Space station deliveries go commercial

The first time a spacecraft built by a private company docks with the International Space Station (ISS) will be a historic moment, but it will also be an impressive technical achievement.

The Dragon craft, developed by SpaceX, is a technique still employed by Progress, the robotic arm, which will then connect it to one of the station’s modules. The manoeuvre’s taken years of preparation to perfect, although the Japanese HTV cargo craft has been ferried to the ISS aboard (using a technique also employed by Progress), the robotic arm, connecting it to Dragon. From the Cupola, an observatory module on the ISS, an astronaut can unlock the Dragon and, before unloading the cargo, connect with an ISS astronaut, equalising the pressure between the ISS and Dragon. Once locked in place, ISS astronauts equalise the pressure between the space station and Dragon, between two to three hours before it physically docked. Dragon will remain hooked up for a week before returning to Earth.

...and finally

Sea snail’s lessons

The humble sea snail could teach us a thing or two about learning. Research has shown that certain sea snails can be likened with memory and now scientists at the University of Texas have developed a computer model that accurately predicts when their minds are neurochemically primed to remember things. If the results can be applied to humans, it suggests that learning sessions that take place at regular intervals linked to certain protein levels could be more effective than regular studying stints.

Hunt for Tatooine is on

Astronomers have been given guidance on where to look for a habitable planet that orbits a pair of stars, just like Tatooine in the Star Wars films. The first real ‘circumbinary’ planet, Kepler-16b, was discovered last September, but it is a gas giant rather than a terrestrial world. However, University of Texas at Arlington physicists used the Kepler-16 twin star system as a basis to calculate the distances and conditions, such as the level of greenhouse gases, that would lead to a Tatooine-like world.

Science focus

Update

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Should we give up looking for Bigfoot?

The news that an infamous ‘yeti finger’ taken from a Nepalese monastery during the 1950s is from a person, not a new species of giant Himalayan ape, won’t surprise many. The notion that it came from a yeti was finally laid to rest by a DNA test at Edinburgh Zoo, which pointed to its human origin. Yet again, evidence thought to demonstrate the existence of the famous mystery animal has failed the test.

Every year we hear how naturalists have trudged into remote areas in search of yetis and other mythical beasts. Given that these searches seem destined to end in failure, are they a waste of time, effort and money? This isn’t an easy question to answer, as legendary creatures are not created equal.

Fundamental to this question is whether people who search for such creatures ever meet success. The answer is yes, but it’s a yes that must be qualified. The most famous success is the Okapi, a short-necked relative of the giraffe native to tropical central Africa. Known to locals as the Aili, it had been mentioned by explorer Henry Stanley in his 1888 travelogue. It was on the basis of this information that another explorer, Harry Johnston, went in pursuit of it, finding it in 1900. More recently, the Kipunji (a Tanzanian monkey, named in 2006), Giant pecary (named in 2007) and Burmese snub-nosed monkey (named in 2011) were all discovered following investigations of local stories. But the animals concerned are, while interesting, not of the size or monstrous nature expected in stockpots and folklore. So could new species of large animal still await discovery? Again, the answer is yes. New species are found all the time, and they’re not all insects or bacteria. A long-horned relative of cattle, the Saola, amazed zoologists when discovered in 1992, while two new dolphin species have been reported from Sumatra. Of the few expeditions looking for Bigfoot in the Himalayas. But it doesn’t follow that we should stop investigating all tales or accounts of mystery animals.

What do you think?

How can yetis, the Loch Ness monster and Bigfoot still elude us?

"Other mystery beasts seem plausible in size and lifestyle"