



*The Robot Zoo* is an intriguing and educational exhibition that uses the biomechanics of giant robot animals to simulate how real animals work. Immerse yourself in the exciting animation, mechanics and sheer spectacle of the exhibition. Get up close to six larger-than-life animals – bat, chameleon, giraffe, grasshopper, platypus to rhino!

Cutaway sections of the animal robots expose a host of easily recognizable machine parts and gadgets which correspond to real animal parts. By comparing anatomy, environment and size, *The Robot Zoo* lends amazing insight into how animals work.

Find out how a chameleon changes colour, how a bat locates its prey in the dark, how the near-blind rhino uses its keen sense of hearing to make sense of its world, and plenty more at this fun-filled exhibition!

# The Robot Zoo

WELCOME TO THE WONDERS OF



# The Robot Zoo



EXHIBITION  
@ OMNI - THEATRE

ADMISSION \$1 (adult/child)  
OPENING HOURS 10 am – 6 pm daily



BUS 66, 178 198, 335  
MRT Jurong East Station  
WALK 10 min from Jurong East MRT Station or bus interchange



NOV 2010  
to  
MAR 2011

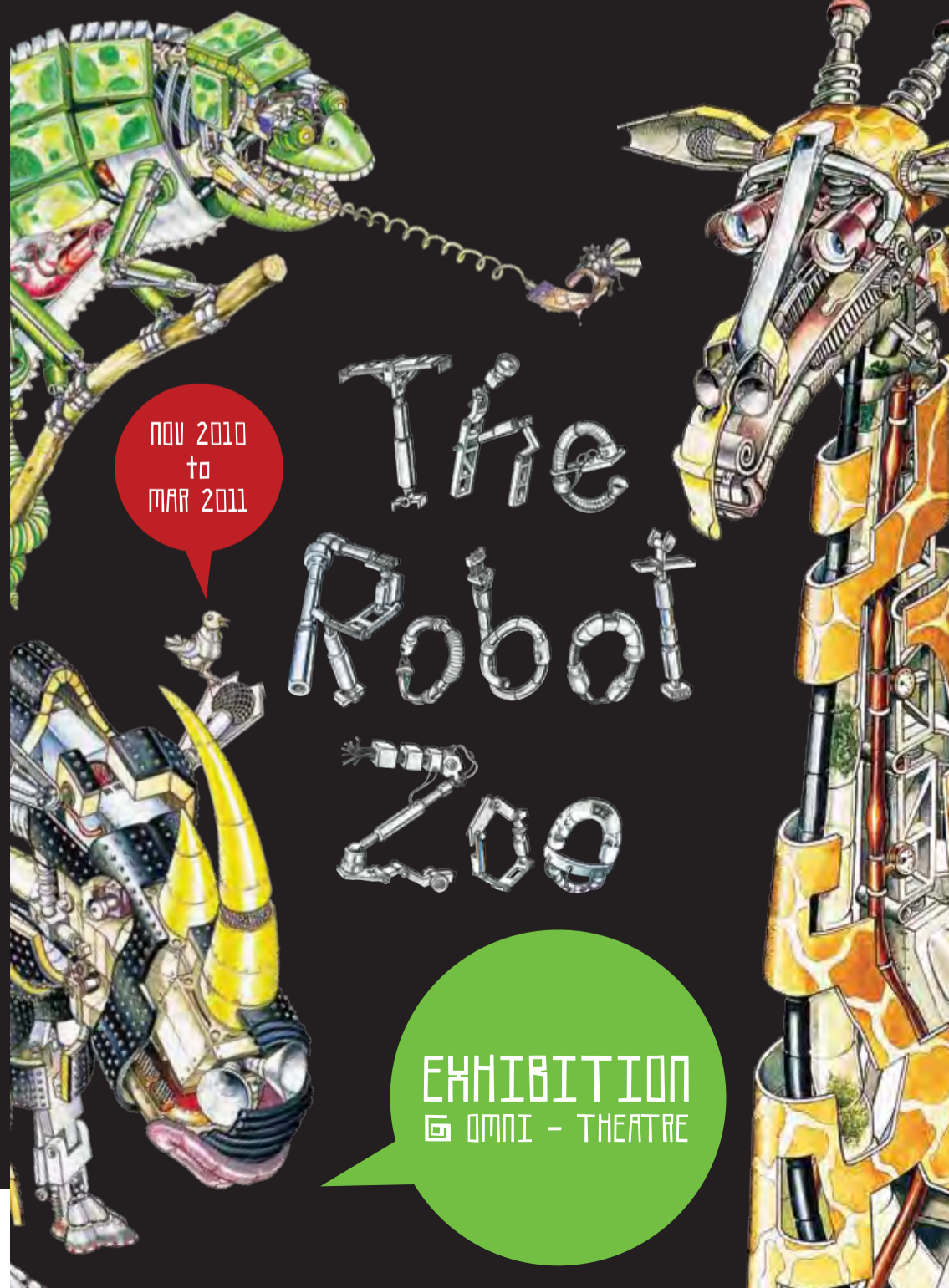
# The Robot Zoo

EXHIBITION  
@ OMNI - THEATRE



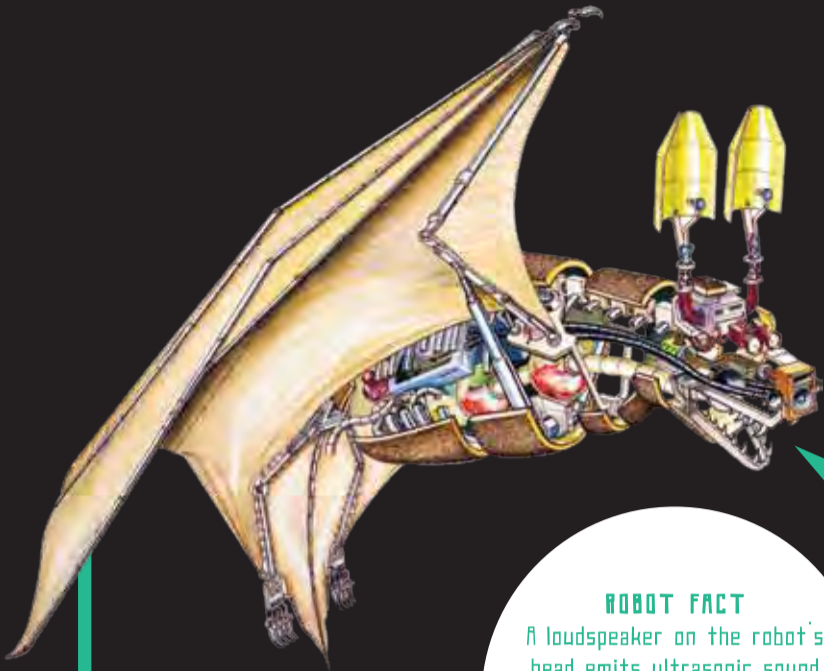
Science Centre Singapore  
15 Science Centre Road Singapore 609081

www.science.edu.sg  
Infoline: 6425 2500



**REAL ANIMAL FACTS**

Height 2 – 60 cm  
 Weight up to 450 g  
 Location Mostly in Africa and Madagascar; a few in India, the Middle East and southern Europe



**ROBOT FACT**

When the robot snags its prey, a spring-loaded mechanism triggers the coil (tongue) to shoot forward, like an orange seed squeezed between your fingers.

A **chameleon** can fire its long, sticky-tipped tongue to sharp-shoot insects in one sixteenth of a second.



**ROBOT FACT**

A loudspeaker on the robot's head emits ultrasonic sound waves while sonar receptors (highly sensitive ears) pick up returning echoes to locate an object.

Most **bats** (about 80 percent) can hunt for food in complete darkness using their own sonar system called echolocation.

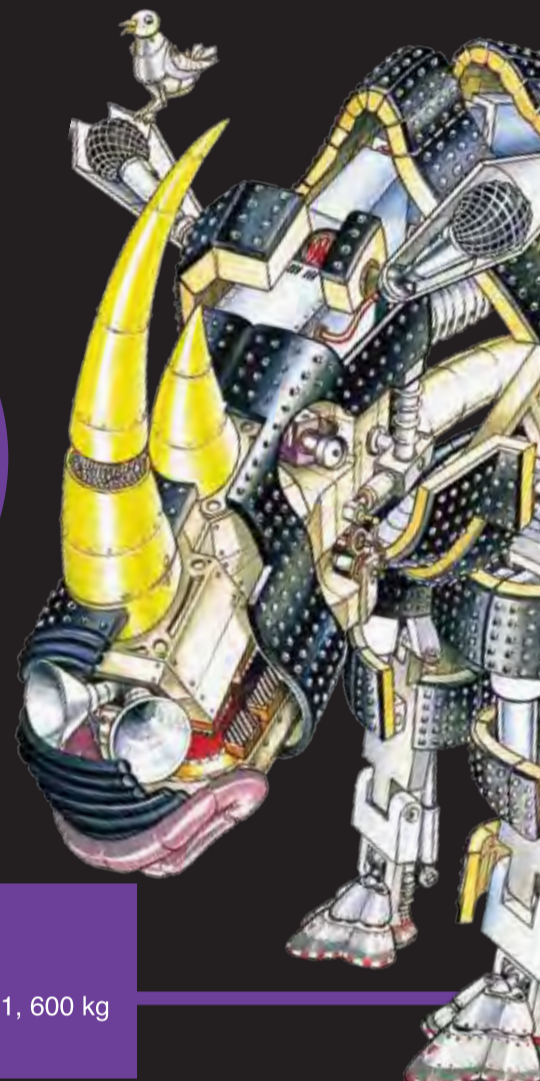
**REAL ANIMAL FACTS**

Wingspan 15 cm – 1.8 m  
 Weight 1.5 g – 1.5 kg  
 Location Worldwide

A **rhino's** bone-like horn is actually made of hair-like fibers stuck together. Flattened feet and broad hooves distribute the rhino's massive weight evenly.

**ROBOT FACT**

Two metal horns on the robot simulate a real rhino's strong horns. Shock-absorbing pads and flared supports on the robot's sturdy feet help bear its weight.



**REAL ANIMAL FACTS**

Height **MALE** up to 5.5 m **FEMALE** up to 4.5 m  
 Weight **MALE** up to 1,930 kg **FEMALE** up to 700 kg  
 Location Africa

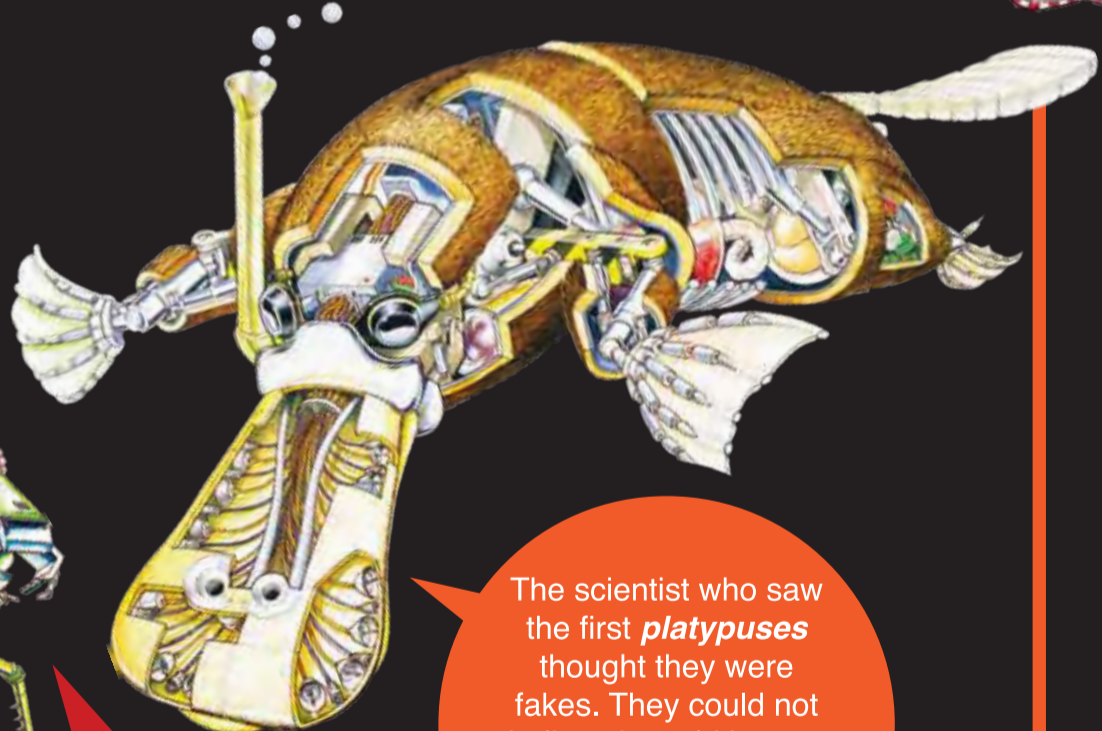
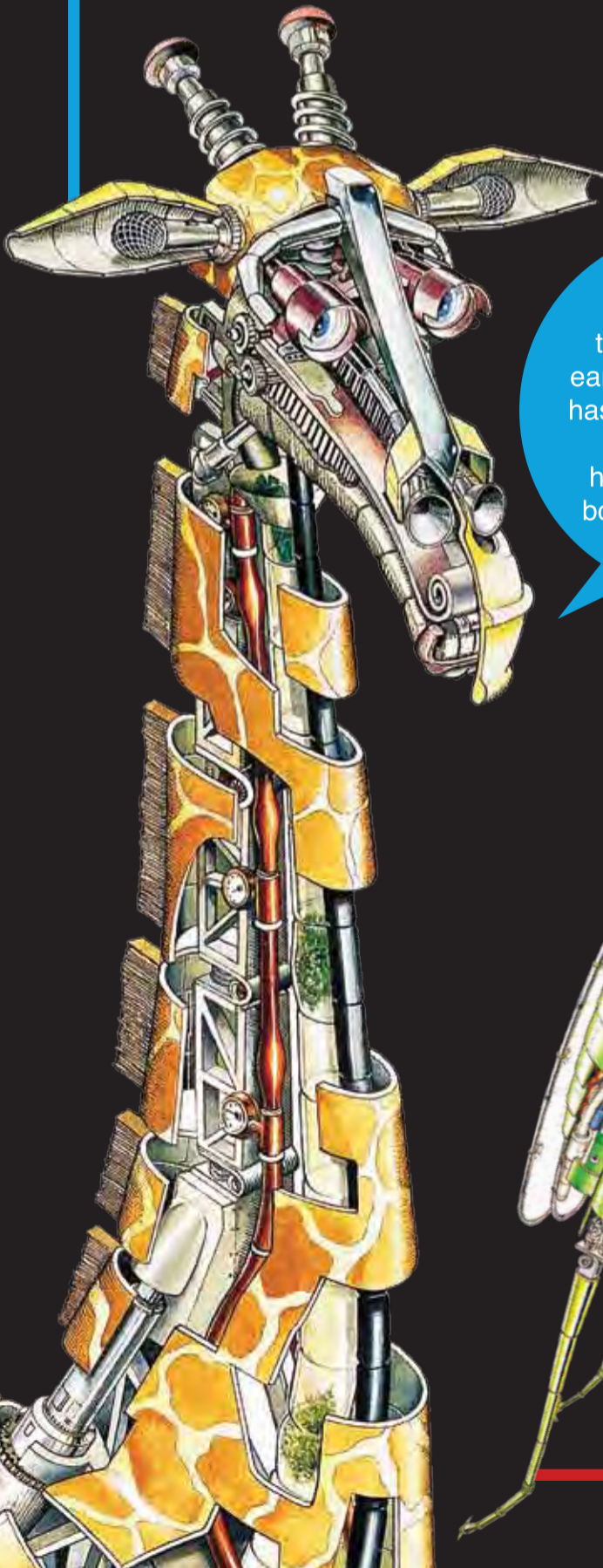
**ROBOT FACT**

A flexible framework emulates the vertebrae and supports the neck of the robot giraffe.

**Giraffes** are the tallest animals on earth! A giraffe's neck has just seven bones, no more than a human's, but each bone is 30 cm long!

**REAL ANIMAL FACTS**

Height 171 – 183 cm  
 Weight **MALE** 2,260 kg **FEMALE** 1,600 kg  
 Location Africa, south of the Sahara desert



The scientist who saw the first **platypuses** thought they were fakes. They could not believe it could have a duck's bill, a beaver's tail, be covered with fur and lay eggs!

A **grasshopper** can jump about 0.9 m, or 20 times its length. That's equal to a 6-foot human athlete jumping a 12-storey building in one leap.

**ROBOT FACT**

Powerful springs in the two rear legs can compress and suddenly release to throw the robot into the air.

**ROBOT FACT**

The webbed front feet of the robot have two roles – they are powerful paddles for swimming when extended. When turned back, they reveal claws for digging burrows.

**REAL ANIMAL FACTS**

Height up to 8 cm  
 Weight Almost nothing  
 Location Worldwide

**REAL ANIMAL FACTS**

Length up to 46 cm  
 Weight up to 2.3 kg  
 Location Tasmania and eastern Australia