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Argyroneta catching air from the surface. Inside the bell, there is a consumed prey  
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## Nature's Scuba Diver

### *An amazing spider*

Scuba diving has not been invented by people. A small dark spider comes with a spectacular example. The diving bell spider (*Argyroneta aquatica*) has a 9-15 mm long body covered by very fine and dense small hairs and lives in vegetated, fresh, not running water. Even if this spider lives in the water, it cannot breathe like fish through gills and must get oxygen from atmosphere. This would mean to go continuously to the surface, at the same time interrupting its lurk and going out too often might draw the attention of its prey. That's why the spider has invented "scuba diving" to solve the issue. Like most spiders, *Argyroneta* is a good weaver, and uses its silk fibers to make a sack for collecting air. This operation is not made on the ground but underwater! For this purpose, the spider binds a few stems of aquatic plants, and weaves its small bell mouth downward, giving it the form and size of a thimble, made of fine, resistant fibers, well entangled amongst them, so that it can not be crossed by water. After finishing the sack, the spider goes to the surface. With the belly upside down, it crosses its last pair of feet, catching a few air bubbles between them and the very fine hair from the top of the abdomen. The spider goes to the sack with the air bubbles and at the top of the bell it detaches the bubbles. After tens of this kind of movements, the air fills the bell. As the bell is very light now, it can detach, gushing to the surface. That's why the spider attaches it with numerous threads to the surrounding plants, like the aerostasts fixed by strong ropes not to take flight. When the oxygen in the air in the bell has been consumed, the spider tears the balloon. The air goes to the surface and patiently, the spider darns the bell and again fills it with fresh air. With the air reserves 'at hand', the spider starts lurking, while his breathing organs, located in the abdomen, are inserted inside the bell. The food is made by insect larvae, water fleas and cyclops. From the bell start various alarm fibers. The spiders stay with its feet leaned on these fibers and if an animal has touched one fiber, it gushes rapidly catching and paralyzing it with its toxic saliva. The paralyzed prey is brought into the bell and eaten there, with the spider in an upside down position. For laying eggs, the female makes a special bell, split in two chambers: in the upper one, with the tip outside the water are laid the eggs while in the lower chamber lives the mother guarding the eggs. At the age of five days, offspring can make by themselves the bells. During the winter, the spider closes the bell completely and spends the cold season inside its submarine. Some hide into the empty snail shells and cover them with a water-proof silk tap. The bite of the diving bell spider is quite painful for humans and should be avoided.