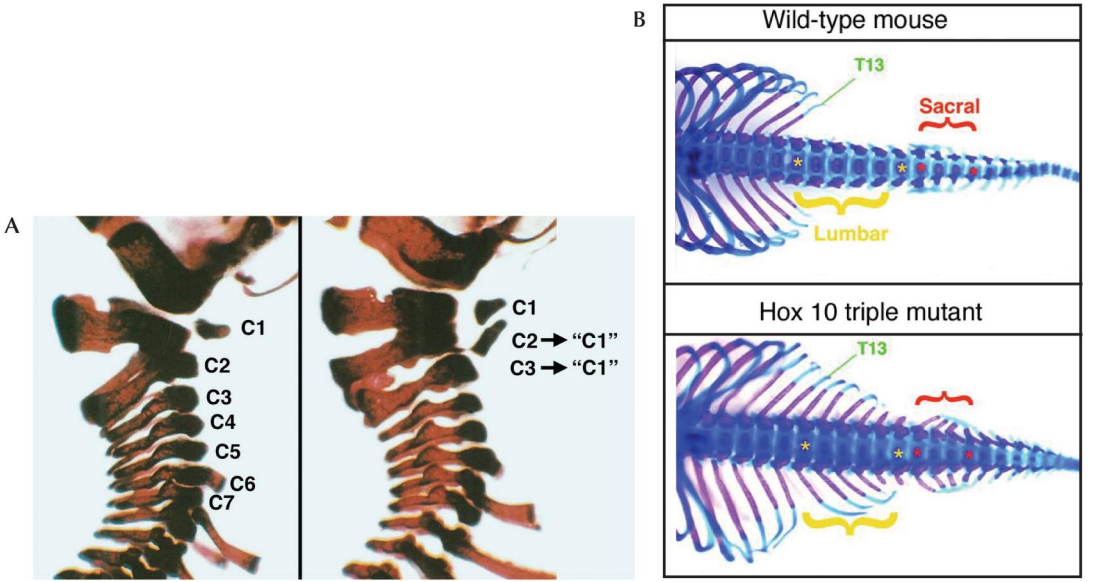


**FIGURE 11.8.** Mutation of *Hox* genes causes regional transformations in mice. (*A*) (*Left*) Wild-type mouse skeleton with normal first, second, and third cervical vertebrae (C1, C2, C3); (*right*) the skeleton of the mouse lacking *Hoxb4* gene (the *Hox4* gene of the b cluster; see Fig. 11.6) showing transformed cervical vertebrae so that what should be C2 and C3 look more like a normal C1 vertebrae. (*B*) Ventral views of wild-type (*above*) mouse lumbar and sacral vertebrae (the last rib bearing vertebra is thoracic 13, T13; *yellow bracket,* lumbar vertebrae; *green bracket,* sacral vertebrae) and a *Hox10* triple mutant version (*below*; deleted for the *Hox10* gene from clusters a, c, and d; there is no group 10 gene on cluster b). This complete elimination of *Hox10* genes leads to the transformation of the vertebrae of the sacral and lumbar region into rib-bearing thoracic-type vertebrae.