

# Meristic characters of Formosa landlocked salmon (*Oncorhynchus masou formosanus*)

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## Introduction

The Formosa landlocked salmon (*Oncorhynchus masou formosanus*) is a highly inbred population, with the existing population estimated at less than 1000 individuals. This fish was listed as endangered species by Taiwan Government and under strict protection. It is only found in the southern geographical limit of the *Oncorhynchus masou* complex. Several studies on morphometric and meristic characters of Formosa landlocked were reported since it was first discovered in 1916. However, data of these previous investigations are diverse and even contradictory. Therefore, we applied X-ray and double staining techniques to count the meristic characters of fish. A comparison between Formosa landlocked salmon and other 3 *Oncorhynchus masou* complex (*O. masou masou*, *O. masou ishikawae*, and *O. masou* subsp) was also made.

## Results

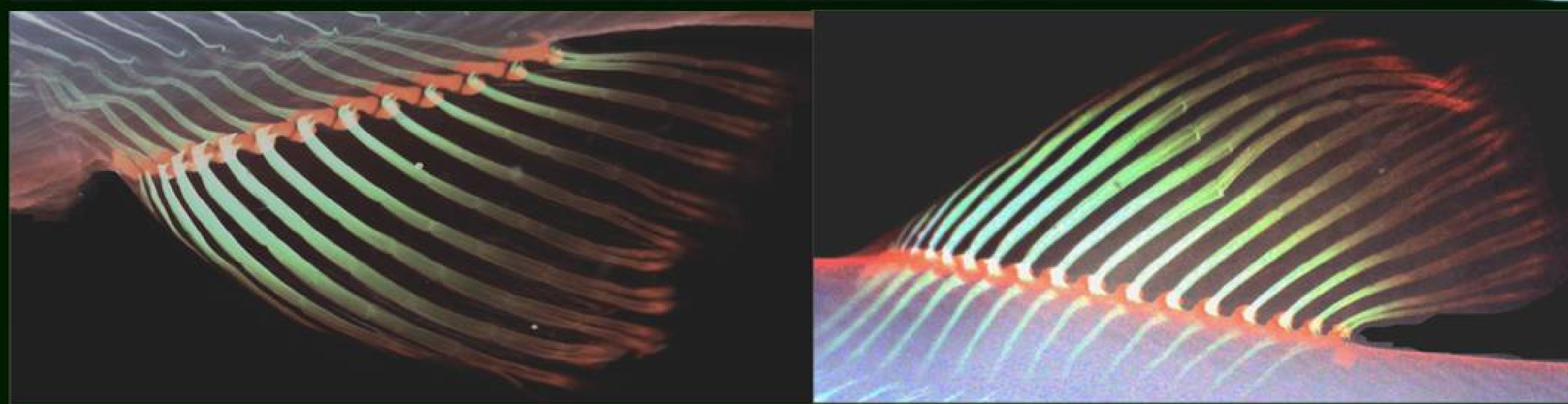
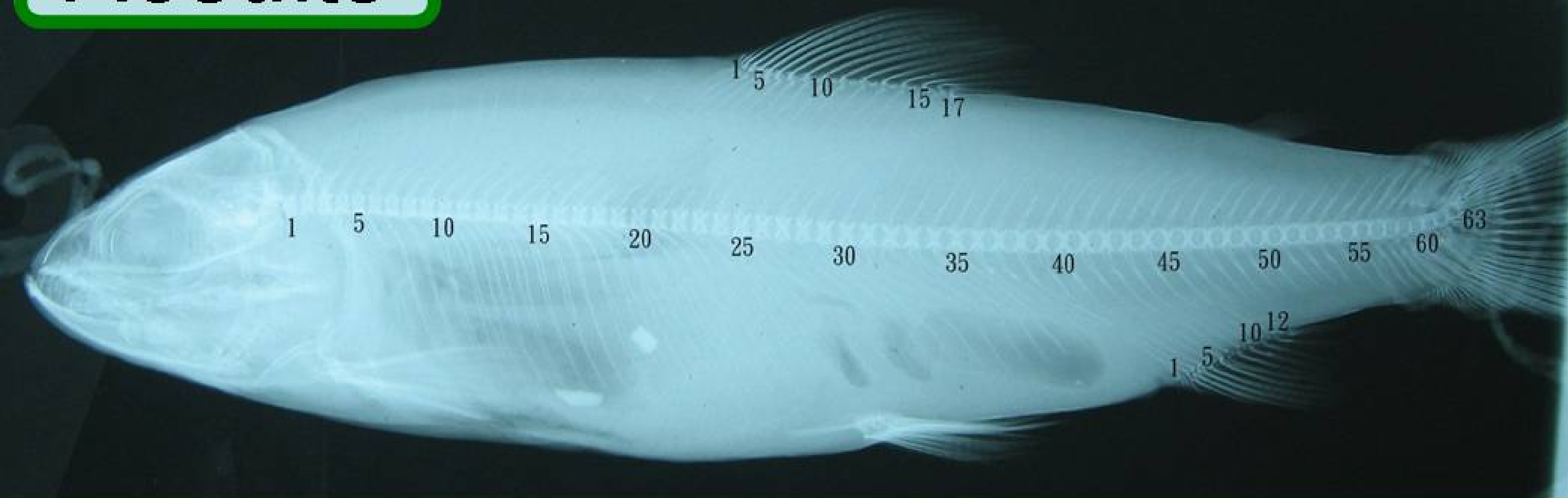


Fig. 2 Both X-ray and double staining techniques make the meristic characters of specimens easy to count

Table 2 Comparison of the number of anal fin rays of Formosa landlocked salmon with *O. masou ishikawae* and *O. masou masou*

	Number of anal fin ray						Range	mean	N
	12	13	14	15	16	17			
<i>O. masou formosanus</i>	2	4	6	1			12-15	13.46	13
<i>O. masou ishikawae</i>				2	8	2	15-17	16.00	12
<i>O. masou masou</i>		1	4	7			13-15	14.50	12

## References

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Anal fin ray  $\leq 14$

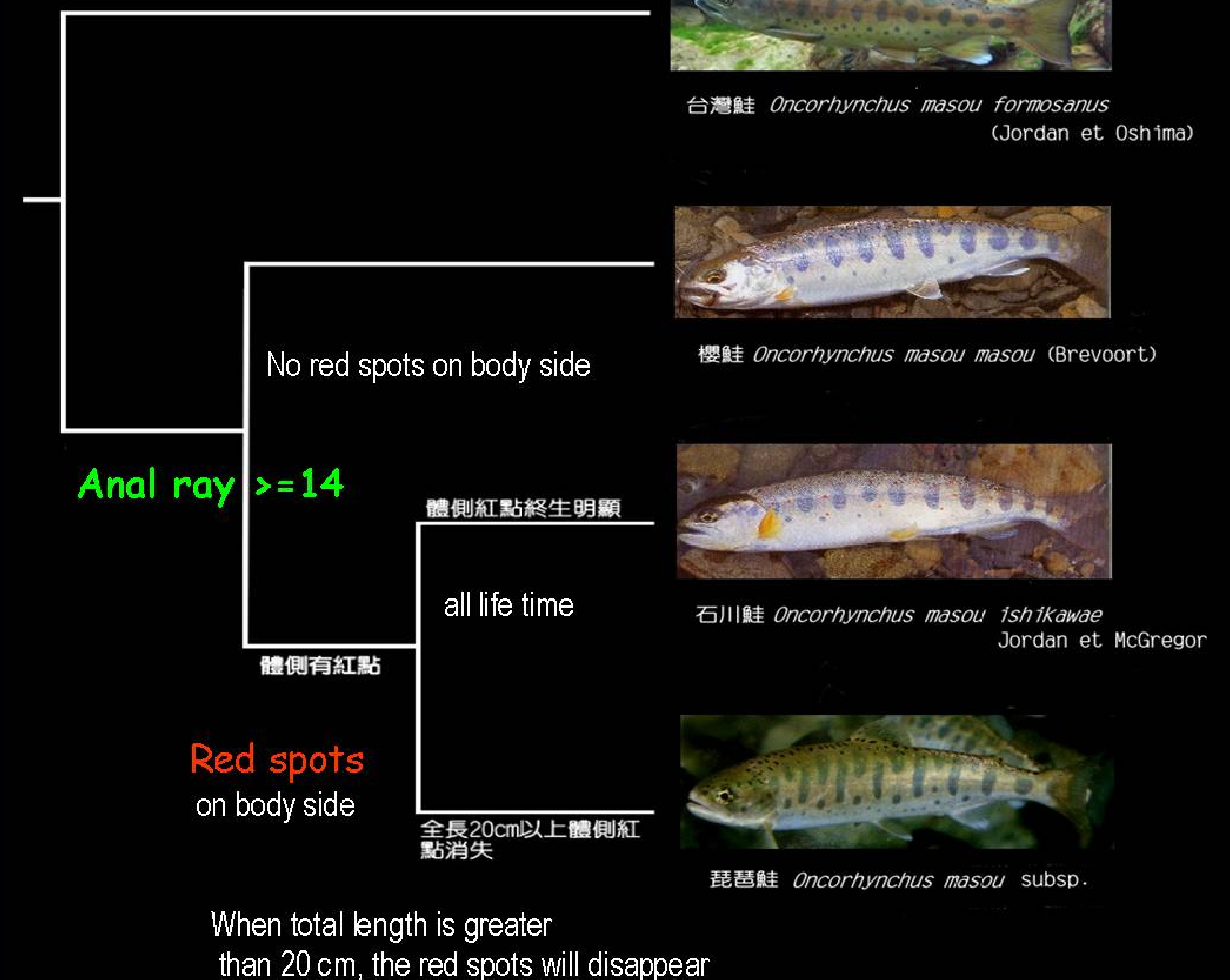


Fig. 1 Identification of 4 *Oncorhynchus masou* complex using number of anal fin rays and red spot on body side

Table 1 Comparison of 3 meristic characters among 4 *Oncorhynchus masou* complex

Taxon (reference)	anal fin ray Range (mean)	dorsal fin ray Range (mean)	Vertebrae Range (mean)
<i>O. masou formosanus</i> (Present study)	12-15 (13.46)	15-17 (16.16)	61-63 (62.00)
<i>O. masou formosanus</i> (Watanabe & Lin 1985)	11-14 (12.61)	12-15 (13.83)	60-63 (61.56)
<i>O. masou masou</i> (Watanabe & Lin 1985)	14-16 (14.80)	14-17 (15.37)	63-66 (62.24)
<i>O. masou ishikawae</i> (Watanabe & Lin 1985)	14-15 (14.20)	14-17 (15.40)	63-66 (64.40)
<i>O. masou</i> subsp (Watanabe & Lin 1985)	13-16 (14.47)	14-17 (15.37)	63-66 (64.45)

## Conclusions

Formosa landlocked salmon has the fewer anal fin rays and fewer vertebrae than the three other *Oncorhynchus masou* complex.