

USE OF SPOTLIGHTS FOR CAPTURING WILD BOAR (*Sus scrofa* L.)

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Abstract: The implementation of a radio-tracking programme for Wild boar (*Sus scrofa* L.) required the trapping of entire groups. Prior to their actual capture, the wild boars were observed with a specially-devised "visual capture" technique allowing to obtain data on group structure and to identify previously marked individuals. Wild boars were captured in portable box traps (2 m x 1 m x 1 m) with drop gates. The number of box traps required for capturing a group was conditional to the number of animals and their aggressivity. An infrared range detection system warned the observer that the animals were approaching the traps. For night-lighting the boars we used a 50 or 100W spotlight placed in front of the traps, that could be switched on from a closed vehicle, parked some 60 m away. The animals reacted the same to both yellow and white light. 84.5% of the individuals did not react at all when the light turned on, 10% left but came back in less than 5', and only 5.5% left the place for good. As soon as all the members of the group were identified and entered the traps, they were captured by closing the gates simultaneously. Although this method is labor-intensive, it gives much information on the ethology of the species.

Keywords: Wild boar, *Sus scrofa*, Suidae, Capture, Trapping, Technics, Groups.

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1. Introduction

In a survey of the various methods to capture Wild boar by Jullien *et al.* (1993), it was shown that the portable box trap is the easiest trapping method, but the least effective one for the automatic capture of adult Wild boar. The drop net (Jullien *et al.*, 1987) is better adapted to boars, although it requires immediate manipulation at capture, which may be very difficult at night.

Authors who have studied Wild boar, all used a trapping system that automatically locks when tripped (Andrzejewski & Jezierski, 1978; Baettig & Braunschweig, 1980; Mauget, 1980; Singer *et al.*, 1981; Douaud, 1983; Boisaubert & Klein, 1984; Janeau & Spitz, 1984; Klein, 1984; Spitz *et al.*, 1984; Spitz, 1989).

As part of a project to study the wild boar's spatial occupation in a Mediterranean environment, we wanted to know the size and structure of the Wild boar groups we were monitoring by radio telemetry. Therefore we devised a "visual capture" technique which, first, allowed us to identify the Wild boar groups that regularly came to the feeding troughs, and then to simultaneously capture all the individuals belonging to the same group.

2. Study area

The study area is situated near Montpellier (Hérault, France). It is characterized by a dense Mediterranean vegetation, dominated by holly

oak (*Quercus ilex*). Mean hunting losses throughout this sector amount to 0.76 animals/km² (Spitz & Valet, 1991). There are no cervids on this territory.

3. Material and methods

3.1. Observations

There are several types of optical equipments on market for observing animals at night (amplifier tubes, infra-red binoculars). Beside the fact that such equipment is expensive, it mostly provides a limited view and does not allow to evaluate the exact location of the animal with respect to the trap. The use of a source of light is thus absolutely necessary for observing animals at night.

Animals were observed from an entirely closed vehicle, stationed at some 60 m from the box traps and facing the prevailing wind. The immediate surroundings of the box traps should be cleared sufficiently to give a large range of vision, allowing to see the animals standing at the sides of the traps (Vassant *et al.*, 1990).

A 50 or 100 watt spotlight, operated from the vehicle, was placed in front of the box traps. A moving infrared range detection system next to the site warned the observer that the animals were approaching. The yellow filter that had been placed in front of each spotlight the first two years of observation (1990-1991) was later taken away (1992).

We distinguished three different reactions of

wild boars to night-lighting:

- no reaction at all, or just a slight reaction without moving away;
- the animals moved away, but for less than 5 minutes;
- the animals moved away for more than 5 minutes, or left for good.

3.2. Captures

We used the box traps described in Jullien *et al.* (1988). Measuring 2 m x 1 m x 1 m, they are made with a metal frame and covered with double-twisted wire netting.

To limit the effects of competition among the animals, the traps were arranged in pairs. Wild boars belonging to the same group may enter the traps in such a way that the social rank order (dominant/dominated) within the group is not disturbed. According to the size of such groups, more than 2 traps may be used.

5 to 8 kg of grain maize per day were used as bait. The drop gates of the traps were closed simultaneously by means of an electric signal sent from the vehicle.

Before capture, the Wild boar groups were observed many times so that they were well known when captured.

4. Results and discussion

Spotlighting Wild boar at feeding sites was found to be a valuable method for observing the animals at close range without disturbing them. Less than 5.5% fled when the spotlight was turned on (Tab. 1). The colour of the light did not seem important ($X^2 = 4.85$).

A small series of observations may inform about the structure of a group, the relationships between members of a group and the social rank order of the individuals.

Also, with the help of this selective capture technique, an entire Wild boar group can be trapped. The proportion of adult females in the captures was higher than that obtained in automatic traps (21.5% vs. 6.5%) (Tab. 2).

The capture rate of sows was lower in the automatic traps because the first female entering the trap triggered the falling gate. This prevented other sows from entering the trap. This does not apply to males, which are mostly solitary individuals or living in small groups.

5. Conclusion

Night-lighting the capture site does not create much disturbance. The method provides a means for observing and capturing animals

Table 1: Reaction of the animals when the light came on.

	LIGHT ON (samples)	ABSENCE OF REACTION	FLIGHT < 5 min.	FLIGHT > 5 min
YELLOW LIGHT (1990 - 1991)	50	76%	16%	8%
WHITE LIGHT (1992)	58	91.5%	5%	3.5%
TOTAL	108	84.5%	10%	5.5%

Table 2: Comparison of trapping results obtained in Hérault (France) with mobile box traps.

Animal's category	% animals caught	
	Visual capture Study area (n = 84)	Automatic trap Other sites (INRA-IRGM) (n = 319)
Female > 35 kg	21.5%	6.5%
Female < 35 kg	38%	43%
Male > 35 kg	7%	7.5%
Male < 35 kg	33.5%	43%

under excellent conditions. It allows to identify the composition of the Wild boar groups that will be monitored by telemetry and to study, through successive observations after visual marking, the changes in group structure over a long period.

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