

**Supplementary Material for: Epidermal invagination and muscle rearrangement associated with the segment addition during anamorphosis in a millipede, *Niponia nodulosa***

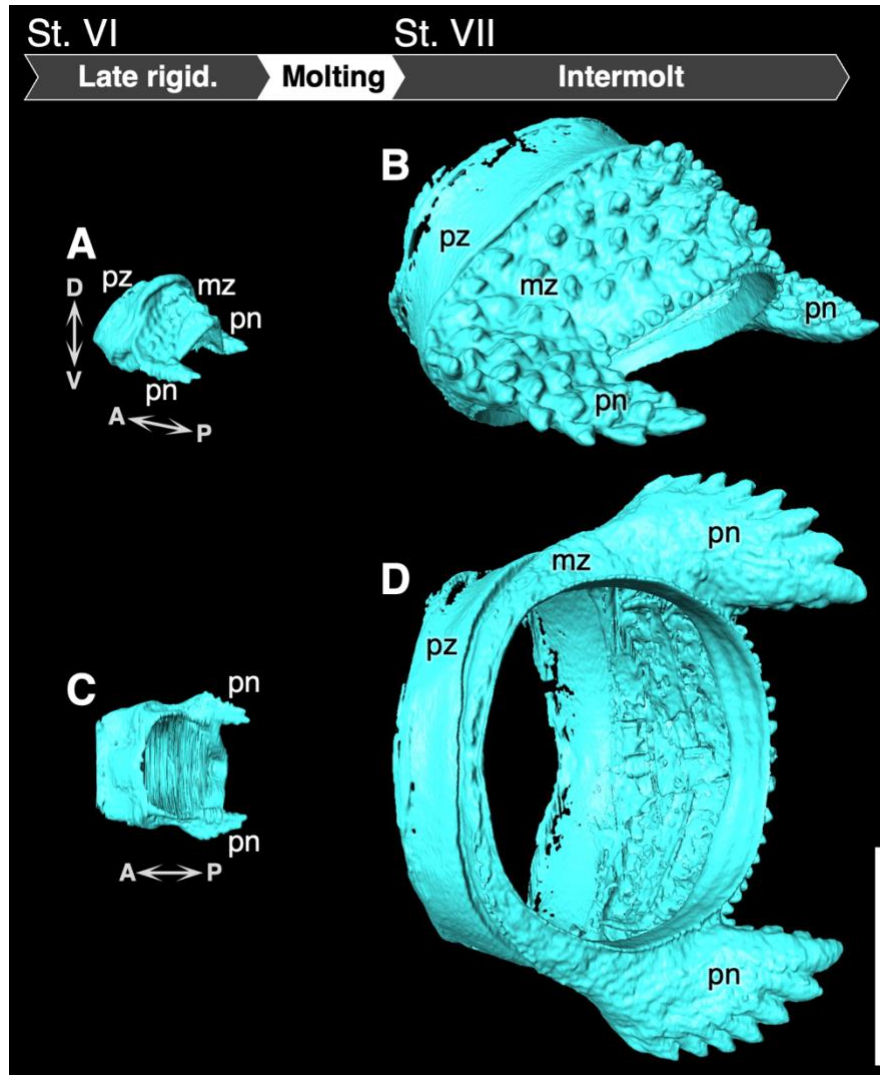
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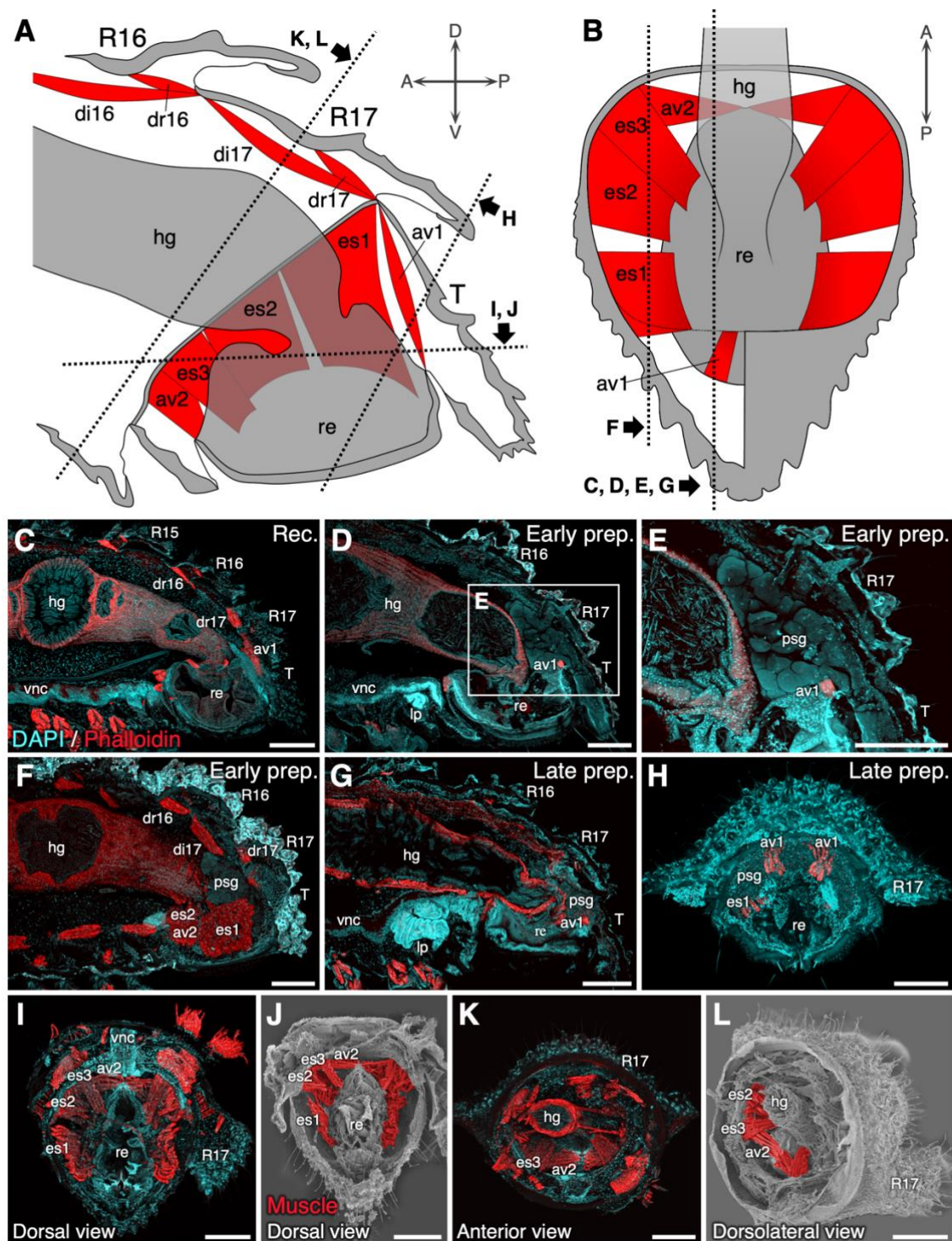
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**Table S1.** Duration of intermolt in stadium VI juveniles of *N. nodulosa* reared individually.

Individual	The day the stadium VI juvenile left from the molting chamber	The day the stadium VII juvenile left from the molting chamber	Number of days in between
#1	25–27 Feb. 2024	27 May 2024	90–92
#2	18 May 2024	6 Sep. 2024	111
#3	19 Dec. 2024	23 Jan. 2025	35
#4	23 Dec. 2024	25–28 Jan. 2025	33–36
#5	29 Sep. 2024	4 Feb. 2025	128
#6	7 Feb. 2025	14–15 Mar. 2025	35–36
#7	13 Feb. 2025	25 Apr. 2025	71
#8	1 May 2025	18 Jun. 2025	48



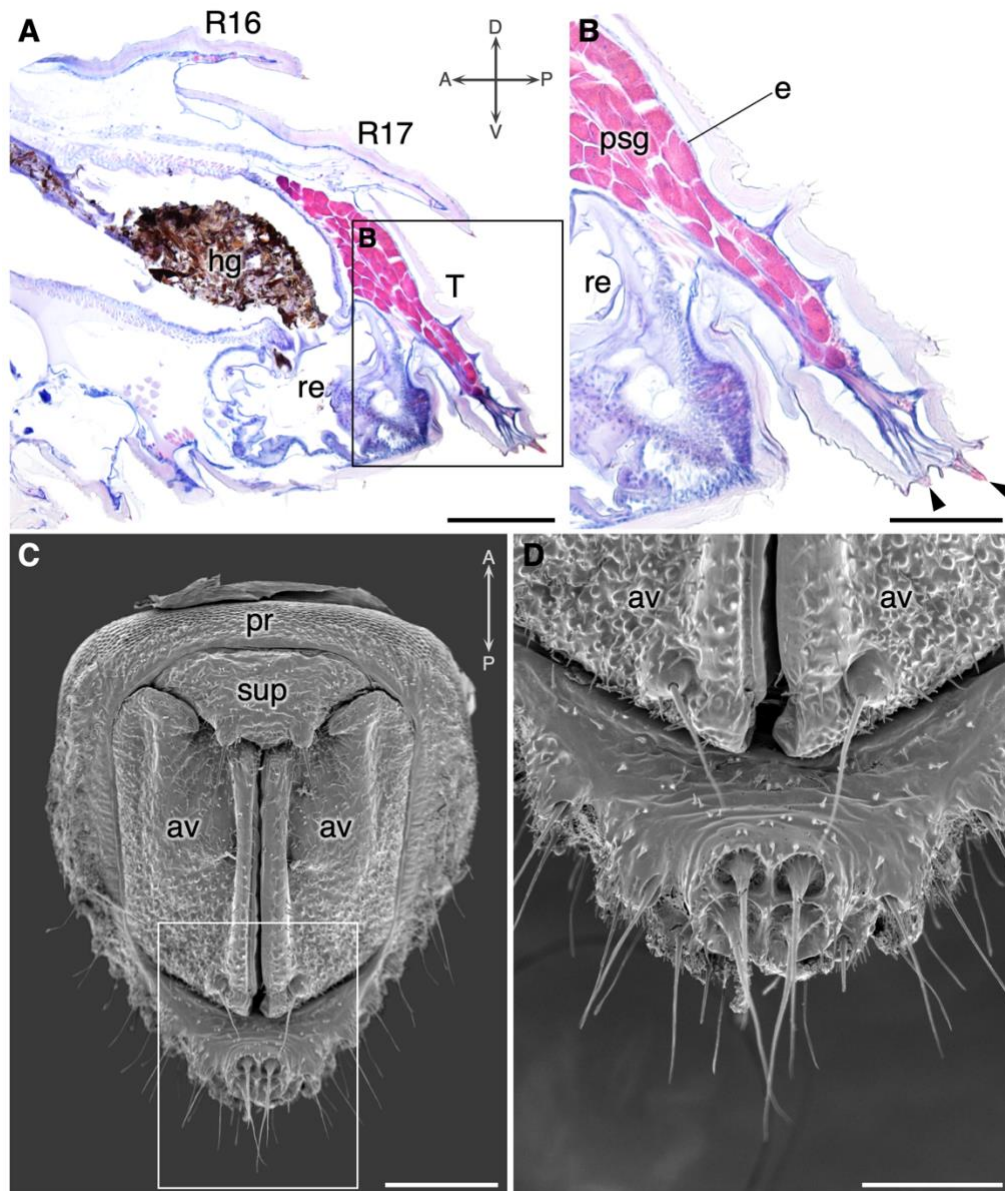
**Fig. S1** Comparison of the ring primordium in the late rigidation period of stadium VI with the completed ring 18 of stadium VII in *N. nodulosa*, based on  $\mu$ CT data. **A, B** Posterolateral views. **C, D** Ventral views. **A, C** Stadium VI, late rigidation period. **B, D** Stadium VII, intermolt period (Day 10). Not to scale in (**A, B**). Scale bars: 500  $\mu$ m (**C, D**). Abbreviations: mz, metazonite; pn, paranotum; pz, prozonite.



**Fig. S2** Musculature in the posterior region of stadium VI juveniles of *N. nodulosa*, based on DAPI and phalloidin staining and SEM observations. **A** Schematic diagram of musculature posterior to ring 16, lateral view, with corresponding sections in (**H–L**). **B** Schematic diagram of telson musculature, dorsal view, with corresponding sections in

(C–G). C–I, K DAPI and phalloidin staining. J, L SEM images with selected muscles pseudo-coloured in red. C Recovery period. D–F Early preparatory period; (E) shows magnified view of the boxed area in (D). G, H Late preparatory period. I–L Musculature inside telson during the intermolt period; (I, K) correspond to the same samples as (J, L), respectively. Scale bars: 200  $\mu$ m. Abbreviations: av, anal valve muscle; di17, dorsal internal muscle of ring 17; dr, dorsal retractor muscle (e.g. dr17 = dorsal retractor muscle of ring 17); es, eversible anal sac muscle; hg, hindgut; lp, leg primordia; psg, putative spinning gland; R, ring (e.g. R17 = ring 17); re, rectum; T, telson; vnc, ventral nerve cord.





**Fig. S3** Putative spinning gland and spinnerets in the telson of *N. nodulosa*, based on histology and SEM. **A, B** Sagittal sections through the spinnerets of a stadium VI juvenile during the late preparatory period. A different section from the same individual shown in figure 4c. **(B)** shows a magnified view of the boxed area in **(A)**. Arrowheads indicate spinnerets. **C, D** SEM images of the ventral side of the telson in a stadium VII juvenile. **(D)** shows a magnified view of the boxed area in **(C)**, showing two pairs of spinnerets. Scale bars: 200  $\mu$ m (**A, C**), 100  $\mu$ m (**B, D**). Abbreviations: av, anal valve; e, epidermis; hg, hindgut; pr, preanal ring; psg, putative spinning gland; R, ring (e.g. R17 = ring 17); re, rectum; sup, subanal plate; T, telson.