Gray Whale Photo/Genetic[1] Match-No Match Summary in Western North Pacific: Data for April 2016 IWC Range-Wide Workshop

D.W. Weller, A.R. Lang and R.L. Brownell, Jr.
NOAA Fisheries, Southwest Fisheries Science Center, La Jolla, CA

1. Genetics: Japan 7 April 1995 stranding (beached) – Haplotype identified as G or O in Kanda et al 2010. Haplotype G is found in low frequencies among both sampled Eastern North Pacific (ENP) whales and sampled Sakhalin whale (found in two individuals off Sakhalin). Haplotype O has not been found among biopsied Sakhalin individuals and is found in low frequencies among sampled ENP animals[2].

2. Genetics: Japan 16 May 1996 entanglement– Haplotype identified as A in Kanda et al. 2010. Haplotype A is common in both sampled ENP and sampled Sakhalin whales (and is one of the two most commonly identified haplotypes in whales biopsied off Sakhalin)[2].

3. Photo-ID: Japan 22 July 1997 sighting - Unusable quality photos.

4. Photo-ID: Japan 06 May 2003 sighting - Unusable quality photos

5. Photo-ID/Genetics: Japan 11 May 2005 entanglement - Marginal quality photo, no match to Sakhalin. Female, total length recorded as 7.81m. Haplotype identified as L or U in Kanda et al. 2010[2]. Based on mtDNA and microsatellite data produced at SWFSC[1], this whale has haplotype U and is not a genetic match (based on microsatellites) for any of the whales we sampled off Sakhalin. Haplotype U has not been found in any biopsied Sakhalin whales but has been found in one individual biopsied off SE Kamchatka. This haplotype is not common among sampled ENP whales. Note that this whale and the whale entangled off Japan on 01 August 2007 (see note #8 below) share the same haplotype, although the microsatellite data indicates that they are not a mother-offspring pair. The possibility that these whales share an alternate relationship (e.g., maternal half-sibs) has not yet been assessed.

6. Photo-ID/Genetics: Japan 15 July 2005 entanglement, mother-calf pair - Unusable quality photos. Haplotype of the adult female identified as Z in Kanda et al. 2010[2]. Haplotype Z is found in only a few whales sampled in the ENP and among one individual sampled off Sakhalin.

7. Photo-ID/Genetics: Japan 18 January 2007 bycatch/stranding from Japan- Useable quality photo, which we matched to one of our Sakhalin whales. Female, total length recorded as 9.19m. Haplotype identified as Haplotype B in Kanda et al. 2010[2], which is consistent with haplotype data we have for this same whale when sampled off Sakhalin in 2006. Haplotype B is found in moderate frequencies in sampled ENP whales and in high frequencies among biopsied Sakhalin animals.

8. Genetics: Japan 01 August 2007 entanglement - Female, total length recorded as 12.33m. Identified as Haplotype L or U in Kanda et al. 2010[2]. Based on the analyses at SWFSC[1], this whale has haplotype U and is not a genetic match (based on microsatellites) for any whales that we sampled off Sakhalin. Haplotype U has not been found in any biopsied Sakhalin whales but has been found in one individual biopsied off SE Kamchatka. It is uncommon among sampled ENP whales. See note above in #5 regarding this whale.

9. Photo-ID/Genetics: China November 2011 bycatch - Useable quality photo of left side only, no match to Sakhalin whales. Haplotype identified as haplotype R in Wang et al 2015 and confirmed in SWFSC analysis. Based on SWFSC analysis of microsatellite genotypes, this whale is not a genetic match for any whale sampled off Sakhalin. Haplotype R has not been identified among Sakhalin whales and is found in relatively low frequencies among sampled ENP whales.

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[1] From Aimee to Andre - Kanda et al. 2010 reported the mtDNA haplotypes of six Japan samples, including the two flagged here. For these two samples, additional genetic information (mtDNA haplotype sequences and microsatellite genotypes) was obtained from whole genome amplification products that I brought to SWFSC from Japan for analysis.

[2] Following the 2011 tsunami, we assume DNA or tissue from these whales is no longer available.

10. Photo-ID: Japan 12 March 2012 (Irako port, Tawara-city) - Excellent quality photos, but no match to Sakhalin through the 2015 field season.

11. Photo-ID: Japan 06 April 2014 (Teradomari) - Useable quality photos, no match to Sakhalin through the 2015 field season.

12. Photo-ID: Japan March 2015 (Kozu Shima)- Useable quality photo, match to a Sakhalin whale.

13. Photo-ID: Japan April-May 2015 (Suruga Bay) - Marginal quality photos, match to a Sakhalin whale and record #12 above.

14. Photo-ID: Japan March 2015 (Teradomari) – Fair quality photos, no match to Sakhalin through the 2015 field season. Reported as a match (intra-Japan) to whale from 06 April 2014 in record #11 above (Aoyagi et al. 2015).

15. Genetics: Note that baleen from a whale that stranded live off China 7 December 1996 is archived at SWFSC; thus far, efforts to extract DNA from this baleen sample have failed and no genetic data has been obtained. See details in Zhao 1997.

16. Photo-ID: Russia Paramushir Island, Kuril Islands (Okhotsk Sea) July 2000 – Good quality photos, match to Sakhalin.

17. Photo-ID: Russia Shantar Island (Okhotsk Sea) September 2000 – Good quality photos, match to a Sakhalin whale and Paramushir whale (see record #16 above).

18. Photo-ID: Russia Bering Island (Bering Sea) June 2000 – Good quality photos, match to a Sakhalin whale.

19. Photo-ID: Japan January 2016 (2015 Kozu Shima Whale) – Fair quality photos, match to Sakhalin and same whale as #12 and #13.

20. Photo-ID: Japan February 2016 (2015 Kozu Shima Whale)- Fair quality photos, match to Sakhalin and same whale as #12, #13 and #19.

21. Photo-ID: Japan March 2016 (Chiba) – Stranding (Beached) - unusable quality photos.

Related Papers

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