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Traps for Capturing Territorial Owls

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A variety of techniques have been used to capture raptors (e.g., Berger and Hamerstrom 1962, Meng 1971, Fuller and Christenson 1976, Kenward et al. 1983, Bull 1987). Raptors are generally easier to capture during the breeding season when they can be caught in nest boxes (e.g., owls) or by placing traps at or near the nest. Outside the breeding season birds are more difficult to catch as their position at any one time is harder to predict. Exceptions to this are some North American owls which can be caught with comparative ease (Forsman 1983, Bull 1987).

Many owls defend territories, and can be caught by exploiting their behavior toward intruders. For example, the tawny owl (*Strix aluco*) vigorously defends territories throughout the year (Southern 1970), and can be caught using tape lures to attract birds to mist nets (Hirons 1976). Outside the breeding season tawny owls have also been caught while roosting in nest boxes (Baudvin and Dessolin 1992) or with the use of live prey as lures (Hardy 1992).

Methods

During the winters of 1990–91 and 1991–92, three techniques were tested in an attempt to capture tawny owls in woods in Cambridgeshire, southeast England. Two of these traps rely on the fact that territorial owls defend their territory against intruders. The third uses prey to attract owls to the traps.

Mist Net and Tape Lure. Nets were set up inside known owl territories with a continuous tape of a hooting male placed underneath. These were watched for approximately 2 hr.

Large Modified Chardoneret Trap. This trap had three compartments; a large lower one containing a male tawny owl, and two upper ones in which owls were caught (Fig. 1). The lure owl was provided with suitable perches and cover from rain. The lid above each of the top compartments had a piece of stiff wire running down its center, which extended beyond its base and, when the trap was set, rested in a hole in the wooden trigger. The trigger was held against the wall of the trap by pressure from the lid wire. The perch was fixed to the wall of the trap and to the trigger. Pressure on the perch pulled the trigger down, which released the wire, allowing the lid to shut. The trap was held shut by two hooks at the end of the lid which snagged on the wire of the trap. The whole trap was constructed of 5 cm weldmesh. The trap was set with perches just above and in front of the open lids. It was placed in a territory at dusk, and checked at dawn.

Small Modified Chardoneret Traps. These traps operated as for the above trap, but this time the lower compartment was smaller (10 cm high) and contained prey species (house sparrows [*Passer domesticus*] or laboratory mice) as lures. The traps were similar in design to the falling-lid trap described by Kenward et al. (1983), based on an original design by Hamilton (Lundberg 1933). The lower compartment had a mesh size of 1 cm and contained food, water, and shelter for the lure species. Again, the traps were set with a perch just above and in front of the open lid. One or two of these traps were placed in each territory just before dusk and checked at dawn.

Results and Discussion

None of the six capture attempts using nets was successful. Owls were twice seen to be attracted to the taped calls, but flew over or around the net. Due to the length of time required to set up and watch these nets, this method was dropped in favor of the traps. When the success rate of the two types of trap was compared, we found that the trap using the live owl (11 owls caught in 32 trap nights) was significantly more successful ($\chi^2 = 50.3$, $P < 0.001$) than the trap using live prey lures (5 owls caught in 253 trap nights). No more than one owl was ever caught per night per territory. All the owls were fitted with radio-transmitters and all were found to be territorial birds.

Some North American owls such as spotted owl (*Strix occidentalis*) and great grey owl (*Strix nebulosa*) appear relatively unafraid of humans and can be caught with apparent ease (Forsman 1983, Bull 1987). This is not the case with tawny owls which invariably fly when humans approach their roost sites. Outside the breeding season, tawny owls have previously been caught either in nest boxes (Baudvin and Dessolin 1992), with mist net and tape lures (Hirons 1976), or using live prey as lures (Hardy 1992). The use of nest boxes for roosting in the winter appears to depend on habitat type (Petty 1992), with birds less likely to use boxes where natural cover (e.g., coniferous trees) is abundant. In the present study owls rarely used boxes to roost in, preferring the cover of plants such as old man's beard (*Clematis vitalba*) or ivy (*Hedera helix*) The use of nets and tape lures to catch owls also proved ineffective and time consuming. The modified Chardoneret traps had an advantage in that they could be easily set and left overnight. Placing a live owl inside a bird's territory proved more effective at attracting owls to the trap than using prey species and this technique presents an effective method of capturing territorial owls, which compares favorably to other designs used to capture raptors outside the breeding season (see Kenward et al. 1983).

Resumen.—Rapaces, tales como *Strix aluco* son a menudo dificiles de capturar en la estación no reproductiva. Es-

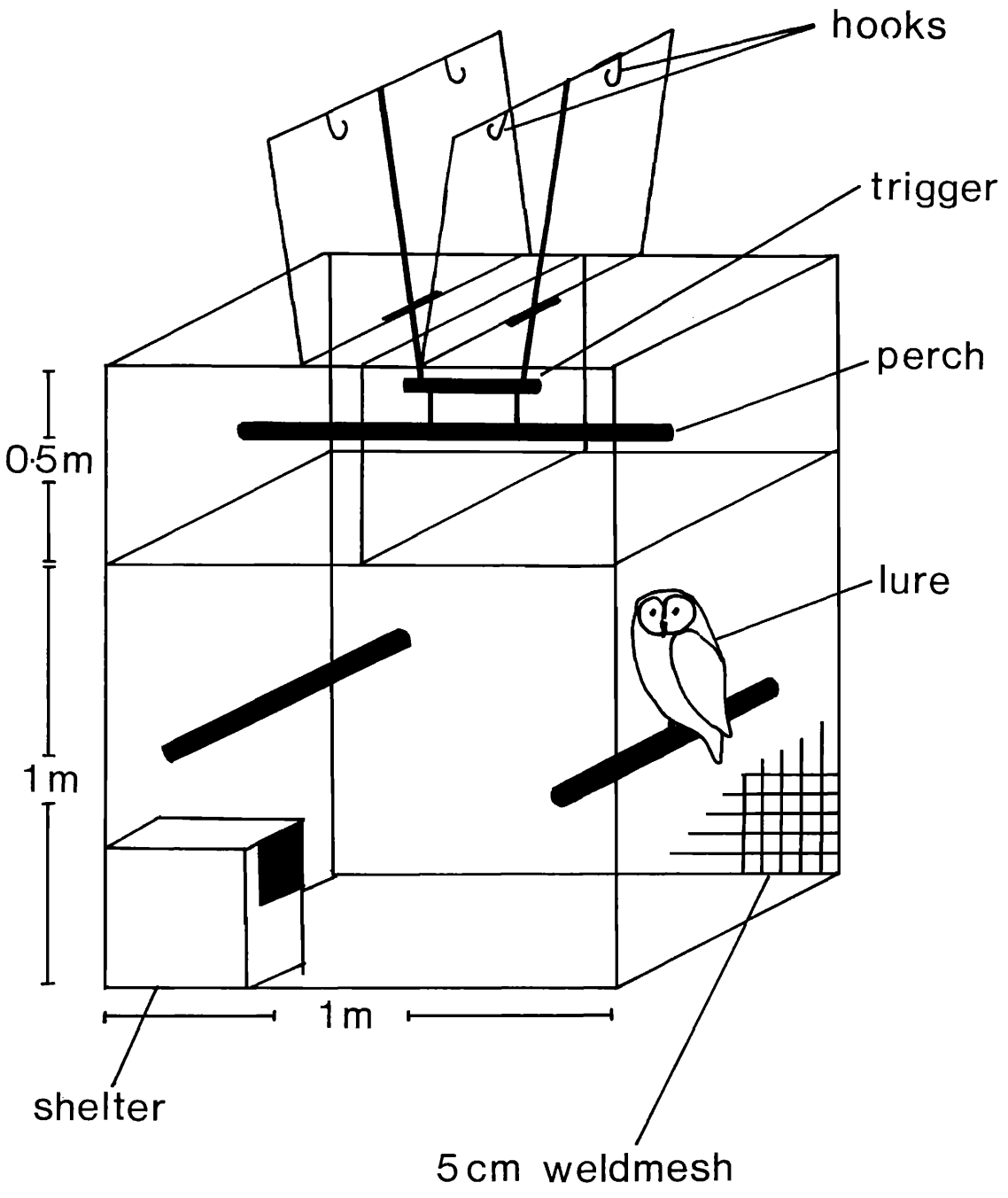

Figure 1. Large modified Chardoneret using a captive owl as a lure. Owls flew from an external perch into one of the top compartments, landing on the internal perch and releasing the trigger, thereby allowing the lid to close.

tudios previos describen la captura de aves mientras descansan en nidos caja, o usando redes de niebla y grabaciones señuelo. En este estudio, las aves fueron raramente encontradas descansando en nidos caja, de manera que otras tres técnicas fueron comparadas. Primero, redes de niebla fueron levantadas sobre una grabación señuelo y observadas durante dos horas. Los búhos fueron atraídos por la grabación pero volaron sobre o alrededor de la red. No hubo captura en seis intentos. Segundo, una Trampa Chardoneret modificada fue construida, se usó un macho vivo de *S. aluco* como señuelo. El búho cautivo se mantuvo en el compartimento inferior y las capturas se realizaban en el superior. El propio peso del búho aterrizando sobre una percha en el compartimento superior accionaba el mecanismo de cierra de la trampa. En la tercera técnica se utilizó una pequeña versión de la Trampa de Chardoneret modificada, aunque esta vez se utilizaron especies presa como señuelo y dispuestas en el fondo del compartimento. De las dos trampas, la primera (con búhos vivos) fue más efectiva (11 búhos en 32 noches-trampa) que la trampa que utilizé especies presas (cinco búhos en 253 noches-trampa). La diferencia fue significativa ($\chi^2 = 50.3$, $P < 0.001$). Esta trampa utiliza la conducta agresiva de búhos territoriales hacia intrusos y representa un efectivo método para capturar búhos territoriales.

[Traducción de Ivan Lazo]

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