

When governments support poaching: a review of the illegal trapping of thrushes *Turdus* spp. in the *parany* of Comunidad Valenciana, Spain

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Summary

The *parany* is a device used in Comunidad Valenciana (Spain) for trapping birds by the use of limed sticks. Between 1988 and 2001 successive Comunidad Valenciana governments authorised the legal trapping of thrushes *Turdus* spp. in 5,000 *parany* each year. Approximately 1.5 million thrushes (mostly Song Thrush *Turdus philomelos* and Redwing *T. iliacus*) along with half a million birds of many protected species (including raptors) were trapped annually. Authorisation ceased in 2001 but illegal trapping still occurs, using at least 2,000 *parany*. Comunidad Valenciana governments have explicitly supported bird trapping on both legal and technical grounds claiming that only small numbers of thrushes are caught and that other species are unaffected, thus complying with the EU Birds Directive. Such assertions have never been proven, and regional, national and international courts have declared that the *parany* contravenes nature protection laws. Comunidad Valenciana governments have deliberately overlooked such judgements. It is concluded that eradication of *parany* through law enforcement and educational schemes would be the best option. Nevertheless, according to the EU Birds Directive, controlled bird trapping would be feasible, and the requisites for such a strategy are discussed. The main obstacle to both eradication and strictly controlled use of *parany* is the lack of political will by Comunidad Valenciana governments.

Introduction

Approximately 5 billion individuals of 97 species of landbird migrate from Eurasian high latitude areas to lower latitude areas surrounding the Mediterranean Basin and into Africa (Newton 2007). This large, regular movement has been historically exploited by humans who have developed different methods to capture migratory birds as a form of subsistence hunting or for leisure purposes. Even today, millions of migratory and wintering birds are hunted by means of guns, nets, traps or lime sticks in countries around the Mediterranean Basin, mainly as a form of sport hunting (Sustainable Hunting Project 2007). This hunting pressure may have a negative impact on the population trends of some migratory species in their breeding grounds (McCulloch *et al.* 1992, Sanderson *et al.* 2006)

Bird trapping occurs not only in the low-income countries of North Africa and the Middle East (Sustainable Hunting Project 2007) but is also widespread in Europe (BirdLife International 2011) especially in EU Mediterranean countries (e.g. France, Greece, Malta, Spain) despite national and European Union legislation (Magnin 1991, CABS 2010). In Spain, bird trapping has increased in the last 10 years (BirdLife International 2011) and is a common practice in many regions (Gutiérrez 1991). It has been estimated that a minimum of 20 million birds are trapped annually (Santos 1991).

The use of lime sticks to trap migratory thrushes *Turdus* spp. is widespread in some Spanish regions such as Aragón and Catalonia where they are named *barraca* (Carrera 1991, Guitiérrez 1991), and in Comunidad Valenciana (Figure 1) where a technique locally known as *parany* (meaning “trap” in Catalán) is used. Since 1979, this trapping technique has been repeatedly declared illegal in regional, national and international courts. However, from 1988 to 2001, Comunidad Valenciana governments (hereafter referred as CVG) authorised the trapping of thrushes to prevent damage to crops. As a result, it is calculated that millions of birds have been trapped annually, mostly thrushes but other protected species as well (Giménez 2010). Authorisation ceased in 2001, but *parany* are still widespread (Giménez, 2010) as CVG have avoided law enforcement. The situation in Comunidad Valenciana merits attention not only for the unacceptable magnitude of the phenomenon but because regional governments have put in considerable effort across years to support bird trapping against scientific evidence and laws.

Precise information about the impact of *parany* on bird fauna is scant. CVG have not attempted to obtain reliable data on the size of the migratory-wintering population of thrushes in Comunidad Valenciana or on the number of birds trapped. Conservation groups have, however, gathered very useful information, sometimes through extensive fieldwork e.g. Bort (2005), on the activities of poachers and the number of species affected, but estimates of the numbers trapped are often imprecise because surveys inside *parany* are difficult and even risky (for a similar situation in other Mediterranean countries see Franzen 2010). Bearing in mind these limitations, this paper reviews the available scientific and grey literature on bird trapping using lime sticks (*parany*) in Comunidad Valenciana and uses this information to (i) describe the magnitude of bird trapping and its impact on bird populations; (ii) to examine whether government and poacher claims that

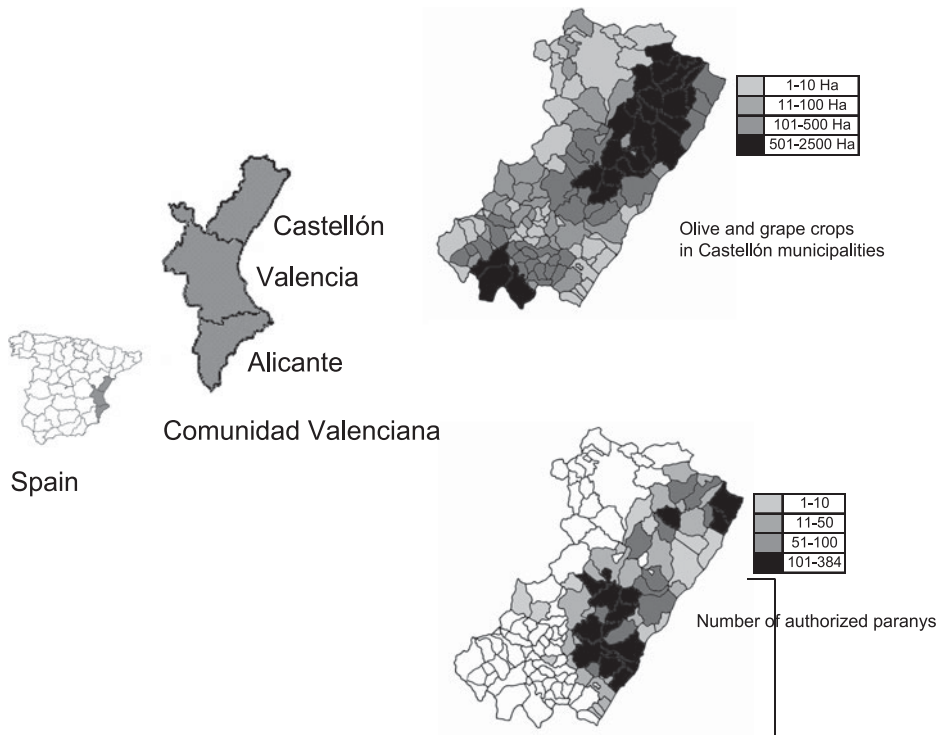


Figure 1. Study area. Figures on the right shows the distribution of *parany* and olive-grape crops in municipalities from Castellón province (Comunidad Valenciana, Spain).

trapping thrushes complies with EU laws are scientifically and legally supported, and (iii) to suggest some sustainable hunting strategies.

Evolution of parany through time

The *parany* is a device which uses limed sticks to catch birds, an ancient technique reported by Greek authors of the second century BC (Alfaro and Fernández-Nieto 1995). In Comunidad Valenciana, as in ancient times, the *parany* are set up in September and trapping lasts mainly (but not only) from October to November, coinciding with the peak in the number of migrating thrushes.

The *parany* consists of a tree or group of trees (usually Olive *Olea europaea* or Carob *Ceratonia siliqua* although other species may be used) pruned in such a way that wooden poles perforated by small holes can be placed in branches of the crown (Figure 2). Until the 1960s, stalks of esparto grass *Stipa tenacissima* or other species were placed vertically in the wooden poles with



Figure 2. A typical *parany*. The lower photograph shows the placement of poles and sticks among branches.

the aid of a type of putty. Previously, the sticks were covered with lime, an adhesive substance extracted by trappers from different plants (Alfaro and Fernández-Nieto 1995). At night, passing thrushes were lured to the *parany* by calls produced by captive birds or using whistles. When birds perched, they came into contact with the limed sticks and lost the ability to fly. The birds fell to the ground and were caught by the trappers.

Few of the traditional practices described in the previous paragraph are used in modern *parany* (for a similar shift of trapping techniques in other Mediterranean countries see Sustainable Hunting Project 2007). Now, trees are often surrounded by a wall (Figure 2); the poles, sticks and lime are synthetic and may be purchased in shops; poachers do not use a whistle to attract birds but an amplified recording of bird song played from a tape or CD player. These changes mean that (i) *parany* have become much more efficient; and (ii) bird trapping has become much more convenient for the poachers than in the past. As a consequence bird trapping has become a widespread practice in Comunidad Valenciana. From 1988 to 2001 about 5,000 *parany* were authorised a year plus 2,000–3,000 unauthorised ones (CMA 1999). Most of the authorised *parany* (3,843) were located in Castellón province (Figure 1). Since 2001, when widespread authorisation ceased, the exact number of *parany* used each year is unknown, but surveys conducted in Castellón province indicate that around 2,000 operate annually (Bort 2005, GER *et al.* 2009).

Impact of parany on bird populations

The lack of data on both bird populations and the level of trapping means that to obtain a precise estimate of trapped birds and the effects of trapping on bird populations is difficult. It is estimated that 1.5–2 million thrushes per year are trapped (SEO/BirdLife 2001, Bort 2005), mostly Song Thrushes *Turdus philomelos* and Redwings *T. iliacus*, but also smaller numbers of Fieldfares *T. pilaris* (a scarce migrant in Spain; Santos 1982) and Mistle Thrushes *T. viscivorus* which is a largely sedentary species in many European countries (Henderson 1997). Assuming a migrating-wintering population of 3–5 million thrushes in Comunidad Valenciana (Nadal 1999) c.1.5 million trapped thrushes would comprise a sizeable proportion (30–66%). It may be more when considering the unknown number of birds killed by shooting and trapping techniques other than *parany* (e.g. mist-nets). Nevertheless, it is not possible to determine currently whether the survival rate and population trends of European thrushes is governed by hunting pressure (see McCulloch *et al.* 1992, Aebischer *et al.* 1999, Payesky and Visotsky 2003).

From a bird's point of view, a *parany* is merely a tree suitable for perching or roosting. Indeed, as lime sticks often trap invertebrates as well they may attract insectivorous bird species to feed (Castany and Castelló 1995, Martínez 2006). Therefore, this indiscriminate method traps many other bird species, most of them protected by Spanish and European laws. A study in Catalonia conducted on similar trap devices (*barraca*) revealed that 58 bird species were trapped (GEPEC/DEPANA 1997). Many of those species are also trapped in the *parany* of Comunidad Valenciana: e.g. Robin *Erithacus rubecula*, Blackcap *Sylvia atricapilla*, Chaffinch *Fringilla coelebs*, Northern Goshawk *Accipiter gentilis* (see GER *et al.* 2009, Yerbes *et al.* 2010).

A precise quantification of the number of birds trapped is difficult to obtain. Gámez (1989) estimated that the ratio of non-thrush passerines to thrushes trapped was 0.3 and similar proportions have been reported by other authors (GEPEC/DEPANA 1997, GER *et al.* 2009); therefore about half a million other birds may be trapped annually. Additionally, a report on mortality of raptors in Castellón (GER 1989) revealed that 112 birds of seven raptor species were trapped in *parany* during 1987 and 1988.

Poaching motivations

Poaching is a widespread and increasing phenomenon that occurs in both low-income countries and in advanced industrial societies for a variety of reasons (Muth 1998, Muth and Bowe 1998). These include subsistence hunting (e.g. Pratt *et al.* 2004), protest or rebellion against the state

(e.g. Forsyth *et al.* 1998) or cultural conflict (Yom-Tov 2003). Often a single poacher may have multiple motivations for poaching (Forsyth *et al.* 1998).

The motivations of *parany* poachers have not been studied in depth by means of rigorous socio-economic or ethnographic studies (e.g. Bell *et al.* 2007). Two justifications are often claimed by poachers. The first is that bird trapping is a traditional activity performed for generations that has been unjustly prohibited or too strictly regulated; in support of this some authors (Alfaro and Fernández-Nieto 1995) even describe the *parany* as an innocuous practice comparable to an archaeological and historic monument. It is unclear where over-harvesting and the widespread use of electronic devices and synthetic materials should be accommodated in this perspective. Secondly, trapping is regarded by poachers as an act of rebellion of poor-rural people against ruling elites identified as from the affluent-urban sectors. This is untrue, as most *parany* are sited in some of the wealthier Comunidad Valenciana municipalities, and many poachers are affluent, as often occurs in developed countries (e.g. López-Darias *et al.* 2011). In spite of their low credibility, these motivations have been successfully exploited by APAVAL (Asociación de Paranyeros Valencianos), an association aimed to promote *parany*. This association is well organised and includes politicians and local businessmen as members or sympathisers, thus having enough political influence and financial support to publish a journal, to organise campaigns and pay for technical and legal reports in favour of *parany*.

Efforts of Comunidad Valenciana governments to legalise parany

The *parany* is a non-selective bird trapping method; therefore, it is prohibited by European laws, specifically the EU Birds Directive (Directive 79/409/EEC of 2 April 1979). Nevertheless, Comunidad Valenciana governments along with poaching lobby groups have put considerable effort into avoiding compliance through different legal and technical stratagems.

From 1988 to 2000 CVG simply ignored laws and bird trapping was allowed to occur annually through “exceptional” authorisations. In 1994, a conservation group (AGRO) lodged an appeal against *parany* authorisations with the Comunidad Valenciana High Court of Justice. This appeal failed in 1997 and the *parany* was deemed to be an illegal trapping technique.

In 2000 CVG tried to circumvent European laws and judgements by adopting a Decree (Decree 135/2000) which allowed the granting of special licenses to trap thrushes. AGRO and Ecologistas en Acción lodged an appeal against the Decree, which was annulled in 2002 by the Comunidad Valenciana High Court of Justice. Additionally, in 2003 the Commission of the European Communities ruled that the Kingdom of Spain had failed to uphold the EU Birds Directive by authorising *parany* in Comunidad Valenciana (C-79/2003).

In 2004 CVG modified the Comunidad Valenciana Hunting Law (13/2004) in order to allow bird trapping. The Spanish Government lodged an appeal against the modification at the Supreme Court of Spain which in 2010 ruled that modification of the Hunting Law ought to be stayed.

Technical reasons for supporting parany claimed by Comunidad Valenciana governments

In collaboration with the poachers’ lobby, Comunidad Valenciana governments have generated different technical reports (CMA 1999, CMA 2001), and commissioned studies conducted in “scientific *parany*” (Ricci and Burgui 2004, Yerbes *et al.* 2010). All these studies attempted to prove that bird trapping fulfilled Article 9(1) of EU Birds which states that prohibition of bird trapping in Article 8 (1) may be derogated where “*there is no other satisfactory solution to prevent serious damage to crops or to permit, under strictly supervised conditions and on a selective basis, the capture, keeping or other judicious use of certain birds in small numbers*”. In the following paragraphs we shall discuss whether these requirements are fulfilled or not.

1. Small numbers of birds captured. During the 1988–1990 hunting seasons the trapping of 9,287,850 thrushes per year was authorised (Gutiérrez 1991), which is a virtually unlimited number. According to data cited in SEO/BirdLife (2001), in subsequent years the number of

authorised thrushes per *parany* per year was 500 (1991–1997), 300 (1998–2000) and 150 (2001). Extrapolating these figures to the 5,000 authorised *parany* operating each year (CMA 1999) the number of thrushes trapped annually may have ranged between 750,000 and 2,500,000. In a technical report (CMA 1999) it was assumed that 750,000 thrushes per year represented a small fraction of the population of migratory-wintering thrushes in Comunidad Valenciana which ranged between 15 and 60 million individuals; however, the methodology used to calculate this estimate was not explained. According to a report commissioned by CVG (Nadal *et al.* 1999) the population size of migratory-wintering thrushes in Comunidad Valenciana ranged between 3 and 5 million birds, a result close to another independent estimate using complementary methods (Societat Valenciana d'Ornitologia 2000). In summary, nearly one million trapped thrushes would constitute a notable proportion of the migratory-wintering population. In fact, the European Commission (Case C-79/03) concluded that the number of trapped thrushes largely exceeded “small quantities”.

2. Selective basis. True selectivity (preventing the trapping of species smaller than thrushes) was attempted by increasing the space between limed sticks (CMA 1999). This was not effective because smaller birds were still trapped when touching the limed sticks by chance or when feeding on invertebrates (Castany and Castelló 1995, Martínez 2006) and because birds larger than thrushes, even raptors, may be trapped. This last possibility, denounced repeatedly by conservationists, was labeled “as totally lacking credibility” in a technical CVG report (CMA 2001). Ironically, one Northern Goshawk, a Barn Owl *Tyto alba* and a Long-eared Owl *Asio otus* were trapped during studies conducted in “scientific *parany*” in 2009 (Yerbes *et al.* 2010).

As true selectivity is dubious, CVG have claimed that another kind of selectivity occurs *a posteriori* when non-authorized species and thrushes exceeding the quota are released by poachers (CMA 1999). This kind of selectivity assumes that trapping does not affect released birds, which remains unproven. First, when birds fall and hit the ground, some die or suffer injuries (Castany and Castelló 1995) and they often remain for hours inside the *parany* before poachers catch them (Bort 2005), thus increasing the risk of starvation. Secondly, feathers damaged by lime must be cleaned with other products before release, a procedure that may damage the feathers and injure the birds (Figure 3). Thirdly, the use of lime and anti-lime products is harmful to birds. A report carried out by IREC (Instituto de Investigación en Recursos Cinegéticos; Viñuela *et al.* 2005) demonstrated experimentally that a type of synthetic lime (named C-96) and anti-lime (anti C-96) products contained toxic and narcotic components and that their use altered the macro and micro-structure of feathers, thus reducing waterproofing. As a result, thrushes became sleepy and spent more time cleaning feathers; additionally, some smaller bird species reduced their feeding rate and some birds died. The report concluded that survival of birds captured and released in this way was likely to be reduced. The use of another supposedly non-toxic lime (named 288C140X) which could be cleaned using water was regarded as unsuitable for trapping because rain and atmospheric moisture reduced its adhesive capacity (Martínez 2006). The European Commission (Case C-79/03) has not accepted the argument that release of birds guarantees the selectivity of *parany*.

3. Strictly supervised conditions. The number of birds actually trapped every year depends on fluctuations in the size of migratory-wintering populations and on trapping effort which in turns depends on many conditions (number of operative *parany* per season, number of trees per *parany*, number of poles and sticks per tree, number of days trapping etc.) which should be supervised by the authorities. The results of a survey of 370 authorised *paranys* carried out by NGOs in 2000 (GER-EA 2001) revealed that 80% did not observe the conditions set out in the authorisation. Furthermore, government wardens have prosecuted some “scientific *parany*” because they did not observe the rules that authorised “scientific” trapping (GER *et al.* 2009). Although wardens are usually highly motivated, their role is difficult for several reasons: aggression from poachers, the fact that they personally suffer the social pressure of having betrayed their neighbours, weak public attitudes against trapping and the lack of law enforcement (for a similar situation in Spain see Lopez-Darias *et al.* 2011). As a result, and despite the fact that *paranys* are easily detectable and



Figure 3. Effects of lime on Song Thrush feathers.

trapping levels are very high, the number of poachers prosecuted by government wardens decreased from 406 in 2003 to only 154 in 2008 (GER *et al.* 2009).

4. Crop damage. Using no explicit methodology or references, it was calculated that a population of 15–60 million thrushes would extensively damage olive and grape crops at a cost of 15 million euros (CMA 1999). For a much more realistic population estimate of 3–5 million thrushes (Nadal *et al.* 1999) and using the available information on energy requirements and crop intake of thrushes (Manzanares 1983, Tejero *et al.* 1984, Soler *et al.* 1988, González-Solís and Ruiz 1990) it was calculated that thrushes would cause a much smaller amount of damage, estimated at 2.2 million euros, i.e. 0.66 Euros ha⁻¹ year⁻¹ (Societat Valenciana d'Ornitologia 2000). Further, using data from Castellón province (GER *et al.* 2009, Consellería de Agricultura 2010) where most *parany* are located, it seems that bird trapping is a questionable way of preventing crop damage as (i) at the municipality scale, the distribution of *parany* and crops in Castellón province only loosely coincide (Figure 1); (ii) the number of authorised *parany* does not depend on the extent of olive-grape crops per municipality (Spearman $r_{62} = 0.096$, $P = 0.456$) and (iii) most *paranys* (72%) are placed in areas where orange groves predominate (GER *et al.* 2009) and even inside urban areas (Figure 4).

Towards eradication of bird trapping

The *parany* is a non-selective trapping technique that involves the capture of an unacceptably large number of both game and non-game bird species. Therefore it should be banned. Nevertheless, the prohibition of *parany* and similar devices faces a serious obstacle because Article 9 (1) of the EU Birds Directive states that the prohibition of bird trapping could be derogated on the basis that only a small number of birds were captured, on a selective basis, and under strictly supervised conditions. Accordingly, the French government claimed that trapping of birds in France (considered as a traditional activity) fulfilled these conditions, and the European Commission agreed (Case-252/1985). Thus, although it is questionable that those requirements are fulfilled (see CABS 2010) trapping thrushes using lime sticks is allowed in France, a situation that may promote weaker attitudes against bird trapping in other EU countries and regions, as occurs in Comunidad Valenciana. A stricter, more modern regulation (the Birds Directive is 34 years old) based on sound science would be necessary in order to definitively prohibit bird trapping.



Figure 4. *Parany* inside an urban area.

According to the scenario depicted above, two alternatives are feasible in Comunidad Valenciana. As *parany* is currently illegal, the first and most desirable would be to prosecute offenders rigorously because it is unacceptable that so large a number of easily detectable *paranys* operate each year. Increasing political pressure from Spanish and international authorities, and recommendations by NGOs (e.g. BirdLife International 2011, IUCN 2012) would help to compel Comunidad Valenciana governments to enforce the law, a key factor in reducing poaching activity (Keane *et al.* 2008). The second alternative would be controlled trapping that fulfils the requirements for a derogation of the EU Birds Directive. In the past, such an approach has been burdened by the use of flawed science and the lack of law enforcement, showing a marked inclination to accommodate the claims of the poaching lobby. Therefore, a credible, science-based derogation of the EU Birds Directive in Comunidad Valenciana needs new foundations. A prerequisite would be to widen public participation, including not only the poaching lobby and hunting management agencies (as occurred in the past), but other relevant stakeholders, such as NGOs, ornithologists and hunting groups. This partnership could facilitate proper analyses of the situation, a better identification of problems, and the design of effective strategies which should include six key elements to guarantee the conservation and sustainable use of bird populations (see Sustainable Hunting Project 2007, BirdLife International 2011):

- (i) Precise estimates of migratory-wintering bird populations and other demographic parameters through proper sampling schemes that could be developed and carried out by NGOs and academic staff.
- (ii) Using information in (i) to set harvest levels through accurate estimates of harvest effort (including not only trapped birds but those killed through other means). Quite likely, proper limits would entail a drastic reduction in the number of authorised trappers.
- (iii) Development of techniques and protocols to avoid unnecessary suffering to birds, to avoid the mass trapping of target species (thrushes) and to minimise the impact of trapping on non-target species. This is a critical issue because the *parany* is intrinsically non-selective and a number of non-target species will always be trapped. In fact, the derogation of the EU Birds Directive to allow bird trapping using lime sticks should be based on such parameters, and not on the unrealistic assumption that selective trapping of birds is possible.

- (iv) Strict control of *parany* carried out by wardens in cooperation with NGOs. This would need a collaborative attitude by authorised trappers who, in addition, should develop self-policing strategies against illegal trapping.
- (v) Monitoring of factors (i-iv) by the relevant institutions (government agencies, academic staff, NGOs) in order to modify strategies and protocols if necessary.
- (vi) Educational schemes and the use of media to increase public awareness of bird trapping shifting potential trappers to non-consumptive use of bird resources (e.g. birdwatching, photography, ecotourism).

In summary, in Comunidad Valenciana the unacceptable over-harvesting and killing of birds through *parany* can be considerably reduced and hopefully eradicated. But the core problem is an absolute lack of political will to tackle the issue. On the contrary, as we have outlined in the previous sections, Comunidad Valenciana governments (both left-wing and right-wing) have explicitly supported bird trapping over the years on technical and legal grounds. Therefore, the eradication of *parany* will occur only when governments decide to be part of the solution instead of part of the problem.

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