Octopuses are related to simpler mollusks, but they and their cephalopod relatives, squid, cuttlefish, and nautiluses, are far from stupid.

**They’re Smart!**

In the nineteen fifties, scientists discovered that octopuses could learn to get a food reward by touching horizontal rectangles as opposed to vertical ones.

Since then, they’ve found that cephalopods can navigate mazes, mimic other species, [use tools](http://indianapublicmedia.org/amomentofscience/octopus-carrying-coconut/), and learn from each other. Cuttlefish and squid can even send contradictory color pattern signals on opposite sides of their body, attracting a female on one side, and warning a male on the other. Cephalopods are the chimps and dolphins of the mollusk world.

But chimps and dolphins have big brains. An octopus can’t possibly have much to think with.

**Inside The Brain**

Octopus brains have many similarities with intelligent mammals. Their brain is concentrated in the head, unlike other mollusks that have chains of nerve knots called ganglia. Like ours, the brain is split into two halves and divided into specialized lobes.

The distance between neurons is short, allowing their brains to process information faster than other mollusks.

Some researchers believe that they may have a basic form of consciousness and can tell the difference between themselves and others. New research is trying to find out if they have mirror neurons which we use to identify emotions in others.

章鱼与更简单的软体动物有关，但它们和它们的头足类亲戚，鱿鱼，墨鱼和鹦鹉都远非愚蠢。

### 他们很聪明！

在20世纪50年代，科学家发现章鱼可以通过触摸水平矩形而不是垂直矩形来学习获得食物奖励。

从那以后，他们发现头足类动物可以导航迷宫，模仿其他物种，[使用工具](http://indianapublicmedia.org/amomentofscience/octopus-carrying-coconut/)，互相学习。墨鱼和鱿鱼甚至可以在身体的两侧发出矛盾的颜色模式信号，一侧吸引女性，另一侧吸引男性。头足类动物是软体动物世界的黑猩猩和海豚。

但是黑猩猩和海豚有很大的脑筋。章鱼不可能有太多想法。

### 在脑子里面

八爪鱼的大脑与智能哺乳动物有许多相似之处。他们的大脑集中在头部，不同于其他有神经结链的软体动物，称为神经节。像我们一样，大脑被分成两半，分成专门的肺叶。

神经元之间的距离很短，允许他们的大脑比其他软体动物更快地处理信息。

一些研究人员认为，他们可能有一种基本的意识形式，可以分辨出他们自己与他人之间的区别。新的研究试图找出他们是否有镜像神经元，我们用它来识别其他人的情绪。