Received: 23 August 2023 | Accepted: 29 October 2023

DOI: 10.1111/mms.13091

Marine Mammal Science

NOTE

First direct observation of a successful southern right whale (*Eubalaena australis*) birth in South African coastal waters

Loraine Shuttleworth[1] | **Ash Appleby**[2] | **Robin Appleby**[2†] | **Els Vermeulen**[1]

[1]Mammal Research Institute Whale Unit, University of Pretoria, South Africa

[2]Southern Right Charters, Walker Bay, Hermanus, South Africa

Correspondence
Els Vermeulen, Mammal Research Institute Whale Unit, Department of Zoology and Entomology, University of Pretoria, crn Lynwood and University Road, Pretoria, South Africa.
Email: els.vermeulen@up.ac.za

Southern right whale females (*Eubalaena australis*, hereafter SRWs) usually migrate between higher latitudes where they forage in summer to coastal areas at lower latitudes where they give birth and nurse their young in winter (Best, 2000). In South Africa, the SRW calving season extends between late June to late October, with a birthing peak in August (Best, 1994). This predictable coastal presence has enabled population monitoring since the late 1960s by means of annual aerial surveys (e.g., Best, 1990; Best et al., 2001). In addition to monitoring population recovery postwhaling, these long-term surveys have also allowed for the observational assessment of reproductive parameters. As such, the age at first parturition in the population was estimated at 8 years with an average calving interval of 3 years and an estimated gestation length of 12–13 months (Best, 1994; Best et al., 2001). However, despite these long-term research efforts, very little is known regarding the actual birthing event in SRWs (Best, 1994). Three accounts of possible SRW births off the coast of South Africa have briefly been discussed in Best (1970) and Best (1981) but they all relate to anecdotal evidence from distant shore-based observations.

Documentation of SRW births is equally rare across calving grounds throughout the southern hemisphere. In 2012, an unsuccessful birth was documented in Argentina (Península Valdés) from a whale watching vessel and reported in Sironi et al. (2019). The authors suggested that there were a few possible factors indicating that this was an abnormal parturition including the repeated protrusion and withdrawal of the calf, lengthy time-period before full expulsion of the calf, and resighting of the female without a calf (Sironi et al., 2019). However, despite the increasing boat-based presence around SRWs, mostly in the form of whale-based tourism, close and detailed observation of a successful birth has, to our knowledge, never been directly observed and documented. Therefore, here we report the first documented successful SRW birth observed along the South African coast, supplemented with photographic evidence.

† Deceased.

In early July 2022, the commercial whale-watching boat *Miroshca* (length: 18 m; engine specifications: two John Deere 9 L inboard engines) of the whale-watching company Southern Right Charters encountered a lone SRW in Walker Bay, Hermanus, South Africa. For three to four consecutive days, what appeared to be the same animal was observed in approximately the same location (near 34°26.57′S, 19°15.40′E) performing short but steep fluking dives. As this type of behavior is typically enjoyed by tourists and rare to see repetitively, the vessel deliberately headed to the same coordinates during each trip considering the high likelihood of such an exciting encounter. Based on the near unchanging location (as indicated by the tracks and coordinates on the skipper's GPS) and unchanged behavior of the animal, it was presumed that it was the same animal being observed each day. However, this could not be verified with photo-identification data.

When the same location was approached on July 5, 2022, around 16:35, there were no whales in sight. Nevertheless, the vessel approached the area slowly as a precaution based on the encounters of the previous days. This approach was halted when a whale lunged out of the water ahead of the boat at approximately 300 m at 16:39. Considering the location (near 34°26.57′S, 19°15.40′E; depth: 41 m; sea surface temperature [SST]: approximately 14°C) it was believed that this was the same individual that had been seen the previous few days. Due to this behavior, a crew member began to take photographs (using a Nikon D3300 with an AF-S NIKKOR 200–500 mm 5.6E ED lens). During the lunge, the whale made a barrel roll movement turning onto her back and vigorously pushing her genital area upward. At that time, a small fluke could be seen protruding from her genital slit and the water around the whale turned red presumably with blood (Figure 1a taken at 16:39). Other displayed behavior included arching (Weilgart & Whitehead, 1986), lurching (Leatherwood & Beach, 1975), rotating (Stacey & Baird, 1997), and thrashing (Zani et al., 2008). Mere seconds later, the calf was expelled from the female's body, its head seen above the water. The head showed the beginnings of a callosity pattern forming but completely lacked any cyamid coverage (Figure 1b taken at 16:41). Fetal folds along the lateral side of the body and a "curly" tail characteristic of newborn cetaceans (Faria, 2013; Zani et al., 2008) could also be observed. Soon after expulsion, the bleeding decreased substantially, and photographs taken at 16:42 no longer had signs of blood in the water. No placental material was observed in the surrounding water immediately following the birth.

The mother did not appear to assist the calf in any way to surface or swim immediately postexpulsion. In fact, immediately after birth, both the mother and newborn calf swam on without signs of physical contact. This is consistent with behavior observed during a North Atlantic right whale *(Eubalaena glacialis)* birth event reported by Foley et al. (2011). There were no other SRWs present in the area during the entire event. As no attempts were made to approach or follow the pair in accordance with whale watching permit conditions in South Africa, this ended the observation.

Only a few other birthing events have been described for baleen whales, including two births of North Atlantic right whales in the coastal waters of the United States (Foley et al., 2011; Zani et al., 2008), a humpback whale (*Megaptera novaeangliae*) at Sainte Marie Island, Madagascar (Faria, 2013), in Lahaina, Maui (Patton & Lawless, 2021), in Hawaii, (Silvers et al., 1997) and on the northeast coast Brazil (Ferreira et al., 2011), the birth of a gray whale (*Eschrichtius robustus*) in Mexico (Mills & Mills, 1979) and the unsuccessful SRW birth at Península Valdés, Argentina (Sironi et al., 2019). In general, the maternal behavior during the parturition described here is similar to the behavior observed in other successful cetacean births, which may include thrashing (Zani et al., 2008), arched back positions (e.g., Weilgart & Whitehead, 1986), lurching and tail spasms (e.g., Leatherwood & Beach, 1975), and rotating (Stacey & Baird, 1997). No maternal assistance for calf surfacing immediately after birth was observed, as opposed to what has been documented in some other baleen whale birthing events (e.g., Ferreira et al., 2011; Zani et al., 2008), but not in all (see Foley et al., 2011; Ransom et al., 2022). Although it is difficult to determine when labor truly began, the behavior identified by the crew as a parturition event was short (<2 min) possibly explaining why these birthing events are so rare to observe and document (Ransom et al., 2022). We therefore highlight the value of opportunistic data when collecting information on the behavior and ecology of cetaceans. Especially when unusual behaviors are observed, documentation through detailed description and photographic evidence is crucial in

FIGURE 1 (a) Female SRW on her back with the calf's fluke seen protruding (red circle), taken at 16:39. (b) Calf's head seconds after birth, photograph taken at 16:41.

our bid to improve our understanding of various aspects of cetacean behavior and ecology. The documentation of this event has expanded our knowledge of some behavioral aspects of a SRW birth, yet there is still much that remains unknown such as, length of labor, initiation of lactation, etc. Aerial and underwater footage could be particularly useful to further our understanding of these events as is shown by Patton & Lawless (2021).

ACKNOWLEDGMENTS

This article is dedicated to Robin Appleby, who passed away during the drafting of this article. Her strength and kind heart will never be forgotten! The observation was made under the permit conditions of Southern Right Charters nr BBWW407/201909.

AUTHOR CONTRIBUTIONS

Loraine Shuttleworth and **Els Vermeulen:** Investigation; writing and editing. **Ash Appleby:** Data curation; resources; validation; writing – review and editing. **Robin Appleby:** Data curation; resources.

ORCID

Els Vermeulen https://orcid.org/0000-0002-3667-1290

REFERENCES

Best, P. B. (1970). Exploitation and recovery of right whales *Eubalaena australis* off the Cape Province. *Division of Sea Fisheries Investigational Report*, *80*, 1–20.

Best, P. B. (1981). *The status of right whales off South Africa (1969–1979)*. Sea Fisheries Institute.

Best, P. B. (1990). Natural markings and their use in determining calving intervals in right whales off South Africa. *South African Journal of Zoology*, *25*(2), 114–123. https://doi.org/10.1080/02541858.1990.11448199

Best, P. B. (1994). Seasonality of reproduction and the length of gestation in southern right whales *Eubalaena australis*. *Journal of Zoology*, *232*(2), 175–189. https://doi.org/10.1111/j.1469-7998.1994.tb01567.x

Best, P. B. (2000). Coastal distribution, movements and site fidelity of right whales *Eubalaena australis* off South Africa, 1969–1998. *South African Journal of Marine Science*, *22*(1), 43–55. https://doi.org/10.2989/025776100784125618

Best, P. B., Brandão, A., & Butterworth, D. S. (2001). Demographic parameters of southern right whales off South Africa. *Journal of Cetacean Research and Management*, *2*, 161–169. https://doi.org/10.47536/jcrm.vi.296

Faria, M. (2013). Short Note: Observation of a humpback whale (*Megaptera novaeangliae*) birth in the coastal waters of Sainte Marie Island, Madagascar. *Aquatic Mammals*, *39*(3), 296–305. https://doi.org/10.1578/AM.39.3.2013.296

Ferreira, M. C. E., Maia-Nogueira, R., & de Jesus, A. (2011). Surface observation of a birth of a humpback whale (*Megaptera novaeangliae*) on the northeast coast of Brazil. *Latin American Journal of Aquatic Mammals*, *9*(2), 160–163. https://doi.org/10.5597/lajam00182

Foley, H. J., Holt, R. C., Hardee, R. E., Nilsson, P. B., Jackson, K. A., Read, A. J., Pabst, D. A., & McLellan, W. A. (2011). Observations of a western North Atlantic right whale (*Eubalaena glacialis*) birth offshore of the protected southeast U.S. critical habitat. *Marine Mammal Science*, *27*(3), 234–240. https://doi.org/10.1111/j.1748-7692.2010.00452.x

Leatherwood, S. L., & Beach, D. W. (1975). A California gray whale calf (*Eschrichtius robustus*) born outside the calving lagoons. *Bulletin of the Southern California Academy of Sciences*, *74*, 45–46.

Mills, J., & Mills, J. (1979). Observations of a gray whale birth. *Bulletin of the Southern California Academy of Sciences*, *78*, 192–196.

Patton, D., & Lawless, S. (2021). Surface and underwater observation of a humpback whale (*Megaptera novaeangliae*) birth in progress off Lahaina, Maui, and subsequent encounter of the female with a healthy calf. *Aquatic Mammals*, *47*(6), 550–558. https://doi.org/10.1578/AM.47.6.2021.550

Ransome, N., Bejder, L., Jenner, M., Penfold, G., Brosig, V. J., Kitson, C., Skjothaug, R., Neilson, E., Loneragan, N. R., & Smith, J. N. (2022). Observations of parturition in humpback whales (*Megaptera novaeangliae*) and occurrence of escorting and competitive behavior around birthing females. *Marine Mammal Science*, *38*(2), 408–432. https://doi.org/10.1111/mms.12864

Silvers, L. E., Atkinson, S., Iwasa, M., Combelles, C., & Salden, D. R. (1997). A large placenta encountered in the Hawaiian winter grounds of the humpback whale, *Megaptera novaeangliae*. *Marine Mammal Science*, *13*(4), 711–716. https://doi.org/10.1111/j.1748-7692.1997.tb00095.x

Sironi, M., Marón, C. F., Pettite, L., Guevara, J., Martorel, J. P., & Rowntree, V. (2019). First record of an unsuccessful parturition of a southern right whale (*Eubalaena australis*) at Península Valdés, Argentina. *Marine Mammal Science*, *35*(4), 1587–1596. https://doi.org/10.1111/mms.12594

Stacey, P. J., & Baird, R. W. (1997). Birth of a "resident" killer whale off Victoria, British Columbia, Canada. *Marine Mammal Science*, *13*(3), 504–508. https://doi.org/10.1111/j.1748-7692.1997.tb00659.x

Weilgart, L. S., & Whitehead, H. (1986). Observations of a sperm whale (*Physeter catodon*) birth. *Journal of Mammalogy*, *67*(2), 399–401. https://doi.org/10.2307/1380896

Zani, M. A., Taylor, J. K. D., & Kraus, S. D. (2008). Observation of a right whale (*Eubalaena glacialis*) birth in the coastal waters of the southeast United States. *Aquatic Mammals*, *34*(1), 21–24. https://doi.org/10.1578/AM.34.1.2008.21

How to cite this article: Shuttleworth, L., Appleby, A., Appleby, R., & Vermeulen, E. (2024). First direct observation of a successful southern right whale (*Eubalaena australis*) birth in South African coastal waters. *Marine Mammal Science*, *40*(2), e13091. https://doi.org/10.1111/mms.13091