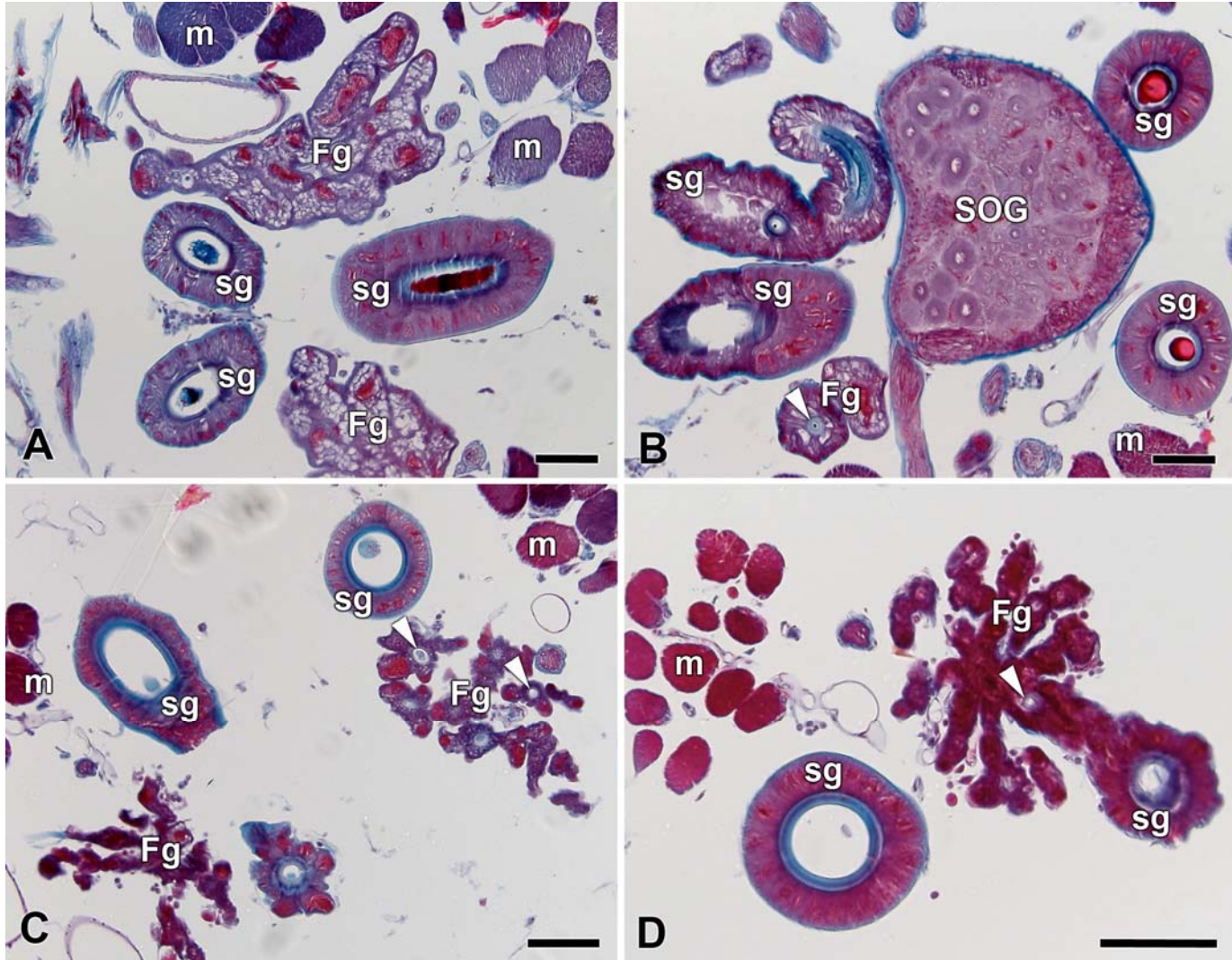


Figure S2. Cross-sections through the spinning apparatus of last silk moth larval instars labeled by Masson's trichrome stain. (A,B) The Chinese oak silk moth, *Antheraea pernyi*. (C,D) The Japanese oak silk moth, *Antheraea yamamai*. The arrowheads indicate the ducts of FGs. Abbreviations: Filippi's gland (Fg), muscles of the silk press (m), silk gland (sg), and suboesophageal ganglion (SOG). Scale bars: 100 μ m.

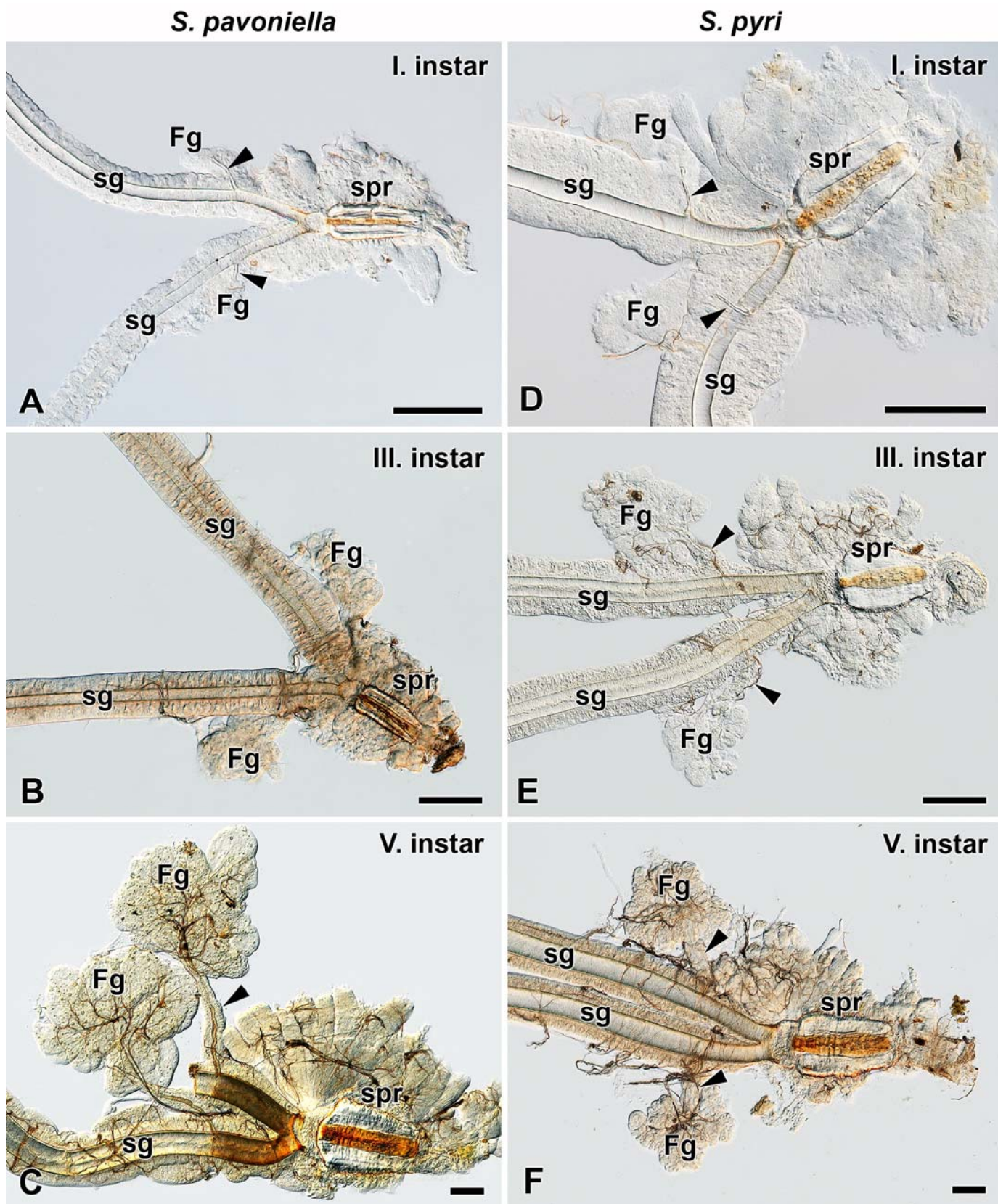


Figure S3. Development of spinning apparatuses of Saturniidae, 1st, 3rd, and 5th larval instars. (A–C) The Ligurian emperor moth, *Saturnia pavoniella*. (D–F) The giant peacock moth, *Saturnia pyri*. The arrowheads indicate the ducts of the FGs entering the lumen of the SGs. Abbreviations: Filippi's gland (Fg), silk gland (sg), and silk press of the spinning apparatus (spr). Scale bars: 100 μm.

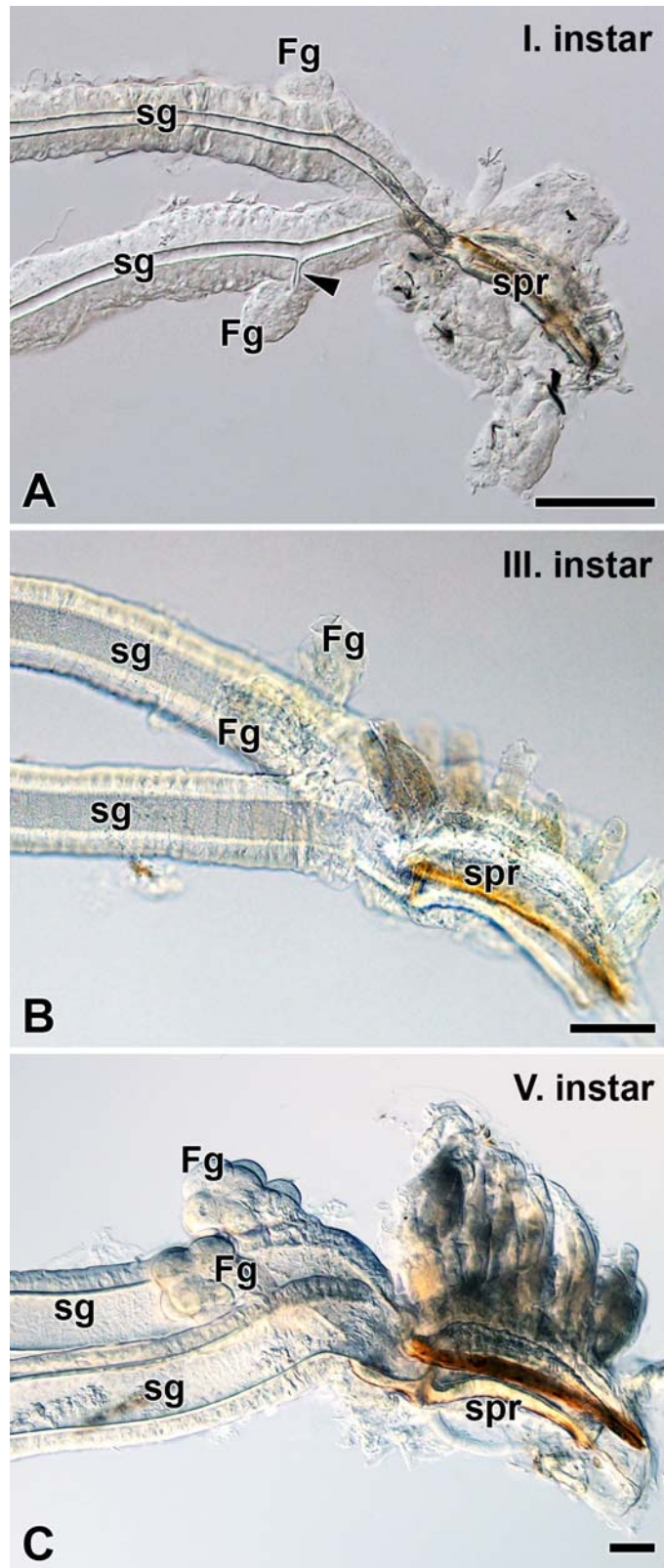


Figure S4. Development of spinning apparatus of *Antherina suraka* (Saturniidae). (A) First larval instar. (B) Third larval instar. (C) Fifth larval instar. The arrowhead indicates the duct of the FG entering the lumen of the SG. Abbreviations: Filippi's gland (Fg), silk gland (sg), and silk press of the spinning apparatus (spr). Scale bars: 100 μ m.

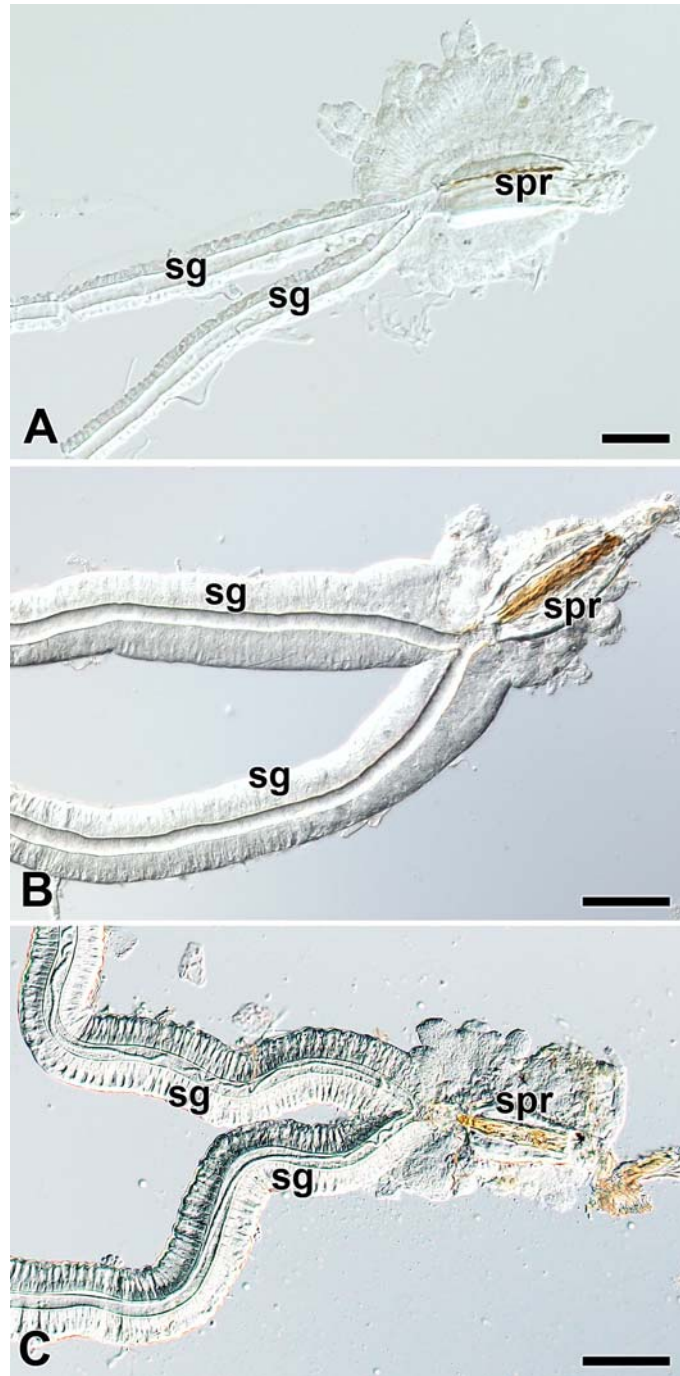


Figure S5. Spinning apparatuses of the first larval instar of Saturniidae. (A) The promethea silk moth, *Callosamia promethea*. (B) The African emperor moth, *Nudaurelia krucki*. (C) The tau emperor moth, *Aglia tau*. Note that in all three species the FGs are missing. Abbreviations: silk gland (sg) and silk press of the spinning apparatus (spr). Scale bars: 100 μm .



Figure S6. Rescue silk fiber of the *Daphnia nerii* 1st larval instar. Arrowheads depict the extruding rescue Scheme 250 μm .