Multi-legged robot inspired by centipede

What makes Japanese scientists conduct research and create robots that mimic centipedes?

The device simulates suspicious advantages when moving creatures.

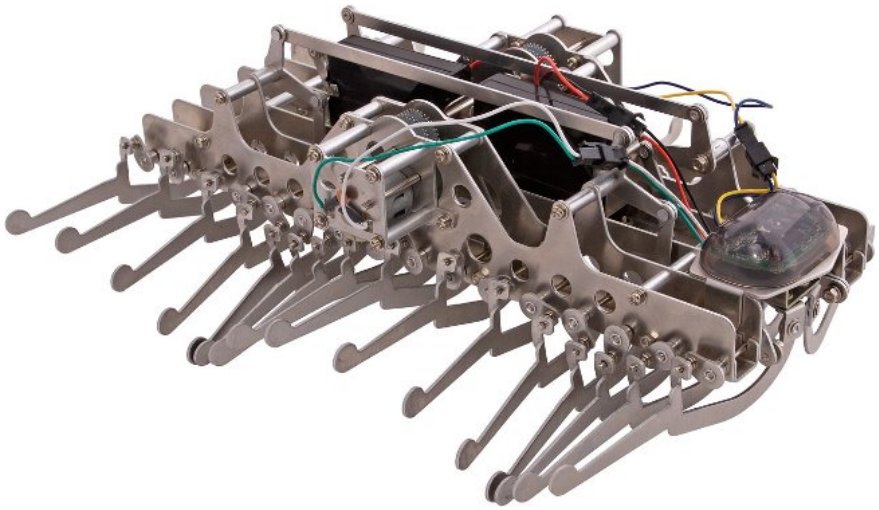
What makes centipedes able to move so fast? Researchers at Kyoto University have simulated and used machines to find answers - and the surprising truth.

Centipedes are arthropods, elongated and capable of moving very quickly. The number of legs on both sides of them is very much but they can still work smoothly between the legs to move quickly and extremely stable.

Perhaps, we still do not understand why the centipedes move so skillfully, they even overcome difficult obstacles easily. Researchers at Kyoto University have found the correct answer to this question and they simulated them on computer models and used the necessary machines to prove it.

What they offer helps us have a clear view of the motility of the centipede, which is called the instability of domestication - a factor that is considered unfavorable - a key factor with success. of centipedes.

Leading scientist Shinya Aoi explained that: " *During their movement, many feet exposed to the ground help the body resist the attraction and produce thrust and braking force. Many legs also help the body restricts touch to the ground and this restriction can hinder their ability to move. "*



The centipede overcomes these obstacles by using instability, exploiting the movement characteristics in their undulating terrain.

Scientist Aoi went on to say: "Our *team has developed a mathematical model of centipedes and found that straight paths are easy to move and body movements appear gradually through a superficial branch. Hopf by changing the motor speed and flexibility of the body axis* , "is more explicit than the mathematical description of the system's inclination from stable to unstable.

First, with computer models and then multi-legged and multi-segment robots, the team was able to copy the movement of the centipede, including the wave-shaped body motion described in an article in *Scientific Reports Scientific* Online.

But scientist Aoi and his colleagues are not satisfied with simple domesticated crawling movements.

He said: " *This study provides evidence of unexplained problems in the intelligent control functions of animals and has an insight and significance for the biological sciences* ," to There are still many unknowns in animal transport mechanisms.

And to better understand, this research can help robots move better - no matter how many legs they have.

Below is a video describing the movement of centipedes, please see to understand more about them.