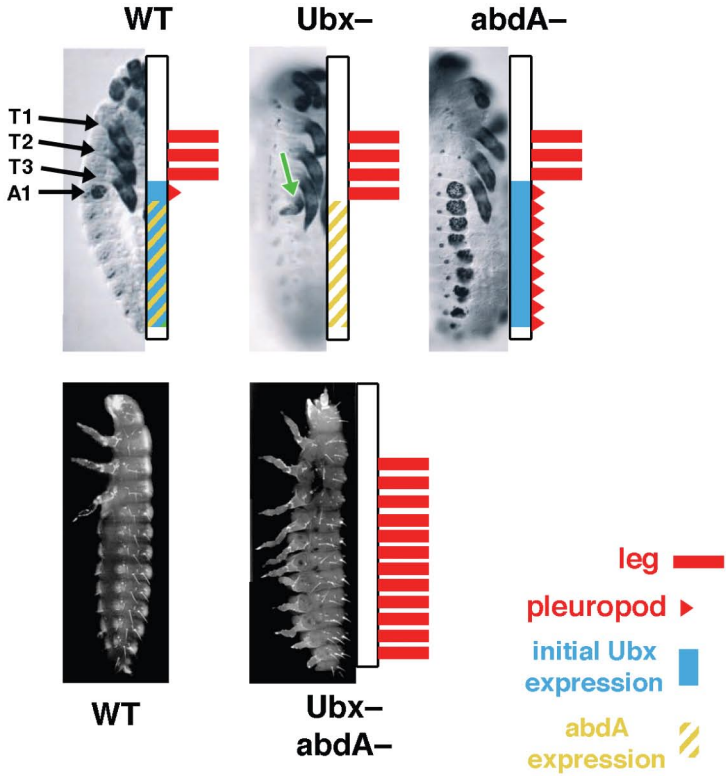

FIGURE 11.15. Wild-type beetle (*Tribolium castaneum*) embryos (*above*) and larvae (*below*) and the phenotypes in *Ubx*$^{-}$ and *abdA*$^{-}$ embryos and a double-mutant *Ubx*$^{-}$ *abdA*$^{-}$ larva. The embryos are labeled for Distal-less protein to highlight the appendages. The adjacent schematics show the number of legs and pleuropods along with the expression domains of *Ubx* and *abdA*. In wild-type embryos, Distal-less-expressing legs are present on T1–T3, whereas a Distal-less-expressing pleuropod is present on A1. Elimination of *Ubx* transforms the pleuropod into a leg, whereas the elimination of *abdA* leads to the formation of pleuropods on the abdominal segments. Elimination of both *Ubx* and *abdA* creates legs along the length of the abdomen. These results indicate that *abdA* represses *Dll* and appendage development, whereas *Ubx* does not repress *Dll* but instead initially distinguishes the leg-bearing T3 segment from the pleuropod-bearing A1 segment. Later in development, *Ubx* expression will expand to include T3 and then function to distinguish T2 from T3.

11.15, redrawn from Lewis D.L. et al., *Proc. Natl. Acad. Sci.* **97:** 4504–4509, © 2000 National Academy of Sciences, U.S.A.