

# Mud

**children's exhibition on clay, nature  
and imagination**

**22.09. – 27.10.2023**

think the way a leaf thinks  
on a tree, light and shade  
the way bark thinks radiating  
the way larvae think  
under the skin of bark, lichens  
on a stone and a crumb  
of dry wood; the way toothwort thinks  
the way a mist-shrouded glade thinks  
the way marshes think  
when they reflect the ascending rainbow  
the way a lump of mud thinks  
some raindrops  
think the way a mirror thinks

alphabet  
Inger Christensen

The Mud exhibition is a children's tale of clay and nature which contains it. The rest may only be expressed by imagination that draws on the experiences of nature. And that is in the hands, heads and interpretation of the audience. We do not want to explain the world but rather experience it and look for our own images.

The idea for this exhibition was conceived after I observed my son's hands kneading clay. There was no particular purpose to it, he just enjoyed its plasticity, checked his own trace, experienced coldness and warmth, softness and hardness. Watching it, I felt happy and fulfilled.

The second trail that led me to the formula of this project was Emma Adbage's book *The Hole Behind the Gym*. It is a story about a group of children whose favourite pastime during the school breaks is playing in a pit, an activity which is frowned upon by both their parents and teachers.

The narrator tells the story of kids who passionately dig out wild clay, slide on it and do all kinds of things that bring them earthly pleasures. The eponymous hole behind the school gymnasium is their freedom, self-organization and independence. Thanks to its material nature and potential, the protagonists build a world in which there is still so much to discover. So I came up with the idea of children creating an exhibition about clay, an earthly matter, and its possibilities.

That is how *Mud* was born – an exhibition that followed an artistic plein-air session for children. The artist who conducted it, and also prepared the exhibition design, was Natalia Kopytko. The designer Bartosz Brylewski showed the children how to look for wild clay and what to create out of it. The biologist and researcher of bats Łukasz Iwaniuk talked about ways in which animals use clay to build burrows, nests and hideouts. Inspired by animal activities and the clay itself, the children created an exhibition about their own world of nature and imagination.

Even though it has been used by people to make utilitarian objects for centuries, clay can also inspire the creation of magical universes, full of mysteries and meanings. In Greek mythology, Prometheus moulded men by mixing clay with tears. He gave them souls from the divine fire stolen from the chariot of Helios, the god of the Sun. "Made of the same clay" means being similar. Let us imagine that when we hold clay in our hands, we touch Nature. We are part of it.

Joanna Synowiec

## **A wallow, resting capsule, nest or geophagia: how animals use mud**

Lukasz Iwaniuk

### **Time capsule**

As a baby, Superman was placed by his parents in a space capsule and sent into space. It happened moments before their home planet Krypton was destroyed. Superman survived, the capsule landed on Earth. The hero grew up and could live his adventures. It is quite possible that the authors of the comic book were inspired by earthly creatures. Some aquatic invertebrates which live in periodically drying out reservoirs create mud capsules for their offspring, meant to help the young survive when the pond is completely desiccated by heat. Lumps of mud on the bottom of the reservoir contain the so-called resting eggs. The eggs may be carried by the wind or transported on the bodies of animals to a new reservoir. This is how numerous species of crustaceans breed. They tend to be very small animals, ranging in size from a few millimetres to several centimetres at the most. In Poland, mud capsules are breeding places for the common daphnia (order Cladocera, eg. genus *Daphnia* sp.), present in almost every aquatic environment.

The living fossils Notostraca are considered the oldest animals on Earth. Two species of the extraordinary crustaceans may be found in our country. Thanks to mud capsules, their eggs may survive up to several years of drought! The Notostraca = Superman, or more precisely – Supercrustacean. Lungfish (class Dipnoi) are an even more uncanny example of survival thanks to dried mud: the South American lungfish (*Lepidosiren paradoxa*, family Lepidosirenidae) and African lungfish (*Protopterus*, family Protoptoridae). They are called lungfish because apart from the gills (like other fish), they also have functional lungs (like land animals). They need the lungs because they live in a muddy and warm aquatic environment which often dries up, so they are periodically exposed to water with low oxygen content. They prefer to

breathe with their lungs. During the dry season, the large fish (up to 1.5 metres in length) are able to survive by curling up and burrowing into hardened mud, building a kind of “cocoon” out of the mucus secreted by their skin. The resting capsules are identifiable by “chimneys” allowing air supply. The fish is then in the state of animal dormancy known as estivation, a kind of summer version of hibernation. The survival time in dry mud is quite long, it may last up to a year. The fish wakes up the moment the capsule fills with water. It was thanks to this resting form that the first lungfish were brought to Europe in the 19th century.

### **Cradle for babies**

#### **Wild bees**

Wild bees are close cousins of the honey bee – a biologically very important group of insects from the Hymenoptera order. They are solitary bees which do not make honey and do not sting but are very important pollinators of flowers. Nests of solitary bees are usually built in the ground. Some species, e.g. the red mason bee (*Osmia bicornis*), nest in such pre-existing hollow structures as plant stems or abandoned snail shells. They usually use mud to set up such “tubules”, arranging the interior of their dwellings like architects. The tubular nest is divided into chambers by means of dried mud. The entrance is secured by a mud gate.

A larva develops in each chamber. It feeds on the pollen and nectar gathered by the mother. The larva eats and grows to finally turn into a cocooned pupa. In September it transforms into an adult insect but still stays inside the cocoon, spending the winter in this form. It metamorphoses and wakes up in March or April. To help red mason bees build their nests, you may buy a “pollinator hotel” and place it in the garden.

## **Birds**

Animals use mud to build nests – places where their young are born. In human terms, this might be called home, but it would not be the best word here, not least because birds normally do not sleep in nests.

Ovenbirds (Furnariidae) are a family of insectivorous passerine birds found in South America. Some of its species weave rather typical nests among tree branches. Others dig burrows in vertical walls of soil. There are even species of ovenbirds which build nests of clay reinforced with grass and fibres. After drying, the nests resemble pots taken out of the oven – hence the name of the bird family. The “pots” – built by both parents – are firm and hard, roofed constructions with entrance holes.

Some birds of the thrush family (Turdidae) found in Poland use clay to build their nests. The redwing (*Turdus iliacus*), mistle thrush (*Turdus viscivorus*), and especially fieldfare (*Turdus pilaris*) build their nests of grass and twigs, reinforced with clay and mud, sometimes with a lining of leaves. The “muddiest” nests are built by swallows. The sand martin (*Riparia riparia*) pecks and digs out deep burrows in vertical walls of landslides, dunes, banks and cliffs – usually near larger bodies of water. It lays eggs at the far end of the burrow. The nestlings see “the light at the end of the tunnel” every day. The sand martin’s cousins, the barn swallow (*Hirundo rustica*) and house martin (*Delichon urbicum*) are closely associated with humans – they build nests which cling to the walls of man-made buildings. Before they moved under our roofs, they had nested on cliffs.

Swallows build intricate mud dwellings for their young. The reverse dome-shaped nests, reinforced with grass and plant fibres, are mainly formed from mud pellets and saliva. The birds carry the pellets in their short beaks and spit them out on the “construction site”. House martins build their nests only on the outside of buildings – under house eaves, balconies or bridges – with their backs and “roofs” stuck to the wall. Barn swallows, in turn, only nest inside man-made structures, which in the past most likely meant at the mouths of caves.

According to popular belief, swallows are birds which bring good luck. If they decide to live in your house, it is good to help the luck by installing a shelf for waste collection under the nest and simply accept their presence. The problem the birds may have is the lack of access to mud. Excessive heat, drought and shortage of wetland habitats are common threats, and not just to swallows. Some textbooks advise that if you want to have swallows, you should make sure they have mud to build their nests.

### **Mud spa**

Some mammals love beauty treatments that involve mud. The wallow is a muddy spot where wild boar and deer like to, well... wallow. They simply love caking their fur with a layer of dried mud. It cools them down and reduces the access of parasites attacking them. They also hide their own scent under the “mud shield”, which protects them from predators. Such thick-skinned mammals as elephants, rhinoceroses and hippopotamuses in Africa and Asia, as well as tapirs in South America, during their forays into the mainland love protecting themselves against the sun by covering their skin in mud “masks”. This kind of treatment also protects the skin from cracking.

### **Geophagia, or eating clay**

Animals consuming mud and earth is a fact. Pebbles help transport the food mass through the intestines. With no teeth to help, birds have no choice but to deliver hard pebbles to the stomach. The stomach muscles then use the little stones to grind food before it is digested.

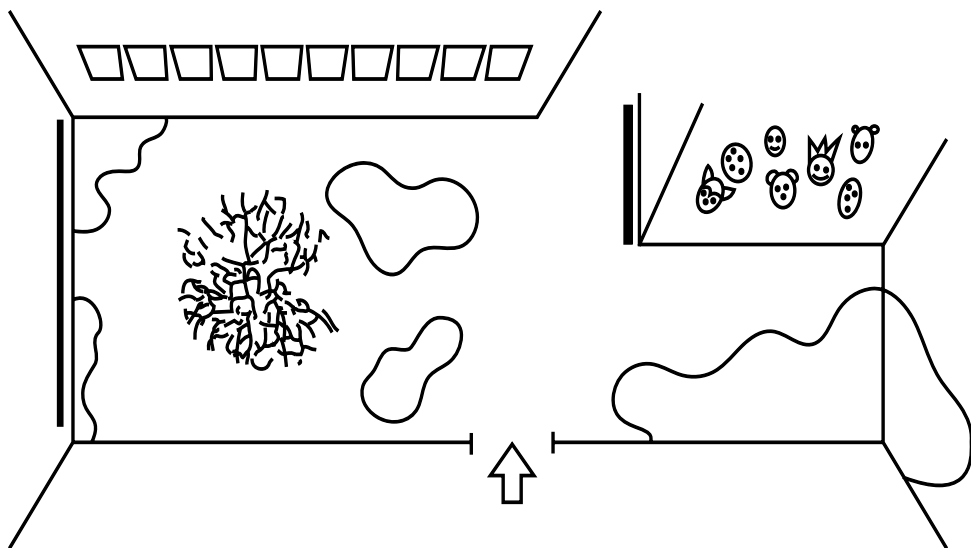
Eating mud may also ensure the necessary supply of minerals, a phenomenon observed in many species of apes. Even among humans, in some cultures, “mud cookies” are known to be given to pregnant women. The best known, and probably also the most beautiful example of animal mud-eating has been observed in Peru, on the border of the Amazon rainforest. Various species of fabulously colourful parrots, including the gigantic aras, congregate to eat a particular type of clay at one

specific layer of soil. It probably contains smectite and kaolin – minerals that bind various chemical substances. This kind of food probably neutralizes the toxic effect of some fruit and seeds eaten earlier. On the other hand, it was observed that in areas located far from the sea, parrots eat clay rich in sodium (a sea salt component), thus complementing the deficiency of this indispensable element in their diet.

### **Mud is a treasure these days**

There are fewer and fewer wet and marshy areas, especially in Europe. They are natural retention spots, i.e. reservoirs retaining water. They absorb excess rainwater like a sponge, and give it back to the soil during a drought. On top of that, they are habitats of rare species of plants and animals. With its unregulated rivers, peatlands and bogs, Poland used to be a cradle of marshy and swampy diversity. The abundance of wetlands in our country was squandered due to their drainage. Today we need marshes, peat bogs and mud in order to have access to water. Let us love swamps, wild rivers, muddy meadows and peatlands – they are our true time capsules.

## Exhibition plan



### **Artists:**

Kosma Alty, Ruta Bielecka, Alicja Chaba, Mira Demarchi, Marcelina Dreszer, Leopold Karabon, Helenka Mieszkalska, Lea Pelczar, Lea Płatek, Irmina Pawlińska

### **Concept and curatorial work:**

Joanna Synowiec

**Plein-air session, exhibition design:** Natalia Kopytko

**Film:** Iwona Ogrodzka

**Visual identity:**

Ewa Głowacka

**Workshops during the plein-air session:** Bartosz Brylewski, Łukasz Iwaniuk

**Educational support during the plein-air session:** Mika Drozdowska, Anna Kwapisz,

Joanna Synowiec, Magdalena Weber

**Curator of the gallery:**

Mika Drozdowska

**Accessibility:** Magdalena Weber

**Promotion:** Joanna Glinkowska

**Production:** Patrycja Ścisłowska

**Assembly:** Tomasz Koczoń, Łukasz Bałaciński