

**Supplementary Table 2. Overview of genetic and morphological characters that are diagnostic between *A. sturio* and *A. oxyrinchus***

	Sequence differences		Morphology					
	Mitochondrial DNA D-Loop	Nuclear DNA <i>Aox-23</i>	Membranous fontanelle	Scute surface	Viscera colour	No of dorsal scutes	No of lateral scutes	Gill rakers
	11111122	355						
	2333444445777813446700	934						
	8256013457456377294805							
<i>A. sturio</i> (Europe)	ACGTACCATCTACACCCTGAAT	CGA	absent	tubercular- radial	greyish	11.16- 13.06	29.55- 33.50	18.41
North Sea	ACGTACCATCTACACCCTGAAT	CGA	absent	tubercular- radial	greyish	12.74	31.96	20.19
<i>A. oxyrinchus</i> (North America)	GTCACTGCCTCTTGTATCATCA	TAT	present	alveolar- radial	pale	9.76	28.60	21.54
Baltic Sea	GTCACTGCCTCTTGTATCATCA	TAT	present	alveolar- radial	pale	9.60- 10.62	27.70- 28.62	18.50
Oste R. (ZM 88) (North Sea)	GTCACTGCCTCTTGTATCATCA	TAT	_*	_*	_*	_*	_*	_*

\* Zoologisches Museum Hamburg (collection number ZM 88): mature oocytes, no morphological data are available.