

A Montpellier Snake *Malpolon monspessulanus* preying on an adult Avocet *Recurvirostra avosetta* at the Ebro Delta

D. ORÓ

The analysis of a pellet from a Montpellier Snake Malpolon monspessulanus indicated predation of an adult Avocet Recurvirostra avosetta in the Punta de la Banya (Delta de l'Ebre) during spring 1994. There is a general lack of information on the diet of Montpellier Snakes at this site, but this record confirms that they may prey on colonial waterbirds breeding there, not only on chicks, but even on adults.

Key words: Avocet, *Recurvirostra avosetta*, Montpellier Snake, *Malpolon monspessulanus*, predation, Ebro Delta.

Daniel Oró. Fac. de Biología, Dep. Biología Animal (Vertebrates),
Avda. Diagonal 645, 08028 Barcelona, Spain.
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The predation of colonial waterbirds by snakes has previously been recorded in temperate wetlands (Frederick & Collopy 1989, Kuroda 1993). Most recorded predation was on eggs and chicks of colonial species nesting in trees, and only snakes adapted to travelling long distances across water to colonies feed on those species (Frederick & Collopy 1989). Indeed, most nidifugous species which nest in colonies are aquatic birds breeding on sites surrounded by water to avoid predation, such as Avocets *Recurvirostra avosetta*, which breed in loose colonies (Lack 1968). In Mediterranean habitats, the Montpellier Snake *Malpolon monspessulanus* often preys on birds, and its terre-

trial habits suggest a preference for both passerine and coraciiform species nesting on the ground or in burrows (e.g. Valverde 1967, Vericad & Escarré 1976). At the Ebro Delta, the Montpellier Snake is the commonest reptilian predator (Llorente et al. 1991). In the Punta de la Banya (40°37'N 00°35'E, Ebro Delta N.R.), 1800 man-hours of fieldwork in the area during the period 1992-1994 resulted in about 20 sightings, suggesting that there is a large population of these snakes. Factors which permit the existence of this large population are probably the absence of terrestrial and aerial predators, the high availability of prey and the restriction of access to vehicles.

During the spring, more than 14,000 pairs of Charadriiformes breed at this site (Oró & Martínez 1994), and Montpellier Snakes, when sighted, were always crossing the bird colonies. Although in other similar habitats, for instance in Doñana N.P., the snakes prey on invertebrates, small lizards and rabbits (Valverde 1967), it seemed likely that at the Punta de la Banya, the snakes might prey upon Charadriiformes.

On 29 June 1994 a 28 cm long Montpellier Snake regurgitate was found, containing feathers of an Avocet. Surprisingly, the Avocet was an adult, a prey type probably more difficult to capture than flightless chicks. Predation by Montpellier Snakes on chicks of other species, such as Audouin's Gull *Larus audouinii*, has indeed been recorded at this site (pers. obs.). Adult Avocets are larger than normal prey items, normally weighing c. 300 g (Valverde 1967, Cramp & Simmons 1983). Although snakes never feed on carrion (G. Llorente, pers. comm.), it is possible that this predation occurred on an adult Avocet that was hurt or weak. Other observations at this site, such as predation on large young European Rabbits *Oryctolagus cuniculus* suggest that there are probably large individual snakes in the area. •

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RESUM

Predació de Serp Verda Malpolon monspessulanus sobre un adult de Bec d'Alena *Recurvirostra avosetta* al delta de l'Ebre

Es descriu la troballa d'una ega-gròpila que indica la predació de Serp verda Malpolon monspessulanus sobre un adult de Bec d'Alena *Recurvirostra avosetta* a la Punta de la Banya (delta de l'Ebre), durant la primavera de 1994. Aquesta dada, encara que aïllada, confirma la sospita que la Serp Verda aprofita la gran quantitat d'ocells aquàtics nidificants en aquest indret predant fins i tot sobre adults, fet que també ratifica la presència de serps de mida considerable.

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