

Testing the humaneness of kill traps: Ending double standards for rats and mice in the UK

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Spring traps

Killing traps powered by a spring

Widely used for killing small / medium-sized mammals in UK

Welfare approval

Spring traps legally required to meet welfare approval in UK

Some traps exempt:

- Break-back traps for rats and mice
- Mole traps

How did double-standards arise? Dates back to 1950s when spring trap legislation first introduced

UK Committee on Cruelty to Wild Animals Report, 1951



Scott Henderson, J. 1951. *Report of the Committee on Cruelty to Wild Animals*.
Home Office/ Scottish Home Department, Cmd 8266, June 1951. London: HMSO.

Committee on Cruelty to Wild Animals Report, 1951

Concluded all spring traps should be welfare regulated

“The rat is regarded as one of the greatest animal pests...It is also a menace to public health...For these reasons its control and destruction are essential...” – **concluded break-back traps for rats and mice involved no unnecessary suffering**

“...We have had no evidence that [mole] trapping causes unnecessary suffering, except that one organisation mentioned that they had been given to understand that the spring of the ordinary type of mole traps was too weak to kill instantaneously” – **concluded there was no need to make special recommendations regarding mole trapping**

The UK Pests Act 1954 and exemptions

Pests Act (1954) - offence to use a spring trap that was not approved...

...exempting traps specified as adapted solely for the destruction of rats, mice and other small ground vermin

The Small Ground Vermin Traps Order (1958) defined such exempt traps as break-back traps used with rats and mice, and mole traps

No welfare testing for these traps!

60 years on

60 years on - difficult to think of logical reason for exemptions

- Traps used with species of similar cognitive and emotional complexity do require approval
- Some other traps (used for a range of species) do require approval for use with rats and mice

Utilitarian view might tolerate lower welfare standards for animals considered very numerous or dangerous pests

Welfare concern should not depend on species (Dubois et al, 2017)

No need for double standards

Proliferation of unregulated traps

Examples of unregulated break-back traps

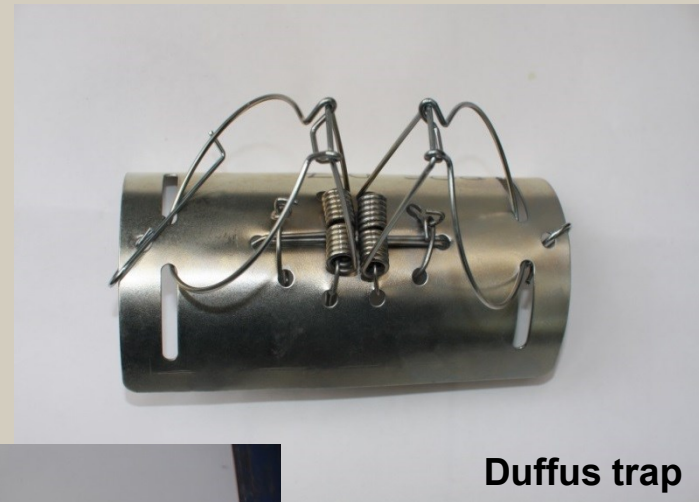


Proliferation of unregulated traps

Three types of unregulated mole traps, multiple brands



Scissor trap



Duffus trap



Talpa trap

Welfare impact of unregulated traps

Rats, mice and moles probably majority of animals killed in traps in UK

Kill-trapping now preferred option for controlling moles on British farms and amenities (Baker et al 2016)

Welfare impact of exemption likely to be great

What is the welfare impact of
unregulated spring traps?



How are regulated traps welfare tested in the UK?

Tested by the Animal and Plant Health Agency (APHA)

[APHA = executive agency of the Department for Environment, Food & Rural Affairs (DEFRA)]

Killing trials

≥80% of 12 animals needs to reach irreversible unconsciousness within 5 minutes (based on AIHTS)

Mechanical performance as proxy for welfare performance

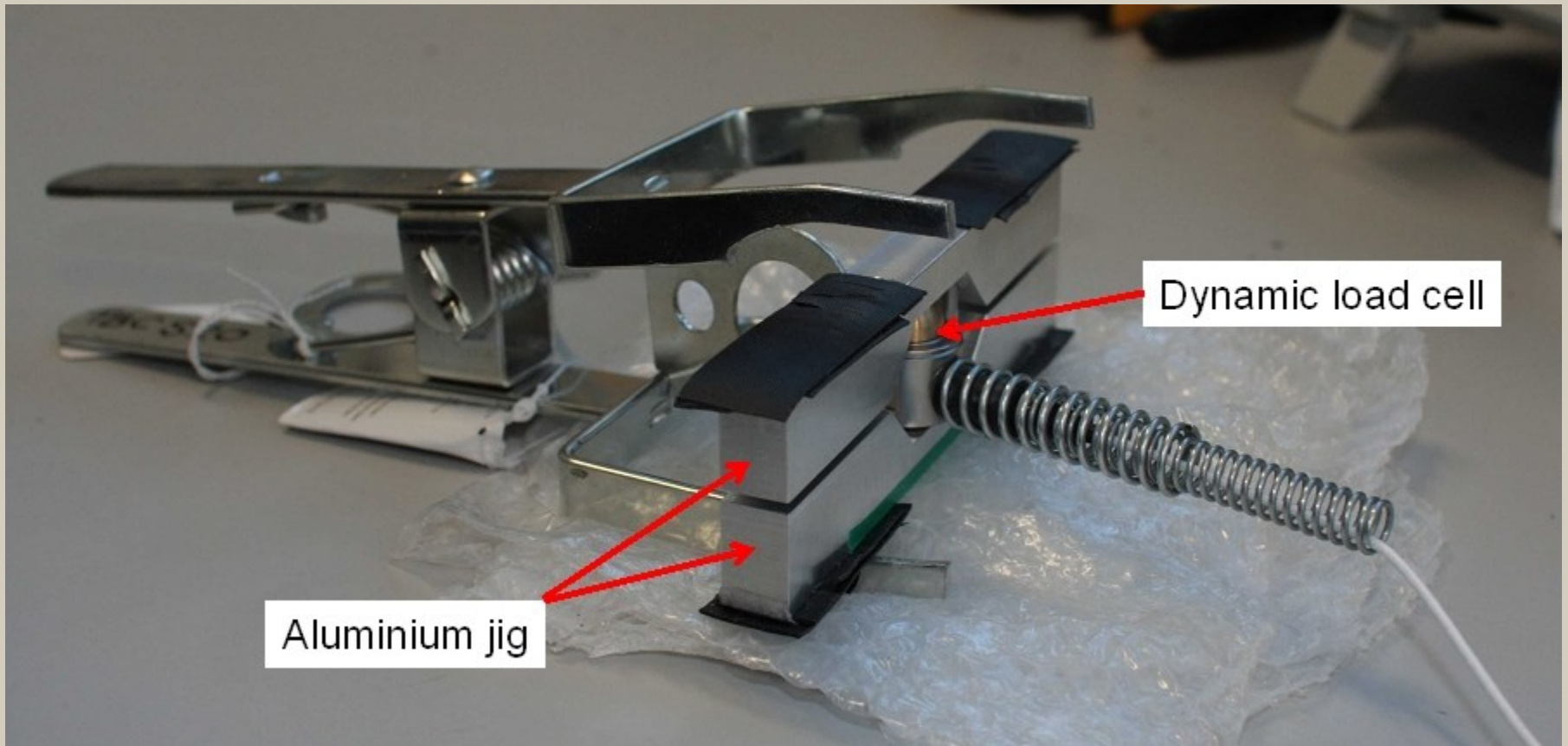
Impact momentum (Newton seconds)

- Physical damage to the skull/vertebrae, blood vessels, organs and nervous system
- Traps that crush the skull are most efficient and humane
- Ideally, trap will strike correct anatomical location with enough impact momentum to cause cranial or upper vertebrae fracturing, rendering animal immediately insensible

Clamping force (Newtons)

- Crush and retain injured animal in the trap, potentially causing asphyxiation or occlusion of blood vessels
- May increase damage if the animal struggles once caught

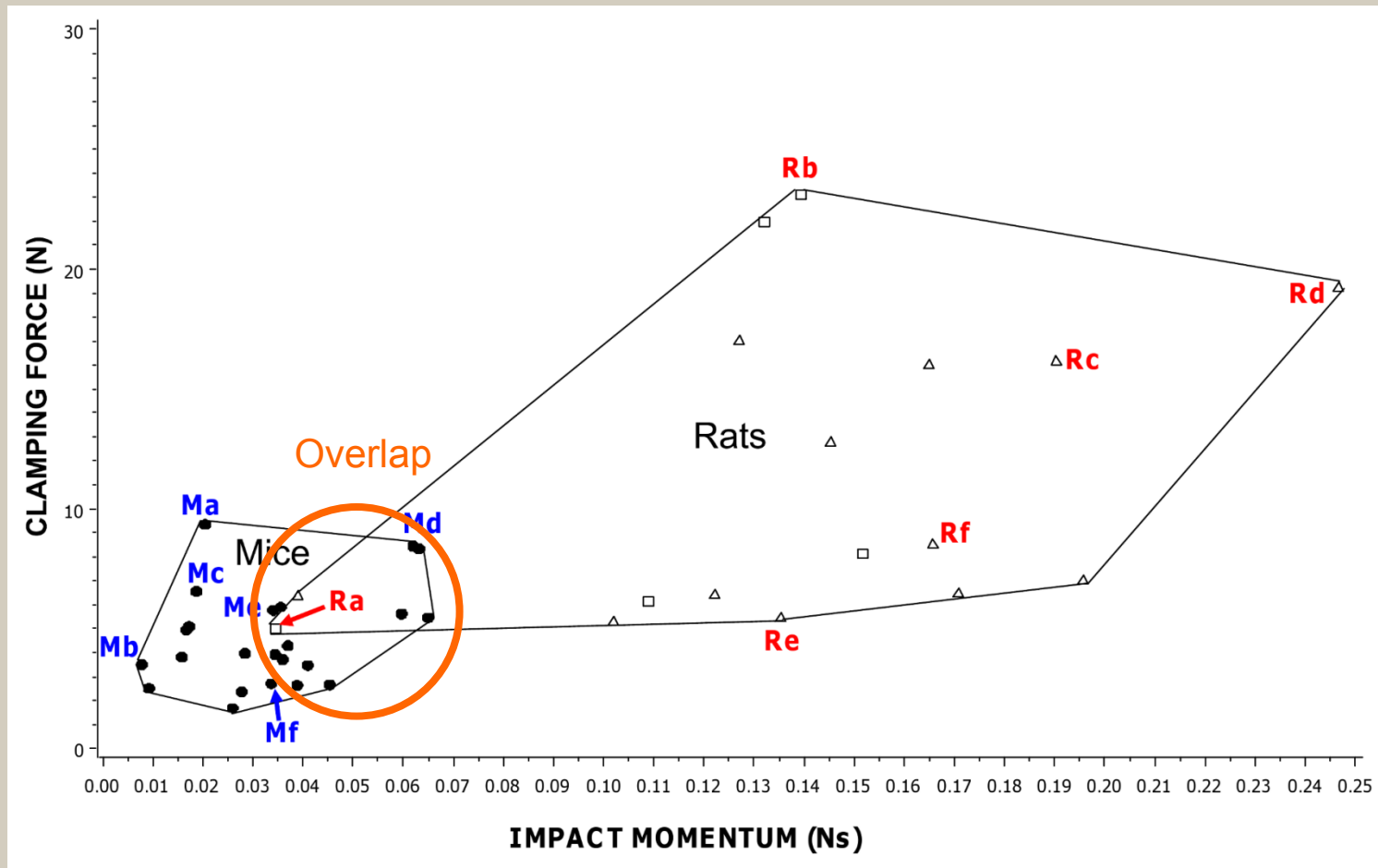
Measuring mechanical performance



Evidence for concern: break-back traps I

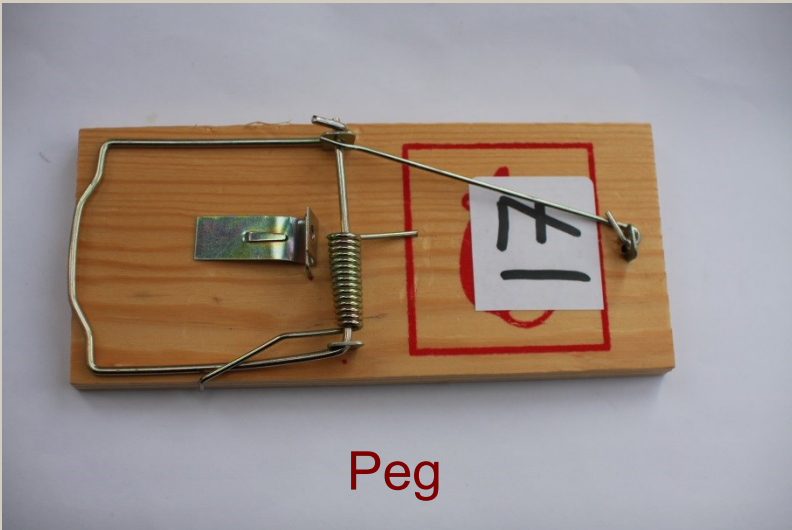
Baker, S.E., Ellwood, S.A.,
Tagarielli, V.L. & Macdonald, D.W.
(2012) Mechanical Performance of
Rat, Mouse and Mole Spring Traps,
and Possible Implications for
Welfare Performance. *PLoS ONE*,
7(6), e39334.

Clamping force: Varied 5.5x for mouse
traps / 4.5x for rat traps

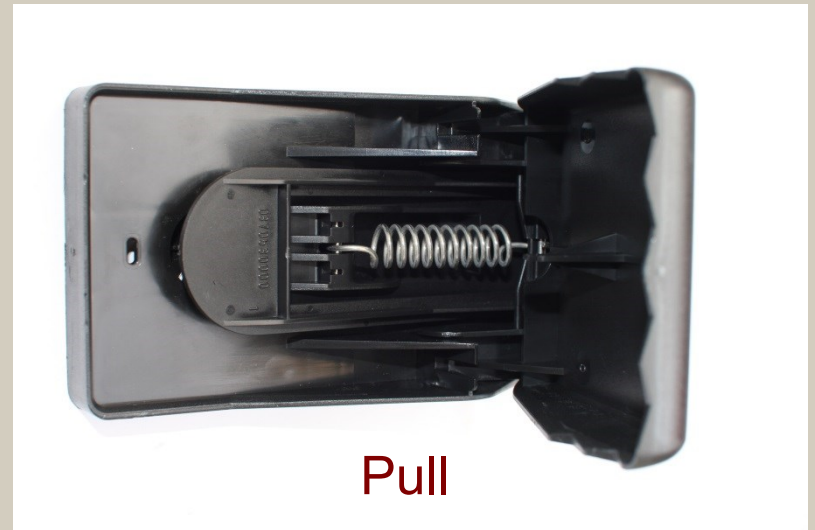


Impact momentum: Varied 6x for mouse traps / 8x for rat traps

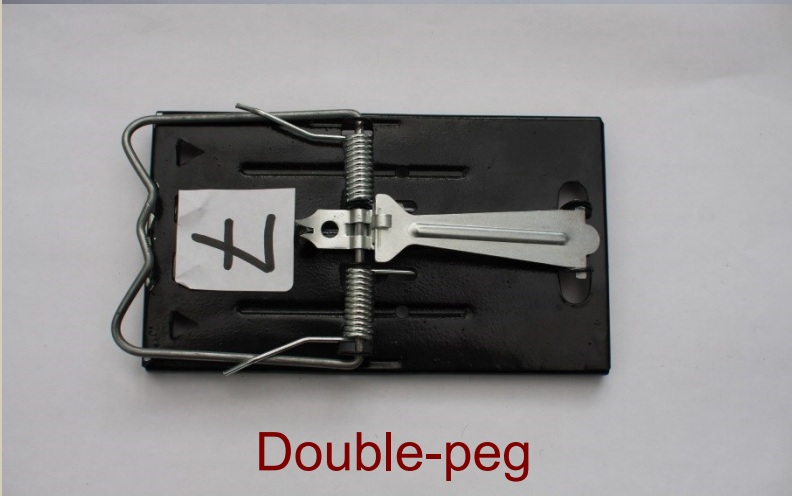
Break-back traps: spring types



Peg



Pull

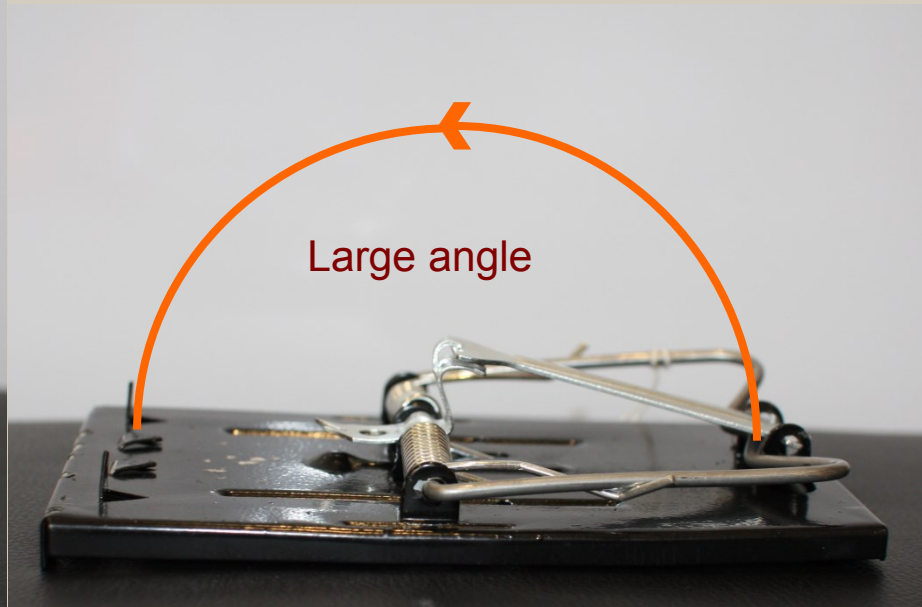
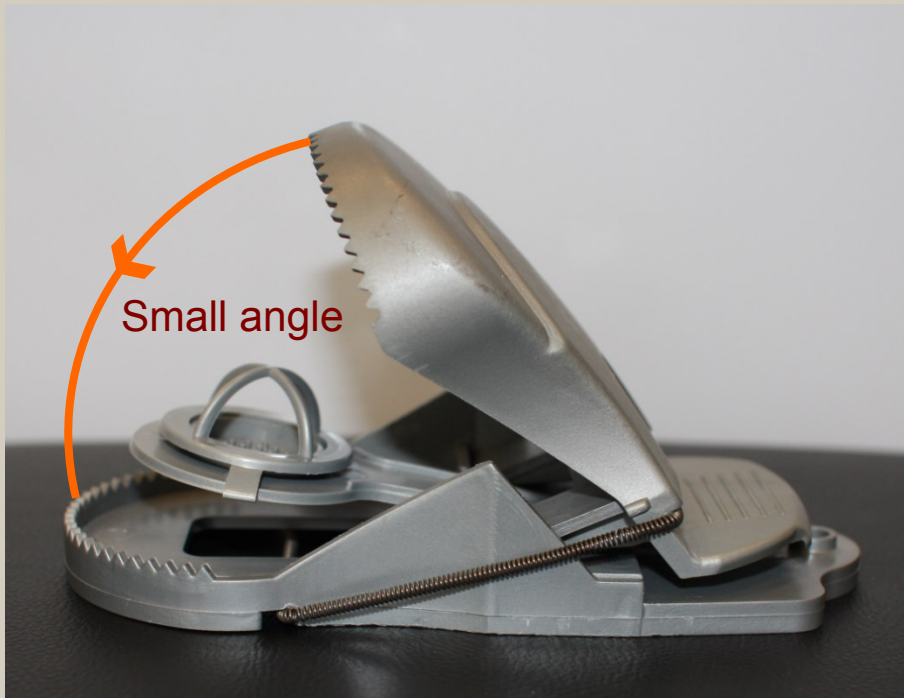


Double-peg



Jaw

Break-back traps: opening angles



Evidence for concern: break-back traps II

Baker, S.E., Ellwood, S.A.,
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7(6), e39334.

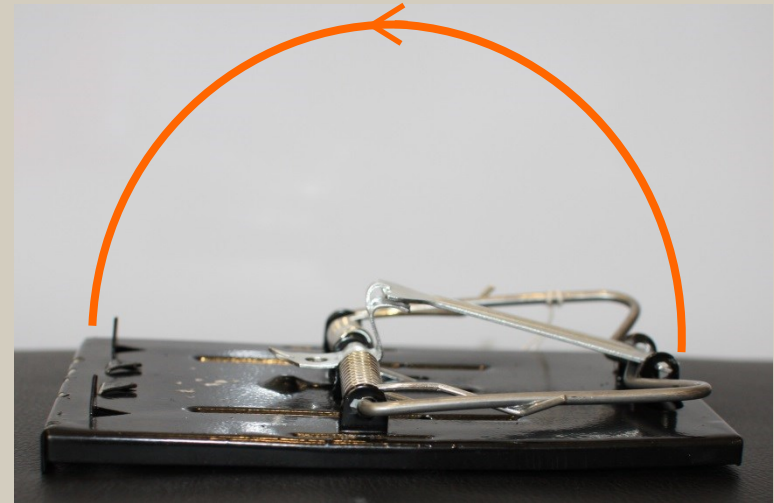
Weaker
Impact
Momentum



Stronger
Impact
Momentum



Small opening-angle
Jaw spring



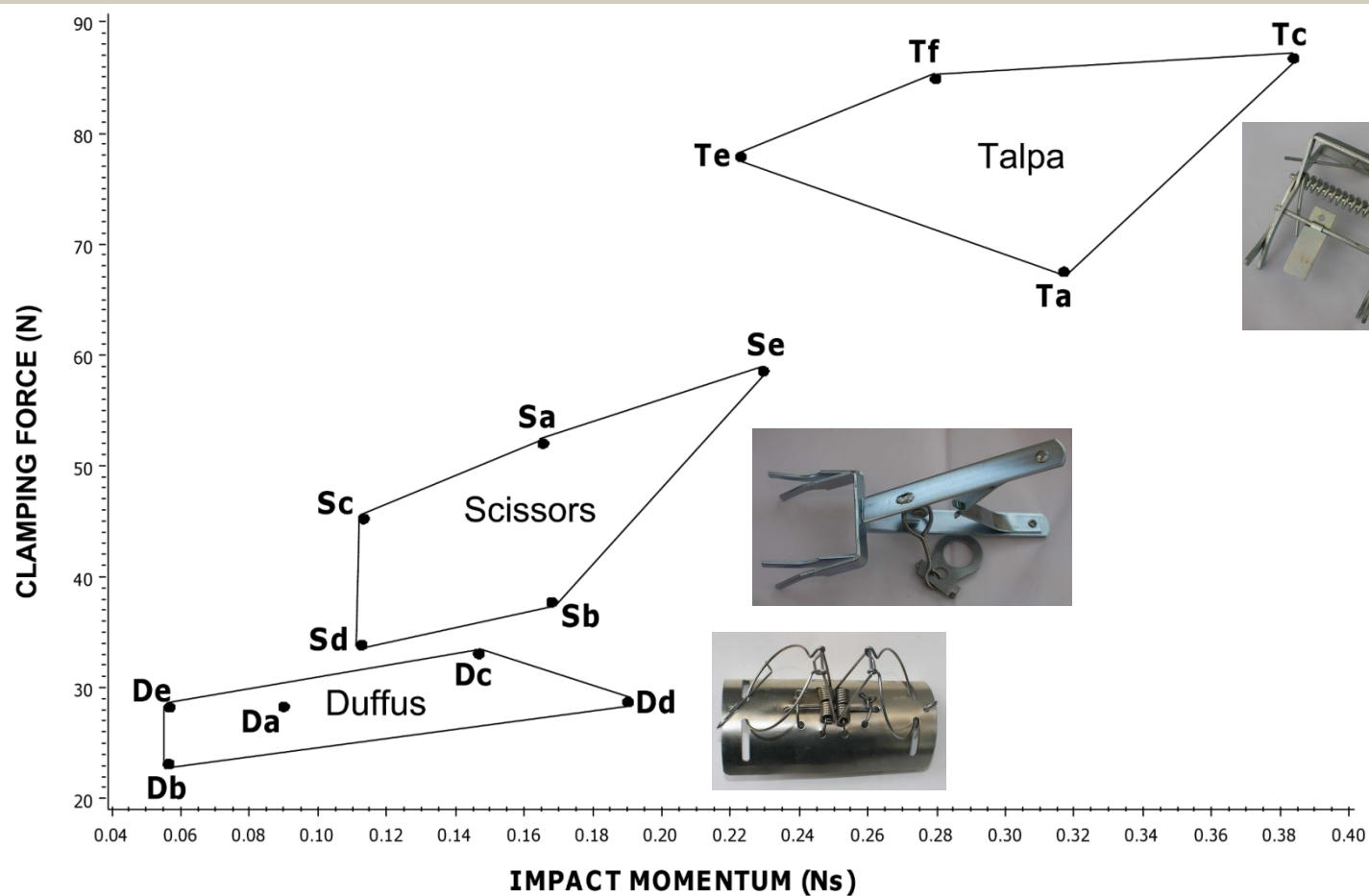
Large opening-angle
Double-peg spring

Evidence for concern: mole traps I



Baker, S.E., Ellwood, S.A., Tagarielli, V.L. & Macdonald, D.W. (2012) Mechanical Performance of Rat, Mouse and Mole Spring Traps, and Possible Implications for Welfare Performance. *PLoS ONE*, 7(6), e39334.

Clamping Force varied 4x



Impact Momentum: varied 7x

Evidence for concern: mole traps II

50 moles trapped by mole controllers - post-mortem and x-ray

Most caught at thorax / abdomen - none at neck / head (most humane)

No damaged skulls or vertebrae – despite appearance - indicates traps did not cause immediate unconsciousness



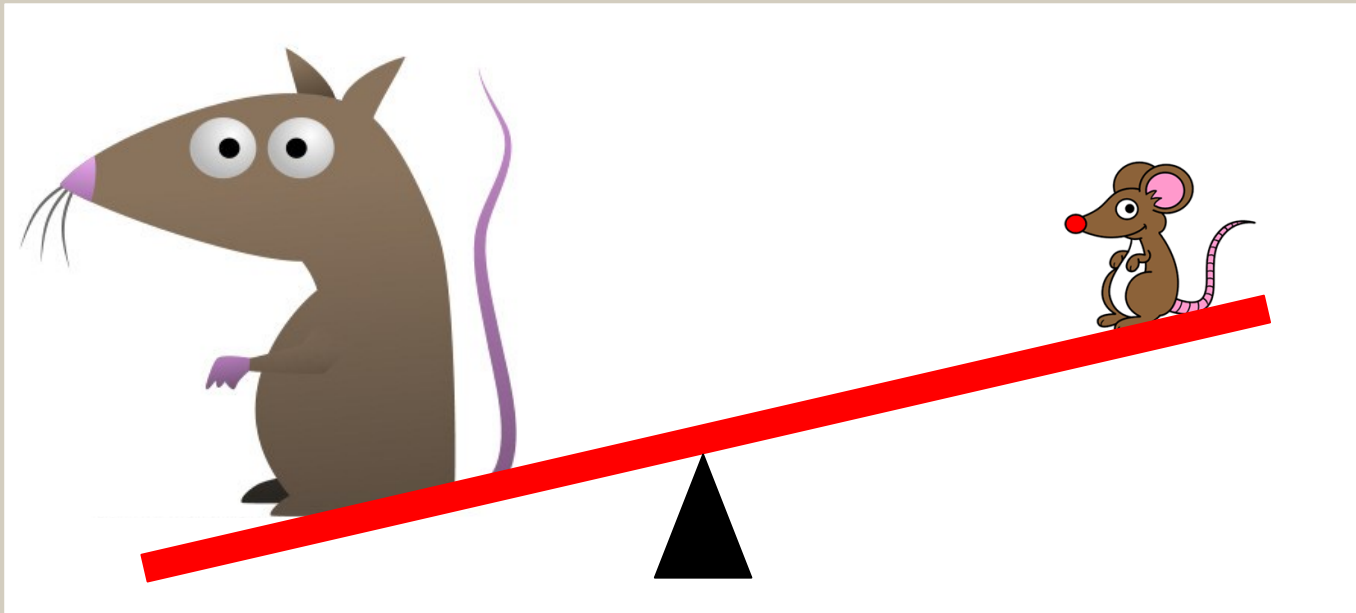
Main identifiable cause of death was acute haemorrhage - time to unconsciousness / death would depend on whether major or minor blood vessel severed

Scope for improvement



Wide variation in performance of unregulated mouse, rat and mole traps

Rats 20x heavier than mice - overlap between mouse and rat traps of great concern



Significant scope to reduce welfare impact of all unregulated traps!

Need for change

Exemption from regulation has led to neglect of welfare standards

And, given....

- Scale of rat, mouse and mole spring trapping in the UK
- Wide range of unregulated traps available
- Doubts over humaneness

....strong case for blanket welfare approval standards

Better all round

Better welfare traps are better all round

- More effective
- No evidence more expensive

UK legislation change unlikely soon

2012 - EC withdrew 2004 proposal for EU Trapping Directive

Recent UK Law Commission reform of wildlife law failed to propose any changes re spring traps legislation

2006 - UK Animal Welfare Act – offence to cause ‘unnecessary suffering’ to wild animal held in trap

In spirit of Act – surely all traps should meet equivalent standards?

Proposed UK Voluntary Trap Approval Scheme: ending double standards?

Carrot rather than stick

Based on existing system for regulated traps:

- Traps submitted by manufacturer to UK Animal and Plant Health Agency (APHA) for testing
- Approval based on killing trials using TIU (time to irreversible unconsciousness)
- Manufacturers pay

Proposed UK Voluntary Trap Approval Scheme

Traps could be marketed as 'Passed welfare tests to APHA standards'

Potentially multiple tiers of approval as suggested by Talling and Inglis (2009):

- Class A: $\geq 80\%$ trapped animals have a TIU ≤ 30 seconds and $\geq 90\%$ have a TIU ≤ 180 seconds
- Class B: $\geq 80\%$ trapped animals have a TIU ≤ 180 seconds and $\geq 90\%$ have a TIU ≤ 300 seconds
- Class C: $\geq 80\%$ for 12 trapped animals have a TIU ≤ 300 seconds

Proposed Voluntary Trap Approval Scheme

More effective and humane traps

Highlight issue, offer choice, opportunity to demonstrate welfare demand

Potential cascade effect among suppliers stocking only approved traps - edging out non-approved traps

Future legislative change might become straightforward / non-contentious

Welfare impact could be huge

Funding support



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References

Baker, S.E., Ellwood, S.A., Tagarielli, V.L. and Macdonald, D.W. (2012) Mechanical Performance of Rat, Mouse and Mole Spring Traps, and Possible Implications for Welfare Performance. *PLoS ONE*, **7**(6), e39334. doi:10.1371/journal.pone.0039334.

<http://www.plosone.org/article/authors/info%3Adoi%2F10.1371%2Fjournal.pone.0039334>

Baker, S.E. (2017) A Voluntary Trap Approval scheme to end trap welfare inequality in the UK. *Animal Welfare*, **26**(1): 131-133.

Baker, S.E., Macdonald, D.W. and Ellwood, S.A. (2017) Double standards in spring trap welfare: ending inequality for rats (Rodentia: Muridae), mice (Rodentia: Muridae) and moles (Insectivora: Talpidae) in the United Kingdom. IN: M.P. Davies, C. Pfeiffer, & W.H. Robinson (ed.) *Proceedings of the Ninth International Conference on Urban Pests*. 9th. Birmingham. 9-12 July 2017. Pureprint Group, Sussex, UK, 139-145.

Talling, J.C. and Inglis, I.R. (2009) Improvements to trapping standards. DG ENV, 361 p. Available: http://ec.europa.eu/environment/biodiversity/animal_welfare/hts/pdf/Final_report.pdf.