NOTES ON A PLOVER BRIEFLY INCUBATING AN OYSTERCATCHER NEST IN PATAGONIA

JOSÉ O. VALDEBENITO

Bird Ecology Lab, Instituto de Ciencias Marinas y Limnológicas, Universidad Austral de Chile, Valdivia, Chile (jose.valdebenito@uach.cl); Instituto Milenio Biodiversidad de Ecosistemas Antárticos y Subantárticos, Chile; Debrecen Biodiversity Centre, University of Debrecen, Debrecen, Hungary

Received 25 November 2023, accepted 16 January 2024

ABSTRACT

VALDEBENITO, J.O. 2024. Notes on a plover briefly incubating an oystercatcher nest in Patagonia. *Marine Ornithology* 52: 113–115.

A breeding female Two-banded Plover *Charadrius falklandicus* was observed incubating the eggs of a Magellanic Oystercatcher *Haematopus leucopodus* while the nest was unattended by the oystercatcher. The behaviour was likely triggered by the plover's nest becoming momentarily inaccessible, and so, being in incubation mode, the bird responded by incubating the nearest nest available. This is the first report of such behaviour while the oystercatcher was nearby, and the plover nest was still active and in sight.

RESUMEN

Se observó a una hembra de Chorlo de doble collar *Charadrius falklandicus* incubando un nido de Pilpilén austral *Haematopus leucopodus* mientras este se encontraba desatendido. El comportamiento probablemente se desencadenó como consecuencia de que el nido del chorlo quedó momentáneamente inaccesible, a lo que el ave respondió incubando el nido más cercano disponible. Este es el primer reporte de tal comportamiento mientras el Pilpilén estaba en las cercanias, y el nido del chorlito estaba aún activo y a la vista.

Key words: Magellanic Oystercatcher, mutualism, nest usurpation, supernormal stimuli, Two-banded Plover, wader

Nest usurpation—when one bird takes over an active nest of another bird of the same or a different species for breeding purposes—is a well-described behaviour in passerines, particularly in close-cup and cavity-nesting species (Lindell 1996), but it is considered rare in ground-nesting birds of open habitats, such as shorebirds (Amat 1998, Horrocks 2016). More frequently observed in shorebirds is interspecific brood parasitism, the behavior of one species laying its eggs in the nest of another species, which often results in a supernormal clutch. The species that lays the eggs subsequently leaves and provides no parental care. Examples include brood parasitism between Crowned Lapwing *Vanellus coronatus* and African Wattled Lapwing *V. senegalensis* in Africa (Horrocks 2016); between Killdeer *Charadrius vociferus* and Mountain Plover *C. montanus* in Colorado (Jojola-Elverum & Giesen 2000); and between Southern Lapwing *V. chilensis* and Two-banded Plover *C. falklandicus* in Argentina (Maugeri 2007). I am unaware of previous reports of shorebirds deliberately attempting to incubate a nest of a different species, with a different clutch and egg size. In this report, I provide details of a female Two-banded Plover momentarily incubating the eggs of a Magellanic Oystercatcher *Haematopus leucopodus* nesting in Patagonia.

This behaviour was observed while I was conducting fieldwork on the breeding biology of Two-banded Plover in Laguna los Palos (−52.732500, −71.058056), 57 km north of the city of Punta Arenas, Magallanes Region, Chile. I first explored the lagoon on 08 November 2023 to record bird abundances. Approximately 1 km of shoreline was examined, finding just a few birds feeding, one nest of Two-banded Plover, and one nest of Magellanic Oystercatcher. Neither capture attempts nor nest measurements were conducted that day. On 16 November 2023 at approximately 18h50, I returned to the area aiming to capture the adult breeding female Two-banded Plover by using a walk-in trap (methodology detailed in Székely *et al.* 2008). This female had laid three eggs (Table 1) in the middle of a stony area (−52.719558, −71.051197), approximately 70 m from the edge of the water. At the same site, 7.1 m east from the plover nest (−52.719569, −71.051094), a Magellanic Oystercatcher had made a nest with two eggs. The two oystercatcher eggs were on the verge of hatching, evident by small cracks in the shells as well as audible chick pipping.

Upon placing the trap over the plover nest and retreating to a reasonable viewing distance (80 m away, slightly higher ground, inside a car), the plover approached the nest to resume incubation. After about four minutes of failing to find the entrance of the trap, the Two-banded Plover walked in a straight line toward the oystercatcher's nest that, at the moment, was unattended (Fig. 1). The plover sat on top of the egg(s), spinning and re-adjusting yet unable to fully cover them; the eggs were nearly four times larger than its own eggs (see Table 1). This behaviour continued for nearly five minutes and interestingly, the oystercatcher stayed nearby the whole time (Fig. 1). The plover then left when I approached to remove the trap from its actual nest.

As noted above, nest usurpation is a documented yet uncommon behaviour in shorebirds, and its causes may include competition for high-quality nesting sites (Soler 2017). In this case, I am hesitant to label this behaviour as nest usurpation, since its duration was brief and the behaviour was likely triggered by the plover's inability to reach its own nest. The plover's need for incubating, which is hormonally

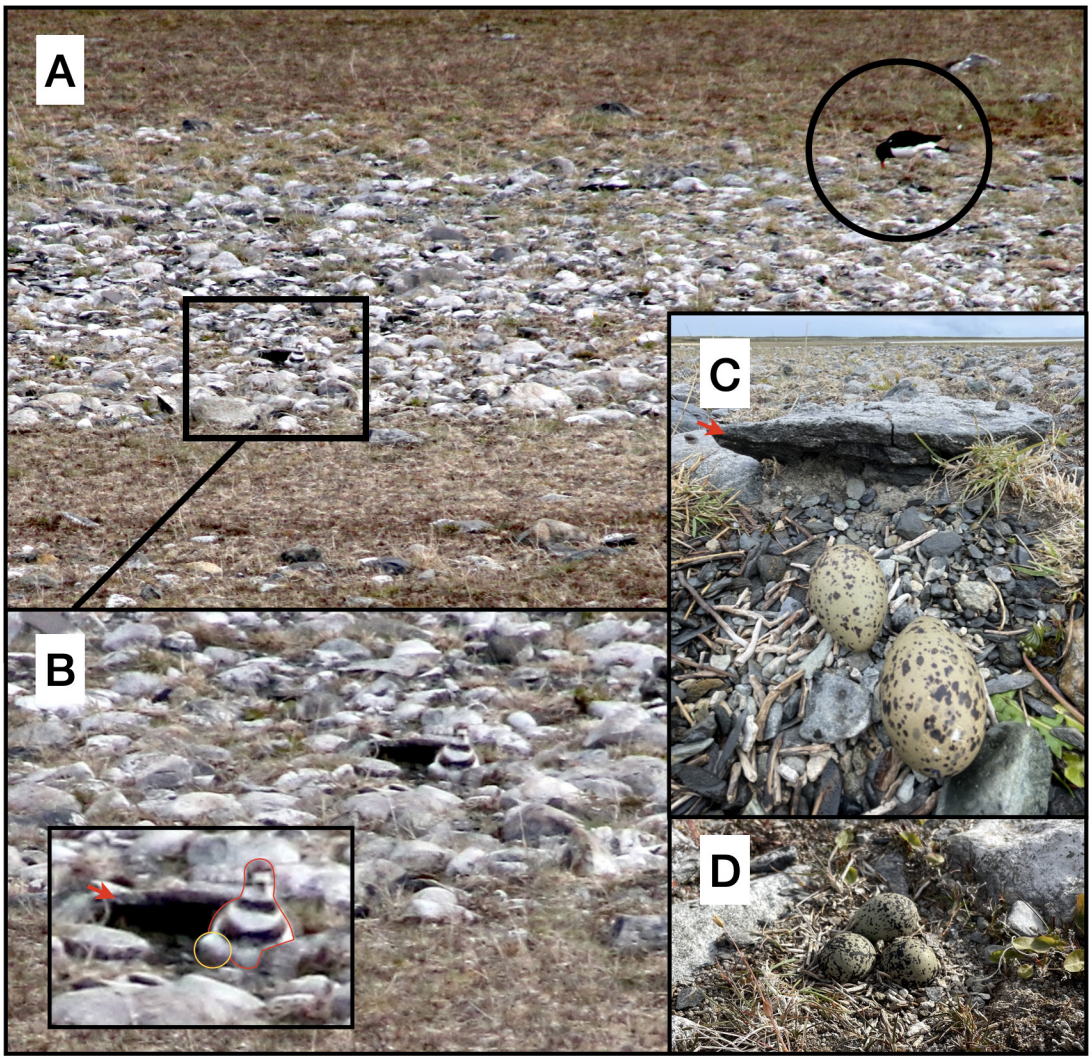

Fig. 1. Panoramic view of a stony area (A) on the shore of Laguna los Palos, where a pair of Two-banded Plovers *Charadrius falklandicus* and Magellanic Oystercatchers *Haematopus leucopodus* had their nests. Note that the Two-banded Plover nest is off-frame, a few meters to the right. Image (B) provides a closer view of the female Two-banded Plover facing forward (outlined in red) and sitting on the Magellanic Oystercatcher nest, attempting to spread its body sideways to cover the eggs (observe the feathers of the flank of the bird spreading in a gentle curve, outlined in yellow). Interestingly, the oystercatcher stayed nearby the entire time (circled in black in (A)). The oystercatcher nest (C) had two eggs—nearly four times larger than the plover's—that were soon to hatch, as evidenced by large cracks in the shells and audible pipping. In (C), it is also possible to appreciate a black rock with a flat top at the back of the nest (red arrow). This rock is the same as the one seen behind the plover in (B), which graphically confirms the observation. Image (D) provides a detailed view of the Two-banded Plover nest. Photo credit: José O. Valdebenito

mediated (Mota-Rojas *et al.* 2023), was manifested by sitting on the next available nest, which happened to be the oystercatcher's.

Another possible driver of this behaviour relates to the benefits for a plover to nest in close proximity to breeding oystercatchers, which are more aggressive and larger-bodied: the presence of the oystercatchers may help increase plover nest success by repelling predators. This has been observed in other plovers such as the Semipalmated Plover *C. semipalmatus*, which increases nesting success by breeding near colonies of Arctic Tern *Sterna paradisaea*, a bird known to be aggressive toward intruders (Nguyen *et al.* 2006). This provokes the speculation: is it possible that the plover willingly attempted to provide care for those cooling oystercatcher eggs? Such complex behaviours should be further and specifically tested. Nevertheless, it is interesting to consider the possibility of a

TABLE 1
Egg dimensions of a Two-banded Plover *Charadrius falklandicus* nest and a Magellanic Oystercatcher *Haematopus leucopodus* nest in Patagonia, Chile

Species	Egg	Length (cm)	Breadth (cm)	Volume[a] (cm^3)
Two-banded Plover	1	3.83	2.62	13.1
	2	3.94	2.62	13.5
	3	3.68	2.62	12.6
Magellanic Oystercatcher	1	5.92	3.91	45.2
	2	5.89	4.03	47.8

[a] Egg volume calculated according to Jager *et al.* (2000)

form of mutualism existing among plovers and allies. Alternatively, this behaviour could be an example of what Konrad Lorenz and Niko Tinbergen called "supernormal stimulus" (Tinbergen 1951). Simply put, animals show a general preference for traits that have enhanced features, including size or colour. This has been coincidentally tested in shorebirds, showing that if birds had the choice, they would select brooding eggs that resembled those of their own, but which were larger (Tinbergen 1953). In a way, the scenario I caused was an unintended experiment to better understand plover behaviour.

ACKNOWLEDGEMENTS

I thank Luis Vargas-Chacoff for granting me access to accommodations at the Centro de Investigación Dinámica de Ecosistemas Marinos de Altas Latitudes (IDEAL) in Punta Arenas, Chile. The work was approved by the bioethics committee of the Universidad Austral de Chile (approval number: 452/2022). I also thank my funders: ANID FONDECYT Postdoctorado (Nº 3220722) and ANID – Millennium Science Initiative Program – ICN2021_002. Lastly, I thank Juan G. Navedo for commenting on an earlier version of this work, as well as A. Weinstein and an anonymous reviewer, whose comments improved the paper considerably.

REFERENCES

AMAT, J.A. 1998. Mixed clutches in shorebird nests: Why are they so uncommon? *Wader Study Group Bulletin* 85: 55–59.

HORROCKS, N.P.C. 2016. Usurpation of a Crowned Lapwing *Vanellus coronatus* nest by African Wattled Lapwings *V. senegalensis*. *Ostrich* 87: 95–97. doi:10.2989/00306525.2015.1134695

JAGER, T.D., HULSCHER, J.B. & KERSTEN, M. 2000. Egg size, egg composition and reproductive success in the Oystercatcher *Haematopus ostralegus*. *Ibis* 142: 603–613. doi:10.1111/j.1474-919X.2000.tb04460.x

JOJOLA-ELVERUM, S.M. & GIESEN, K.M. 2000. Killdeer parasitizes Mountain Plover nest. *The Wilson Bulletin* 112: 454–456. doi:10.1676/0043-5643(2000)112[0454:KPMPN]2.0.CO;2

LINDELL, C. 1996. Patterns of nest usurpation: When should species converge on nest niches? *The Condor* 98: 464–473. doi:10.2307/1369560

MAUGERI, F.G. 2007. Usurpación de un nido de Chorlito doblecollar (*Charadrius falklandicus*) por el Tero común (*Vanellus chilensis*). *Ornitología Neotropical* 18: 121–125.

MOTA-ROJAS, D., MARCET-RIUS, M., DOMÍNGUEZ-OLIVA, A., ET AL. 2023. Parental behavior and newborn attachment in birds: Life history traits and endocrine responses. *Frontiers in Psychology* 14: 1183554. doi:10.3389/fpsyg.2023.1183554

NGUYEN, L.P., ABRAHAM, K.F. & NOL, E. 2006. Influence of Arctic Terns on survival of artificial and natural Semipalmated Plover nests. *Waterbirds* 29: 100–104. doi:10.1675/1524-4695(2006)29[100:IOATOS]2.0.CO;2

SOLER, M. (Ed.). 2017. *Avian Brood Parasitism: Behaviour, Ecology, Evolution and Coevolution.* Cham, Switzerland: Springer. doi:10.1007/978-3-319-73138-4

SZÉKELY, T., KOSZTOLÁNYI, A. & KÜPPER, C. 2008. *Practical Guide for Investigating Breeding Ecology of Kentish Plover* Charadrius alexandrinus. Version 3. Bath, UK: University of Bath. [Accessed at https://www.pennuti.net/wp-content/uploads/2010/08/KP_Field_Guide_v3.pdf on 08 November 2023.]

TINBERGEN, N. 1951. *The Study of Instinct*. Oxford, UK: Clarendon Press.

TINBERGEN, N. 1953. *The Herring Gull's World: A Study of the Social Behaviour of Birds*. London, UK: Collins.