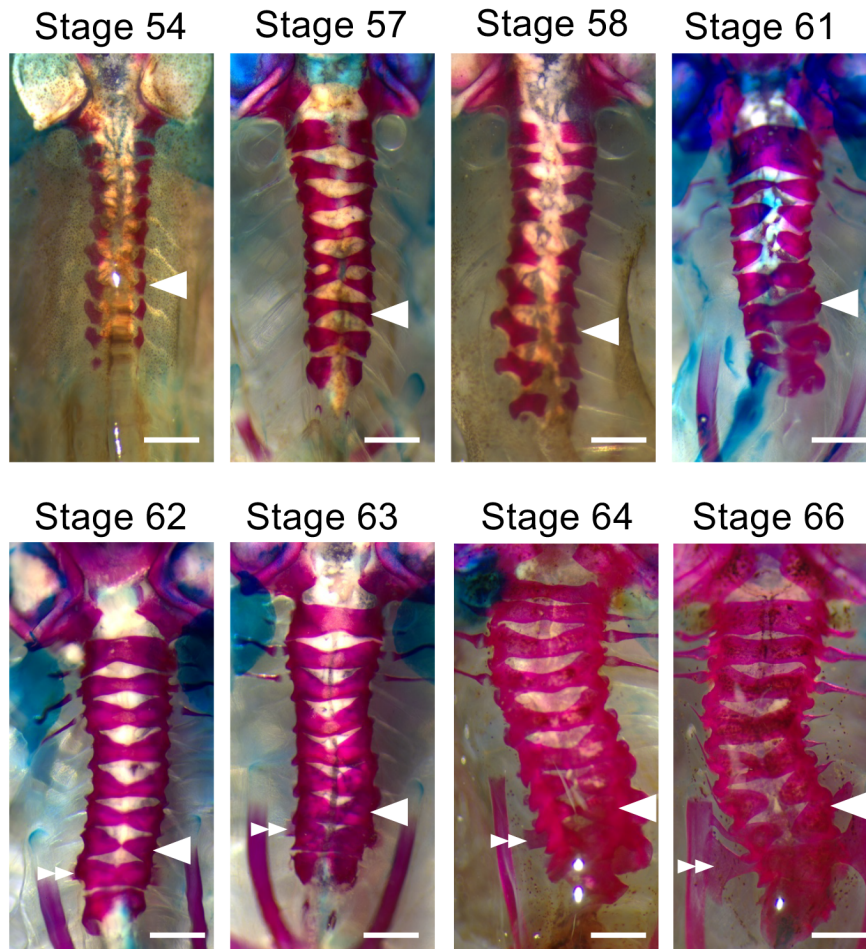


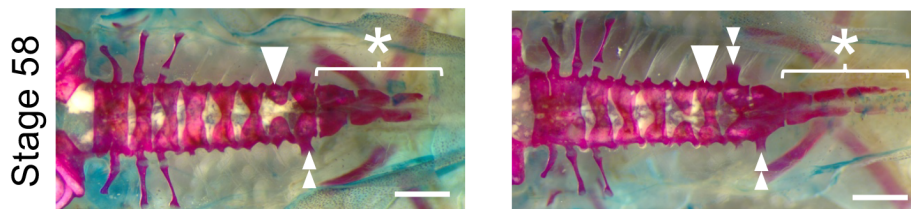
A. $TR\alpha^{(+/+)} TR\beta^{(+/+)}$



B. $TR\alpha^{(-/-)} TR\beta^{(-/-)}$

Extra ossified vertebra

Extra ossified vertebrae,
asymmetric arrangement
of the sacral vertebra



Supplemental figure 1. Vertebral abnormalities during metamorphosis in $TR\alpha^{(-/-)}TR\beta^{(-/-)}$ tadpoles.

(A). Representative photos of the vertebra development in wild type ($TR\alpha^{(+/+)}TR\beta^{(+/+)}$) tadpoles during metamorphosis.

Alizarin red (for ossification) and Alcian blue (for cartilages) whole mount staining of tadpoles at stage 54, 57, 58, 61, 62, 63, 64 and 66. Arrowheads: vertebra VIII. Double-arrowheads: Sacral vertebra. Bars: 1 mm.

(B). $TR\alpha^{(-/-)}TR\beta^{(-/-)}$ tadpoles have increased ossification, additional ossified vertebrae at the end of the body and the asymmetric arrangement of the sacral vertebra at stage 58.

Alizarin red (for ossification) and Alcian blue (for cartilages) whole mount staining of $TR\alpha^{(-/-)}TR\beta^{(-/-)}$ tadpoles at stage 58. Note the extra ossified vertebrae (asterisks) at the body-tail junction. The transverse process of the vertebra II, III and IV were also prematurely ossified, resembling those of the wild type at stages 64-66. In addition, in 4 of the 8 animals examined, there was an asymmetric arrangement of the sacral vertebra (double-arrowheads). Arrowheads: vertebra VIII. Bars: 1 mm.