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RESOURCES

Tick Repellents; Literature Review and Tips - Nicola

Seal

Dr Nicola Seal is an entomologist who has worked on developing insect repellents. Here she gives us the results of her literature review on the effectiveness of different repellents for ticks.

Spring is here! Unfortunately, so are ticks. The little blighters are starting to come out to bite in force now that the temperatures are milder. So, it's worth taking steps to protect yourself, your family and your pets. Things you can do include avoidance of wading through long vegetation, wearing long trousers rather than shorts, doing a thorough tick check when you get home, and treating your pets for ticks using veterinary products. However one of the most effective prevention methods is to use repellent. A question I am often asked is 'what is the best repellent for ticks?' The stock answer is DEET, but is that actually true? I used to work as an entomologist and one of my projects was developing an insect repellent. So, never one to take 'received wisdom' at face value, I decided to do a literature review. Now, I knew from my work on midges and mosquitoes that DEET was considered 'gold standard' repellent for those bugs, but there were also other repellents which performed as well and were nicer to use than DEET. Was the same true for ticks I wondered? Well here are the surprising results:

Mean Complete Protection time (h)

6
5
4
3
2
1
0
Mosiguard natural (20% citriodiol)
Autan Protection Plus (20% Icaridin)
IR3535
Citronella

So, DEET is in fourth place- quite a poor performer compared to repellents containing Icaridin, Citriodiol and the catchily named IR3535. Now I ONLY reviewed the data on tick repellents, I did not include or assess how effective these ingredients were for other biting bugs such as mosquitoes. So if you are heading off to a malaria/dengue/zika zone you may want to ignore the above results as arguably, mosquitoes are more dangerous than ticks in those places. However in good old Blighty and much of Europe, it could be argued that ticks are the most risky biting critters in terms of disease risk.

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It should be noted that there are many brands of repellent on the market and the exact formulation can affect how well it performs. It can be horribly confusing trying to find out what brands contain what active ingredient and the formulations change quite frequently, so here is my guide to what contains each active ingredient (I've tried to keep this list updated but some details may need updating)

- · Icaridin/Picaridin/Saltidin/Bayrepel/Piperidine. Found in: Autan Protection Plus (20%), Autan Family Care (10%), Smidge, Ecoguard Family and Extreme, Care Plus Sensitive,
- · PMD/Citriodiol/Lemon eucalyptus/menthoglycol. Found: in Mosi-guard Natural (30%) Mosi-guard Plus (40%), Careplus Natural, Jungle Formula Natural. Lifesystems Natural, Boots Repel Natural.
- · IR3535/ethyl butylacetylaminopropionate. Found in: Jungle Formula Outdoor and Camping, Aldi own brand, Tesco Kids, Boots Repel Original.
- DEET/Diethyltoluamide. Found: in Boots Repel Tropical and Once, Jungle Formula Maximum, Lifesystems 50, 100, Midge and Endurance, lots own brand repellents, Some sources say not suitable for children, some say suitable for children over 2 months.
- Citronella- largely unbranded or small manufacturers, often available as an essential oil.

Quite often, I am asked what about garlic /geranium oil /bog myrtle /lavender /basil /clove /thyme /rosemary /catnip /lemongrass /tea tree /neem/etc? Unfortunately I could find no proper published trials on any of these things testing them as a tick repellent. What I can say is, as a former entomologist who used to work in this field, most of these products DO repel biting insects to a degree, but the effect usually wears off quite quickly and thus frequent application may be necessary. In the real world, this often doesn't happen so I can't really recommend them.

What do I use as a mum of two, Lyme disease sufferer and former entomologist? On myself, either Autan Active (the solid stick as the spray can be a bit fumey) or Mosi-guard Natural (again, the solid stick- avoids messy hands). On my kids (aged 9 months and 5 years) I use Mosi-guard Natural. And no, I'm not paid by anyone to promote anything!





One last thing- PUT IT ON EVERY TIME YOU GO INTO TICK HABITAT AND ON ALL EXPOSED SKIN!!! A repellent is no good while it's still in the bottle! I apply it to ankles and lower legs, waist (it's amazing how many tick bites are around the waist), wrists and neck. On my kids I also apply to the hairline and behind the ears as ticks often go for those places on kids' bodies due to children being more at tick questing height. We know that some tick borne diseases can be transmitted pretty rapidly after a tick begins to bite, so prevention is better than cure- use repellent and keep yourselves safe.

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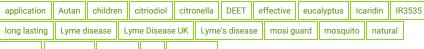








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