

Enforcement Guidance: Illegal Trade of Native Wild Birds

Recognising Ring Manipulation

Abstract: this guidance is based on the document published by the municipality of Cologne “Vollzugshilfe: Illegaler Handel mit einheimischen Vögeln – Erkennen von Ringmanipulationen”, which aims at training local police officers in recognising the illegal marketing or possession of wild birds. This issue was brought to light by the many reports of illegalities produced by CABS in the last years in Germany. Previously another document produced in the Netherlands by Van Krefeld on behalf of the Vogelbescherming had helped analysing the phenomenon of faking/tampering closed leg-rings in wild birds. Considering the experiences recently gained in the field in Italy, we have added and updated the document with our latest findings. The goal is helping officers and experts to recognise the marks and signs of tampered bird leg-rings and of captured wild birds kept as captive bred.

1. Introduction

Exotic species are not the only ones affected by the illegal trade of endangered wild animals. There is also a profitable and big market for the trade of native bird species.

The number of European species and individuals kept in captivity has steadily increased in recent years. The annual demand for new birds for private collections is correspondingly high. Although some species, such as thrushes, goldfinches, siskins and redpolls, can be easily bred in captivity, demand outstrips the number of captive-bred birds. For instance, this is the case in Italy, where thousands of hunters require hundreds of thousands of Song thrushes, Fieldfares and Redwings every year to be used as ‘live decoys’ for hunting. For some rarer species, only few experienced breeders have the facility to succeed. As the rearing of young birds is also very time-consuming and costly, the sale of illegally caught native birds remains a very lucrative black-market business.

Birds that are illegally trapped, are removed from the wild and later ringed. These birds, equipped with manipulated rings and falsified paperwork, are then brought into the legal market and sold for profit as captive-bred birds.

Data collected in Germany from the suppliers of rings show that significantly more rings are requested from breeders than are actually required for the proper ringing of their newly born birds. This suggests that, in addition to the trade in wild birds, there is also trade in rings for subsequent ringing. This is also confirmed by cases in which fake rings with the codes of well know associations have been found by bird breeders.

In Italy, each year, dozens of bird breeders request 5-6,000 rings in front of facilities that can only legitimately host a dozen or so breeding pairs. Bird breeders who intend on concealing the high amount of alleged captive-bred birds use rings from different origins or fake rings to smear the audit lines and traceability of their business.

In Germany many birds are ringed with foreign rings, a phenomenon which is increasing also in Italy. It can be assumed that there is a well-organised, far-reaching network of poachers and traders that extends beyond the borders of any single country. This network also includes specialised ringers and transporters as well as bird breeders who determine the demand.

Doubts about the legitimacy and accountability of captive bird breeders are repeatedly raised by bird protection NGOs, as well as the relevant authorities. For example, an investigation from the Netherlands into illegal trade in European wild birds that dates back to 2007 (*Bred in a trap - An investigation into illegal practices in the trade in wild European birds in the Netherlands, March 2007 Stroming BV commissioned by Vogelbescherming Netherlands*) The European Commission has already taken these developments into account and drawn up an EU Action Plan to combat wildlife trafficking - (COM(2016)87).

The illegal trade in birds caught in the wild increases the threat to already endangered bird populations. There is therefore an urgent need to break the chains of trade and stop the flow of new illegally caught animals into these illegal underground markets. To this end, the enforcement authorities are required to carry out regular spot checks on breeders and keepers of native birds. Crucial here, is the close examination of the rings of the birds for signs of manipulation. This document is intended to help identify changes to the rings that are associated with manipulation.

2. Illegal trapping of wild birds and subsequent ringing for the wildlife trade

Illegal trapping of birds takes place in every European country, from Poland to Spain, from Greece to Holland, in the open countryside and nature reserves, but also on private land such as backyards, closed gardens and parks. Examples of traps include cage traps and nets. The cage traps are often equipped with a compartment for a decoy (live bird), alternatively they are equipped with food to attract target birds. The activation of the traps is usually triggered by the bird itself when it makes contact with the trap(s).

Mist-nets, clap-nets and limesticks are used to catch large numbers of birds at once. The birds are lured into the traps either with food, water and/or decoys or with recorded calls of conspecifics. Traps and nets can be easily purchased in stores or online. Online sales platforms offer a large variety of bird traps, that are in fact illegal in Europe. In addition, custom-made products “own brand” are also often found.



Left: various bird traps (CABS). Centre: set trap with live decoy bird in cage. Right: snap-trap with food as lure (City of Cologne).



Left: Japanese mist-net (CABS). Right: tools for ring manipulation (City of Cologne).

Native birds are rarely offered for sale in pet shops. Trade in these bird species is geared much more towards sales at bird fairs and advertised sales over the internet. Bird fairs are held regularly on weekends outside the breeding season from October to March. Many bird breeders of native birds are organised in clubs and associations, which also organise and host the fairs. Bird fairs offer dealers sales space and give breeders the opportunity to offer their own offspring for sale. But bird fairs are also known for giving the opportunity to create underground black-market trade between criminal organised and trusted sources.

Not only adult birds are caught, also eggs and young birds are also taken from the wild. This rather complex method is particularly lucrative for rare species which attract high prices (e.g. Dippers can fetch >2000€ per bird). It requires good knowledge of the area and of the occurrence of the birds and their breeding behaviour. Tracking down nest locations or brood is also associated with a relatively high level of skill, effort and cost.

Eggs taken from the wild nests can then be hatched in an aviary with the help of an incubator or of a pair of surrogate bird parents (e.g., by canaries). This procedure has the “advantage” that the young birds can be ringed “properly” after hatching, so that no manipulation of the ring is necessary. With such birds, brought into the black-market with a false proof of origin stating the breeder and parents, it is extremely difficult to prove that the bird was illegally taken from the wild.

Another method is to wait for the chicks to hatch and subsequently remove them from the nest just before they are ready to fledge. With good timing, poachers can save themselves the hassle of rearing the young. By tying the young birds to the nest with the help of a wire, the young birds can be prevented from flying out, which guarantees successful nest removal. There are at least two known regions in Europe, where this technique is nowadays used on industrial scale: the apple plantations of Trentino-Alto Adige (Italy) and in the South west of Warsaw (Poland) host large populations of thrushes (Song thrush, Blackbird and Fieldfare). Professional trappers raid the nests to fuel the market of “captive-bred Thrushes” to be used as live decoys for hunting.

Illegally caught adult wild birds are ringed by putting an initially widened breeding ring on the birds, which is then compressed to the prescribed size using pliers or something similar. This does not necessarily require specialised tools. A simple mandrel, like those used in jewelry making, is suitable for expanding the rings. If ringing is carried out on a larger scale, more professional manipulation tools are also used.

With smaller species and the use of slightly larger rings, there is the possibility of carrying out the subsequent false ringing without widening the ring and thus avoiding any permanent traces of manipulation on the ring.

The ringing of adult birds is a painful procedure for them, since the ring is only widened the minimum necessary to leave as little trace as possible. Therefore, some force is still required to pull the ring over the bird's foot. It is not uncommon for injuries to the feet and legs to occur. This can also go hand in hand with the loss or severe fracture of individual toes or even the entire foot.

Changes such as cracks in the metal or in the paint of the ring, deformations such as deviations from the circular circumference or the cylindrical shape and deburring on the edges are clear indications of tool impact on the ring and thus of manipulation. In some cases, traces of manipulation on the rings can only be recognised with the help of optical magnification aids (magnifying glass or macro camera).

This video shows the procedure:

<https://www.youtube.com/watch?v=IY69WKkBGgM&list=UUdIZ0kSPzV9FdLKwphwq1w>

To summarise, up to date, the following techniques are known in Europe to fit a ring into a (trapped) adult wild bird:

1. **Sawing through rings, putting them on and bending them back.** Sometimes the ring is reworked with a soldering iron, super glue, or felt-tip pen to conceal the saw-cut.
2. Increasing the inner diameter of the ring by removing material, for instance with a file, or by **drilling**.
3. Increasing the inner diameter of the ring without removing the material, for instance with a **hammer and a nail**, or a punch which is normally used for making additional holes in a belt. Sometimes the ring is squeezed shut with a pair of **pliers** afterwards.
4. Using leg rings that are too **big**. Since there is not a unique legislation in Europe, every avicultural society has its own measures, some of which do not guarantee that the ring cannot be fitted on an adult bird.

3. Material and measures of rings and appropriate ringing

In Germany rings from the BNA (Bundesverband für fachgerechten Natur- und Artenschutz e.V.) and ZZF (Zentralverband Zoologi-scher Fachbetriebe Deutschlands e.V.) are made of aluminum or stainless steel. In Italy, most rings in use, produced by Demerio Sas, are aluminium, although rings in steel or duralumin are now more common. These rings are anodised in Italy, but not in Germany. German rings differ from rings in other European countries, which are often coloured and anodised. Some rings, like those from the Netherlands, have predetermined breaking points. These have the function to break during any attempt to expand the rings and to make the manipulation visible.

In Germany, birds born in captivity are primarily marked with a closed ring. The ring size and secondary marking methods are listed in Annex 6 of the law. German breeders may only use the rings of two specific associations mentioned in the law - BNA and ZZF. Rings from any other associations (including closed ones), such as a breeders' association, are not

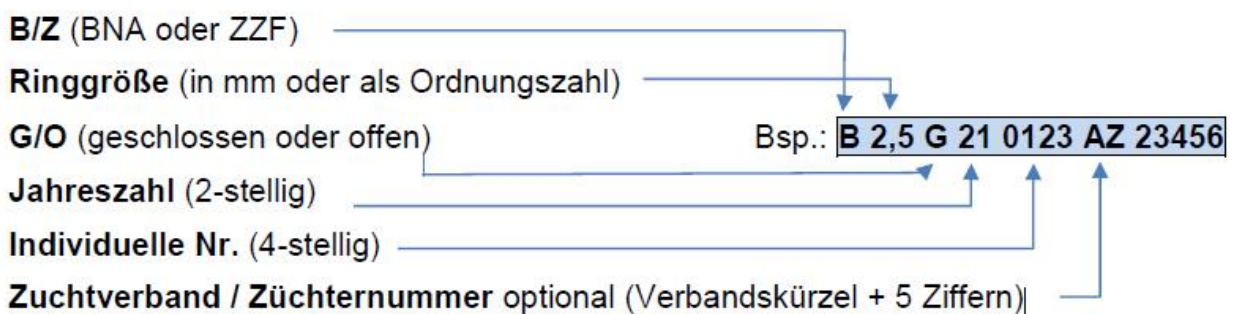
permitted. The rings must be such that they are not significantly malleable, but durable, legible, animal friendly and that cannot be destroyed by the animal. Closed rings must also be seamless. The ring can be removed only by destroying it or injuring the leg of the animal. The Labeling of the rings is based on Appendix 7 of the law.

In Italy, every region can independently legislate on closed rings. ISPRA, the scientific national authority has not made any study on the size of rings but refers to the measures proposed by FOI, the biggest national aviculture society. Since other societies or even administration propose rings' size that are bigger than FOI, there is an ongoing process to adjust all measures.

In captive bred birds, the ring is put on the chick in the first 7-10 days of life by pulling it over the foot, as the leg is still small and not fully grown. The ring type used is species specific and is dimensioned in such a way that the ring can no longer easily be removed as the bird grows. For proper ringing of a bird, no tools are required! The aim of the closed rings is that they can't be put on the birds' foot at a later stage. Similar regulations often exist in the other EU Member States.



Left: Coloured anodised ring with predetermined breaking point from the Netherlands (City of Cologne). Right: German ring without anodisation (Heidenblut Institute for Materials Science at the University of Hanover).



German ring codes' explanation: 1) society's code, 2) internal measure, 3) G/O close or open, 4) Year, 5) sequential number of the bird born in that year, 6) society's member code



Spanish ring codes' explanation: 1) society's member code, 2) sequential number of the bird born in that year, 3) Society's code and Year, 4) internal measure

4. Ring controls

The visual inspection of the leg with the ring is an essential part of the inspection of European birds. Since the rings need to be examined closely, catching the birds in hand from the cages or aviaries is imperative. Routine checks should therefore ideally be carried out outside the breeding season. The owner can hold the bird himself during the inspection. It is important that the ring is checked from every angle and that the top and bottom edges are also examined.

Conspicuous traces of manipulation can be seen with the naked eye. When checking rings properly, it is absolutely necessary to use a magnifying glass (magnification x10 is sufficient) and a camera for documentation. Subsequent checks on a computer can be made and high-quality images can allow for further close inspection of ring details.

It is helpful to take additional pictures of the spread wings to determine the age of the birds as part of the control. This can be useful to detect a discrepancy between the actual age of the bird and the information on the ring. To determine the age, various plumage characteristics, especially moult limits, are used. This specific method can be used for all species in which the young birds carry out only a partial moult and not a full one. Therefore, young birds can be distinguished from adult birds up to their first full moult after more than a year of life, because their plumage still contains feathers from the juvenile plumage in addition to the feathers that were replaced during the partial moult. The resulting so-called moult limit is a distinct characteristic of birds in their first year of life. The method of age determination via moult limits requires some experience. In the event of suspicion, the assessment can be carried out by an ornithological expert through the photos.

Injuries to the toes, feet and plumage should also be documented photographically.

An important part of the ring inspection is checking the ring size. The basis for this is the information available on the same ring (in Germany or Spain for example the diameter is written on the ring), or on the website of the relevant society. For foreign rings, it is important to check the intended ring size in the respective country of origin or on a similar non-used

ring available by the breeder. In addition to the size, the fit of the ring on the foot should always be checked. A very loosely fitting ring is also an indication that the bird was ringed when adult.

If there are justified doubts about the plausibility of legal breeding, it is advisable to take a feather sample from the bird and the alleged parents for a DNA test. A feather of the small plumage is sufficient for this.



Left: Ring clearly too large (Peter Barthel). Right: Photo of the wing for age determination (Cologne public prosecutor).

5. Recognise the signs of manipulations

In the following chapters we describe various features/marks of the rings that are associated with the ringing of adult birds, thus with manipulation of the rings. All features can occur individually or in combination.

5.1. Ring not manipulated type 0

Such a ring is characterised by circular circumference and cylindrical shape. Coloured anodised rings do not show any significant damage to the paint; only small scratches on the paint can represent normal signs of wear.



Non manipulated rings (City of Cologne).



Manipulated rings on both sides and non manipulated ring in the middle (E. De Santis)

5.2. Concave deformation, ring manipulation type 1

Deviation from cylindrical shape. This deformation occurs when the bird ring has been expanded from both sides over a mandrel. The two ends of the ring are slightly larger in diameter than the middle section (hourglass shape).



Rings with concave shape (Top left: Heidenblut Institute for Materials Science at the University of Hanover. Others: Cologne Public Prosecutor's Office)

5.3. Beveled inner edge, ring manipulation type 2

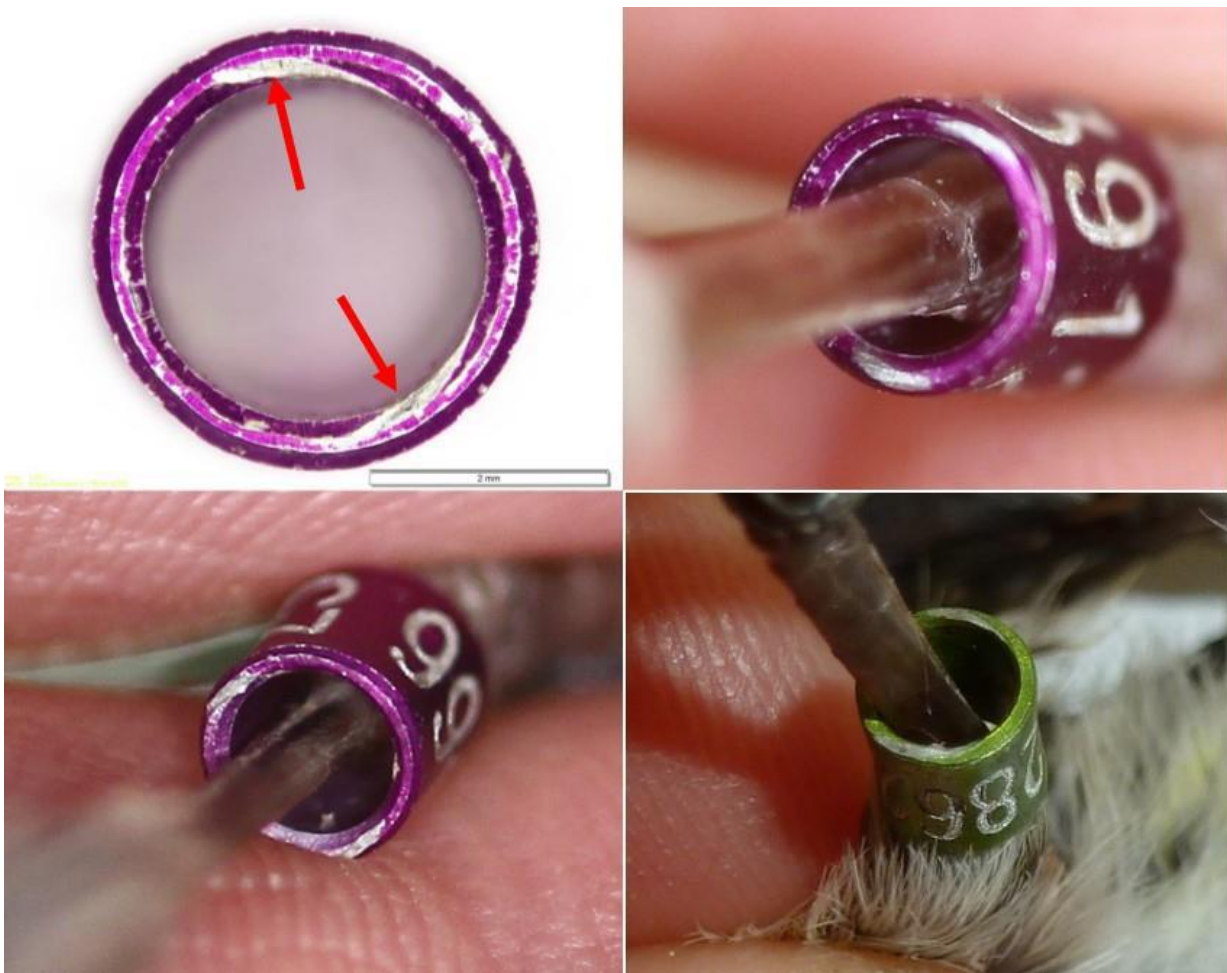


Rings with beveled inner edge (Left: Heidenblut Institute for Materials Science University of Hanover. Right: City of Cologne).

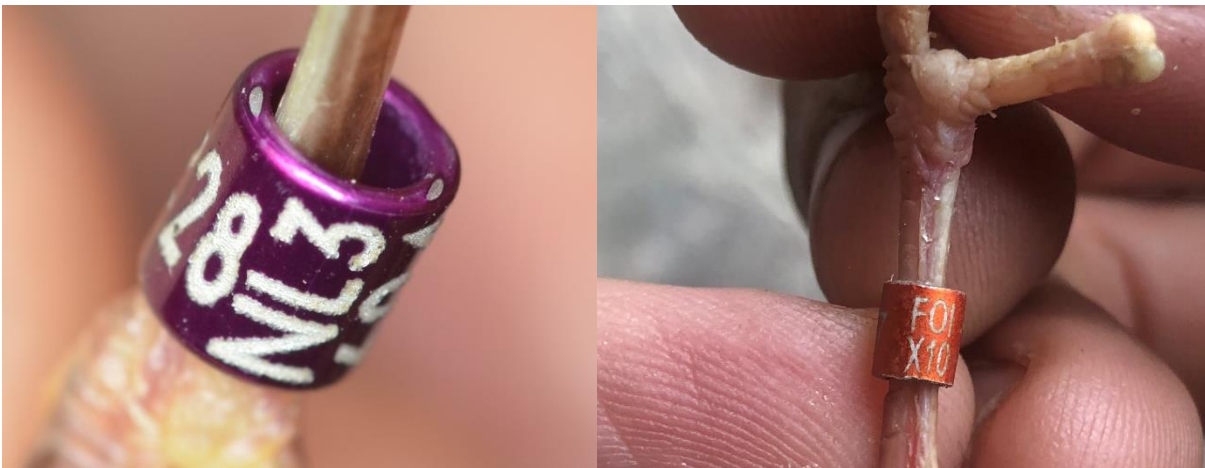
Inner edge beveled on one side. This change is particularly noticeable on coloured anodised rings. The bevel is done by removing some material. Sometimes the bevel is also coloured again with same or similar colour. These rings are also enlarged. The bevel also makes it easier to pull it over the scaled bird's foot, and the ring (usually) is pulled onto the bird's foot with the beveled side first. The protective claim is that the bevel is only to remove a production-related sharp edge of the rings.

6.4. Edge with notches, ring manipulation type 3

The ring has opposed, arced notches formed by the use of a round tool. They correspond in shape to a circular tool that is pressed against the edge of the ring to enlarge it. The nicks should not be confused with production marks that occur when anodised rings are sent glued together and then separated. These marks are flat and not sharply curved (see image below).



Rings with clear notches (Top left: Heidenblut Institute for Materials Science at the University of Hanover. Others: city of Cologne).



Left: Production-related marks, no tampering (city of Cologne). Right: Italian ring with notches (CABS)

6.5. Wavy border, ring manipulation type 4

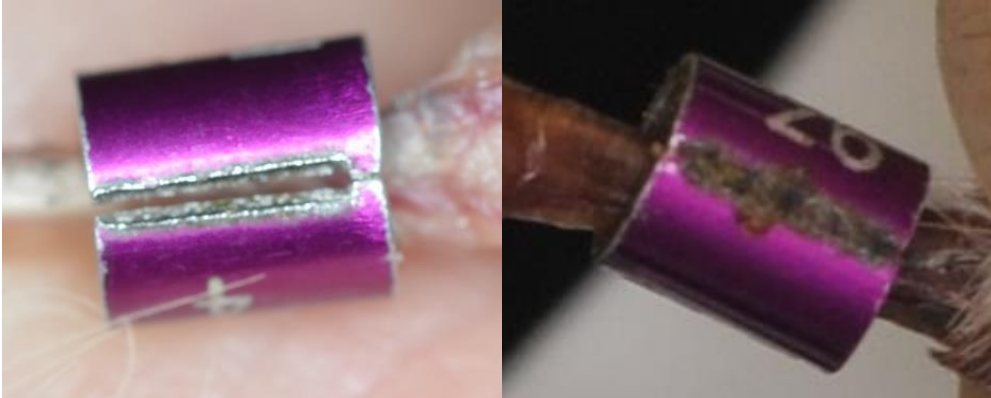
The perimeter of the ring appears dented and deviates from the circular circumference. This is the result of a mechanical deformation (stretching, widening) of the ring material and subsequent compression to the original size. There is noticeable damage on the outside.



Rings with a wavy edge (Top left and bottom right: Heidenblut Institute for Materials Science at the University of Hanover. Others: City of Cologne).

6.6. Broken predetermined breaking point

Predetermined breaking points on Dutch rings are made during the production in order to counteract the problem of adult bird ringing. Their function is to break when an attempt is made to expand them and therefore to make the manipulation of the rings visible.



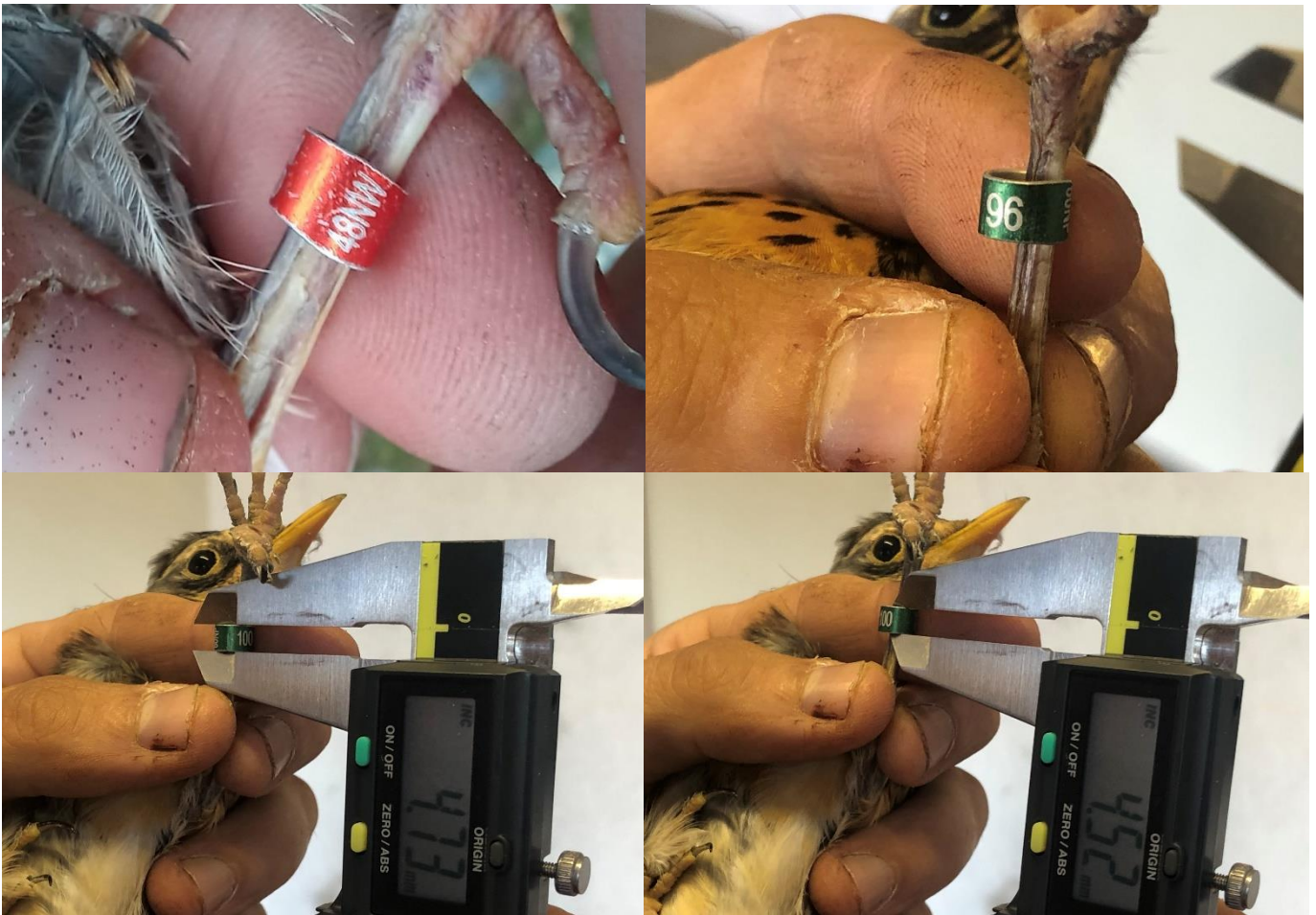
Left: broken Dutch rings. Right: broken ring sealed with glue

6.7. Height variation

During the enlargement and the successive squeezing, the rings are first hammered or pushed with violence on the nail and then squeezed with specific pliers to bring the ring back to the former values. In this process the external diameter normally shows correct values and so does the internal diameter (which is difficult to measure with accuracy), but a variation in the height of the ring can be assessed. If non tampered rings show an accuracy in the height of $\pm 0,02$ or $\pm 0,03$ mm, manipulated rings show a range of minimum $\pm 0,10$ mm. Such rings are often found on birds belonging to professional “breeders”, who have standardised methodologies for ring manipulation.



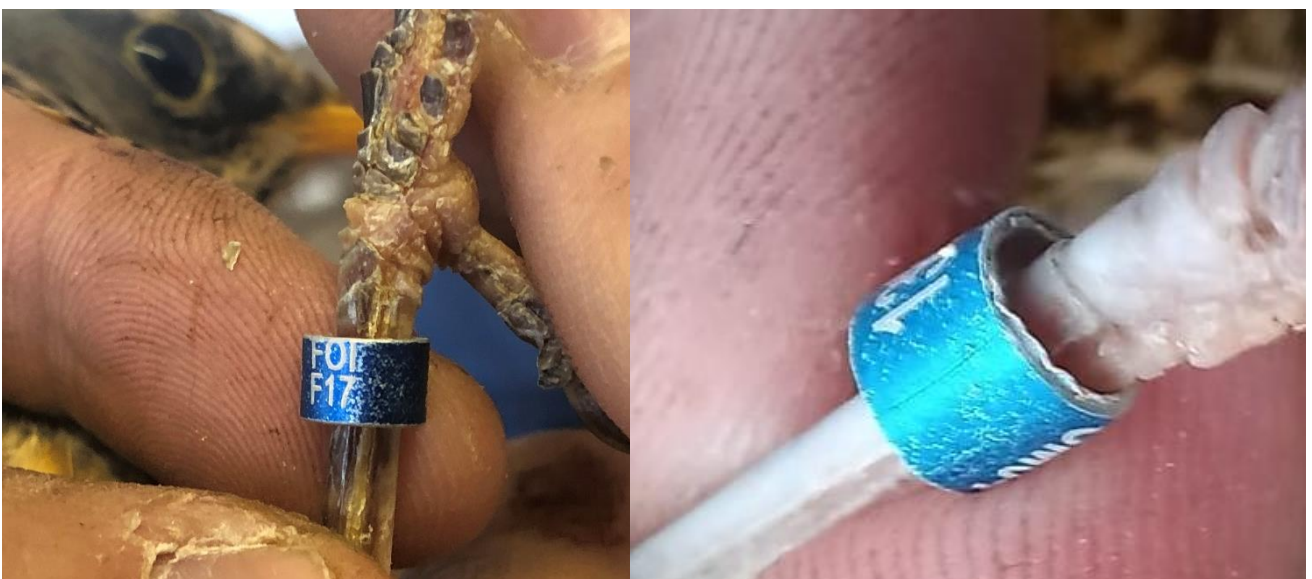
Left: the ring's height shows a significant variation along the perimeter. Both lines do not run parallel (CABS)



Above: the ring's height variation is clearly visible with a range superior to +/- 0,4 mm. Below: the same ring shows in different points a different height (correct height is 4.60 mm) (CABS)

6.8. punctiform loss of colour or stretch marks on the colour

When enlarged, a colour anodised ring loses small patches of colour on its surface. These stretch marks or punctiform loss of colour is a clear sign of manipulation.



Left: punctiform loss of colour (and height variation). Right: stretch marks on colour (CABS)

6.9. Drilling or filing of the ring's internal part

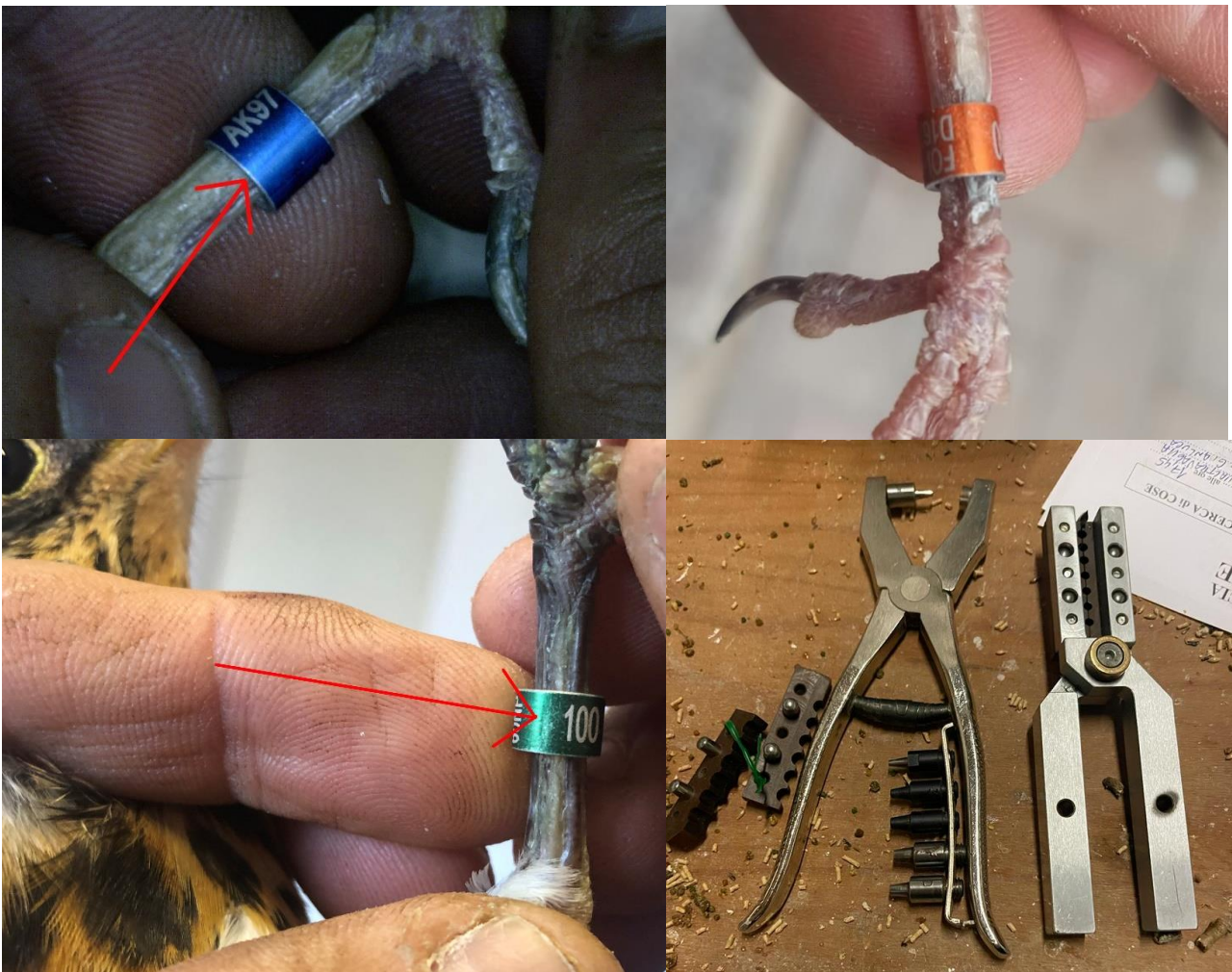
This is easy technique allows to achieve a bigger diameter, keeping all the other measures untouched. Since it is difficult to properly measure the internal diameter of a ring, once this is fitted on the bird's leg, the ring seems correct. It usually is possible to compare the thickness of the ring with a similar one not manipulated.



Thickness variation: on the right the original ring, on the left the drilled ring (Italian Forest Carabinieri - SOARDA)

6.10. Sign of pliers

Considering that the goal of the manipulation is to leave little signs on the ring, fake bird breeders make use of pliers (with a plastic internal layer to avoid scratching the ring's surface) to bring the external diameter of the ring to its original size. With the help of optical magnification aids the typical vertical sign of the pliers can often be seen.



Sign of plier interference on the ring's surface. Right below: professional pliers used to squeeze the ring without leaving marks (on the right), punch to enlarge rings with different diameters (left) (CABS)

7. Further evidence of wild birds in captivity

Beyond the marks of manipulation on the rings, there are other clues that point to the illegal origin of the birds:

BIRD BEHAVIOUR

Birds caught from the wild often show typical behaviour in captivity, which is characterised by a high sensitivity to human presence: they try to escape as soon as people approach. In contrast to birds that were born in captivity and are used to being kept in cages and in contact with people, wild birds usually appear restless and nervous, flapping and jumping around in the cage.

INJURIES FROM COLLISION

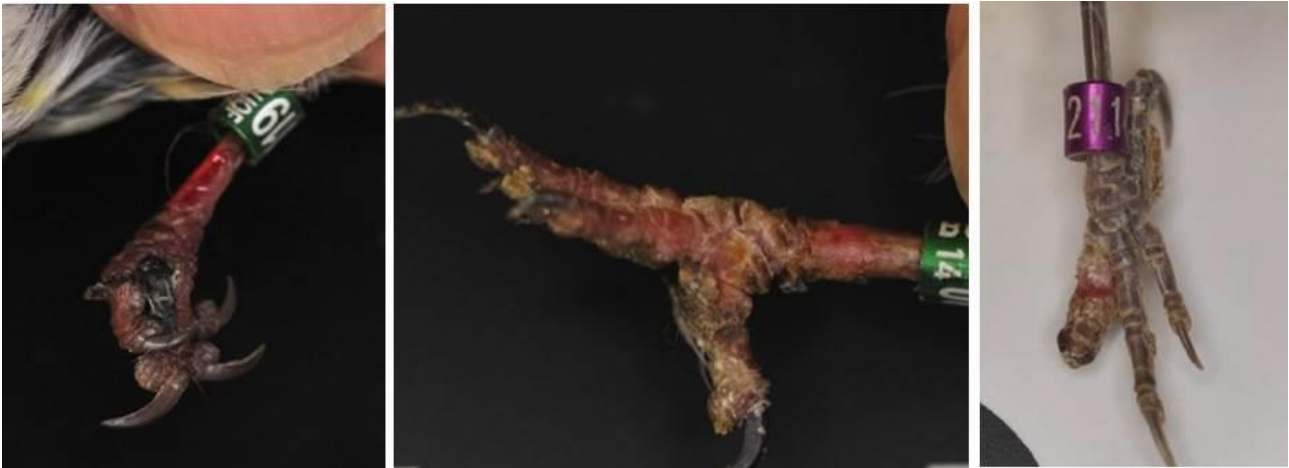
Wild birds are not used to the iron bars of an aviary or a cage. Injuries, especially to the forehead and the wing bows/bend, result from the collisions with the bars. Damage to large and small plumage is also typical.



Birds with significant injuries to the plumage, forehead and wing bow (Cologne public prosecutor).

INJURIES TO THE LEGS DUE TO RINGING OF ADULT BIRDS

Wild birds in captivity often show injuries on the feet, e.g. broken toes, which result from ringing adult birds.



Injuries to the feet caused by ringing when the birds were already adults (Cologne public prosecutor).

The fitting of the ring into the leg of an adult bird often leaves signs or wounds, like abrasions or swelling. Sometimes, if the ring has been only slightly enlarged to have less markings on it, the force used to fit it into the leg is bigger and the damage to the leg more visible. As a rule the biggest leg wounds are visible on rings with little signs of manipulation.



Swelling, injuries and skin's abrasion on the leg carrying the manipulated ring. Those rings show as a rule smaller signs of manipulation than similar rings fitted on birds which don't show injuries (CABS)

DISCREPANCY BETWEEN ACTUAL AGE AND RING INFORMATION

It is not uncommon to find a contradiction between the year on the ring inscription and the actual age of the birds. In cases where the ring inscription does not match the actual age of the bird, there is no truthful marking.

Particularly in the case of birds which are older than what the rings they are wearing declares, the bird is clearly wild caught because the corresponding ring was not yet available at the time of its birth. A bird that is born in 2014, for example, cannot be duly ringed with a ring whose year at the time of birth is in the future (ring inscription 2015) and therefore does not yet exist. In such cases, it can be assumed that the bird was ringed as an adult and no attention was paid to a suitable ring inscription. Likewise, an adult bird found in autumn 2021 cannot wear a ring from the year 2021 (see 4. Age determination via moulting limits).

DISCREPANCIES FROM THE PRESCRIBED RING SIZES

Especially in the case of small bird species with very delicate feet, such as European Serins or Redpolls, but also Redstarts and in some cases even Thrushes, it is sometimes possible to ring the adults without widening the ring and therefore avoiding the associated signs of manipulation to the rings. Rings slightly larger than prescribed are often used in these species.

Rings can also be used with false labels. These rings are commissioned with an incorrect ring size. For these rings, the actual size of the ring does not match the size on the ring label. These rings are labeled with the size prescribed for each species, but they are actually larger and can therefore be placed on the adult birds. As long as the ring diameter is not checked during an inspection, such fraud usually remains undetected.

8. In summary, when preparing and conducting inspections of caged European birds, particular attention should be paid to the following aspects:

Since there is usually hardly any time for routine checks, it can be useful to concentrate on owners, breeders and sellers who are already suspicious. The following questions provide clues:

- Do the stated ring sizes match the binding specifications given by the authorities? If the rings are chronically too large, this is an indication of ringing adult birds which have been taken from the wild.
- Is there actually a potential fertile parent pair for the alleged offspring? This is often not the case, or the adult birds are of the same sex.
- Does the alleged number of young birds bred appear realistic? In species that only brood once a year with an average of five eggs, the breeding of 15 young birds per pair is rather unlikely and indicates wild capture.

- Are the proofs of origin for newly acquired birds completely filled in (including the ring numbers of the parents)? With illegal birds this is usually not the case and they are often incomplete and thus obviously counterfeit.

During an inspection, birds should be caught from the aviaries and analysed. During the inspection, the following should be noted:

1. Does the ring fit correctly on the foot?
2. Is the ring undamaged?
3. Does the bird have injuries (feet, feathers)?
4. Do rings comply with regulations?
5. Is the bird acting strange?

If the initial suspicion of criminal offences is very high, the police unit should refrain from checking and the public prosecutor's office should be involved. A professionally prepared police search with the involvement of ornithology experts is more likely to lead to evidence that will stand up in court.

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Milan 26/01/2023

