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FLYING STEAMER-DUCK (*TACHYERES PATACHONICUS*) EGG FOUND IN A KELP GULL (*LARUS DOMINICANUS*) NEST IN NORTHWESTERN PATAGONIA

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Hallazgo de un huevo de Pato Vapor Volador (*Tachyeres patachonicus*) en un nido de Gaviota Cocinera (*Larus dominicanus)* en Patagonia Noroeste.

Key words: Argentina, Flying Steamer-Duck, interspecific brood parasitism, Kelp Gull, Northwestern Patagonia, predation.

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The Flying Steamer-Duck (*Tachyeres patachonicus*) is endemic to Argentina, Chile, and the Falkland Islands (Islas Malvinas), and is the only species of the genus *Tachyeres* that inhabits inland water bodies and shows flight capabilities (Weller 1976). It is a large-sized, aggressive duck species that feeds on a wide variety of aquatic invertebrates, mainly crustaceans, mollusks, and insects (del Hoyo *et al.* 1992). Clutches vary from five to eight eggs, and hatching occurs after 30 or 40 days of incubation by the female (del Hoyo *et al.* 1992). Nests are generally built on islets or places surrounded by water and vegetation, in both marine and freshwater environments (Johnsgard 2010), where the ducks can be found breeding together with other bird species (Dwernychuk & Boag 1972).

Kelp Gulls (*Larus dominicanus*) are widely distributed in the southern hemisphere, breeding both on marine and inland environments. Available information suggests that they are generalist feeders taking advantage of artificial food sources (Petracci *et al.* 2004). As a consequence, Kelp Gull populations have increased their numbers over the last decades in South America, due to its opportunistic association with urban development and open landfills (Yorio *et al.* 1998, Lisnizer *et al.* 2011). Growing colonies of Kelp Gulls are known to

cause detrimental effects on other bird species through food competition, predation and kleptoparasitism in marine environments (Quintana & Yorio 1998, 1999). Unfortunately, Patagonian freshwater environments are also subject to these problems, which have recently become worse (Frixione 2010, Frixione *et al.* 2012).

On 28 October 2013, while conducting fieldwork in Kelp Gull colonies of Lake Nahuel Huapi islets (41°00'S, 71°32'W, Nahuel Huapi National Park) we found a Kelp Gull nest with three eggs, one of them clearly different from the other two (Fig. 1A). The alien egg was uniformly pinkish-white and it measured 52.4 x 74.0 mm (± 0.1 mm, measured with a Vernier caliper) (Fig. 1B), which we identified as a Flying Steamer-Duck egg (Maclever & Boswall 1979). Combined sources of information confirmed the identity of the alien egg: (1) we found a Flying Steamer-Duck's nest in an islet located 600 m apart from the Kelp Gull nest, with five eggs with essentially the same color, shape, and approximate size (these eggs were not measured); (2) a literature review ruled out the presence of other species with similar eggs in the area, and (3) on each visit we sighted at least one Flying Steamer-Duck in the vicinity (Fig. 1D).

To record egg development, on 16 November 2013 we installed a trail camera (M-80BLX Game Spy Digital Camera, Moultrie®) 3 meters away from the nest, which recorded a 30 sec video and took a picture whenever its sensor detected movement. Unfortunately, due to technical issues the trail camera stopped working soon after installation, and egg hatching was not recorded. Nevertheless, pictures and videos obtained allowed us to confirm that the nest belonged to a Kelp Gull pair, as two individuals incubated all the eggs (Fig. 1C). Both gull's eggs were successful as we observed the newly hatched chicks in subsequent visits to the colony; however, we could not find the Flying Steamer-Duck egg or any remains of it during these following visits.

When an alien egg is found in the nest of another species, brood parasitism is probably the most plausible explanation. Brood parasitism is a well-known reproductive strategy among some avian taxa, which occurs when a reproductive female lays its eggs in an alien nest and delegates incubation and chick-rearing to external members other than its partner or relatives (Payne 1977). Interspecific parasitism is a common behavior in ducks (Lyon & Eadie 1991, Sorenson 1997) but to date it has not been documented for the genus *Tachyeres*. On the other hand, laying eggs in foreign nests may be the results of faulty intraspecific brood parasitism. Intraspecific brood parasitism, where females lay eggs in nests of other females of the same species, is considered a facultative behavior that may occur in ducks (Sayler 1992), but again there is no evidence for such parasitism in the four species of Steamer-Ducks (Svagelj *et al.* 2012).

Alternatively, the presence of the alien egg in the nest may be due to gull behavior. It is known that gulls are important predators of eggs and young of many species of ducks (Vermeer 1968, Dwernychuk & Boag 1972). There are reports of California Gulls (*Larus californicus)* carrying eggs of other species to their nests with feeding purposes but once in the nest, the nesting impulse overpowers the feeding impulse (i.e., alien eggs are no longer recognized as food items), and the eggs are finally incubated (Sugden 1947, Twomay 1948). Clokie & Cooper (2010) reported such behavior for another predatory, ground-nesting larid species, the Brown Skua (*Stercorarius antarticus*). Interestingly, Witteveen *et al.* (in press) also report a Kelp Gull *(Larus dominicanus vetula)* incubating an alien egg identified as an African Black Oystercatcher (*Haematopus moquini*), together with two of its own

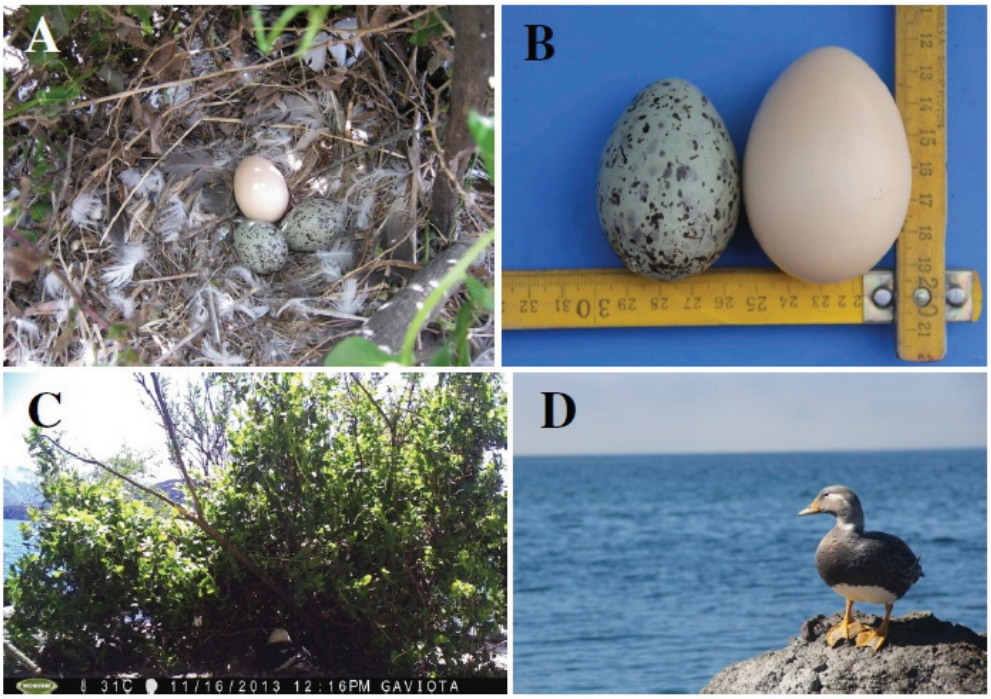

FIG. 1. Flying Steamer-Duck (*Tachyeres patachonicus*) egg found on Kelp Gull (*Larus dominicanus*) nest at the Nahuel Huapi Lake, Northwestern Patagonia. (A) Kelp Gull nest containing two gull eggs (green with spotted black) and the Flying Steamer-Duck egg (pinkish-white). (B) Detail of Kelp Gull (left) and Flying Steamer-Duck (right) eggs (scale units are in cm). (C) One of the Kelp Gulls in the nest (trap camera image). (D) Adult female of Flying Steamer-Duck in the area. Photos by Juan Paritsis.

eggs. The Kelp Gull eggs hatched, but the alien egg was found out of the nest in the next visit, and had disappeared by the next time the nest was checked.

Our observation does not allow us to determine the final factors responsible for the presence of the alien egg in the Kelp Gull's nest, and alternative explanations are possible. In any case, our observation constitutes the first record of a Flying Steamer-Duck egg found in the nest of another species.

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