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Erratum

The evolutionary origin of insect telomeric repeats, $(TTAGG)_n$

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Due to a technical error, a wrong abstract appeared in the online version of the original article. The correct abstract must read:

The $(TTAGG)_n$ sequence is supposed to be an ancestral DNA motif of telomeres in insects. Here we examined the occurrence of TTAGG telomeric repeats in other arthropods and their close relatives by Southern hybridization of genomic DNAs and fluorescence in-situ hybridization (FISH) of chromosomes with $(TTAGG)_n$ probes or, alternatively, with the 'vertebrate' telomeric probe, $(TTAGGG)_n$. Our results show that the $(TTAGG)_n$ motif is conserved in entognathous hexapods (Diplura and Collembola), crustaceans (Malacostraca, Branchiura, Pentastomida, and Branchiopoda), myriapods (Diplopoda and Chilopoda), pycnogonids, and most chelicerates (Palpigradi, Amblypygi, Acari, Opiliones, Scorpiones, Pseudoscorpiones, and Solifugae) but not in spiders (Araneae). The presence of TTAGG repeats in these groups suggests that the sequence is an ancestral motif of telomeres not only in insects but in Arthropoda. We failed, however, to detect the TTAGG repeats in close relatives of the arthropods, Tardigrada and Onychophora. But while Onychophora had the 'vertebrate' $(TTAGGG)_n$ motif instead, the Tardigrada did not. The $(TTAGG)_n$ motif probably evolved from the $(TTAGGG)_n$ motif. Based on our and compiled data, we presume that the 'vertebrate' motif $(TTAGGG)_n$ is an ancestral motif of telomeres in bilaterian animals and possibly also in the superclade including animals, fungi and amoebozoans.

The online version of the original article can be found at http://dx.doi.org/10.1007/s10577-005-7721-0