

## **Study identifies ticks that are most dangerous to humans**

**Sunday, March 04, 2018**

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“Our model predicted vector status with over 91% accuracy,” the authors state, “and identified 14 *Ixodes* species with high probabilities (80%) of transmitting infections from animal hosts to humans on the basis of their traits.”

Which ticks are more likely to transmit disease to humans? Researchers answer that question.

[They found several intrinsic features](#) that predict which tick is more likely to transmit an infection from animals to humans. These included:

1. Ticks with the most eggs.
2. Larger female ticks.
3. Ticks which had fed on a greater number of hosts.

“With softer substrates like those encountered in human and other mammal hosts, ticks benefit from a more secure anchor conferred by deeper penetration of mouthparts that comprise the capitulum,” the authors state.

Therefore, the size of the capitulum may also affect the ability of a tick to transmit an infection. “Secure attachments lead to increased feeding times, which increase the probability of successful transmission for tick-borne pathogens,” the report states.

If these results are confirmed, scientists can re-evaluate species of ticks once considered harmless as possibly dangerous in transmitting disease.

As the authors point out, “these analyses also reveal several *Ixodes* species that are currently not recognized as vectors of zoonotic disease, but whose biological profile suggests they should be targets of future surveillance.”

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**References:**

1. Yang LH, Han BA. Data-driven predictions and novel hypotheses about zoonotic tick vectors from the genus Ixodes. BMC Ecol. 2018;18(1):7.

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