

*Beauty of the Beast*

AMPHIBIAN BEHAVIOR

# LOVE ON THE ROCKS



The frenzied mating of Common Frogs in the frozen waters of a remote mountain pond in Northern Italy - a truly unique photographic record



*The Common Frog Rana temporaria*

The Common Frog *Rana temporaria*, also known as the European Common Frog or European Common Brown Frog, is found throughout much of Europe as far north as well north of the Arctic Circle in Scandinavia and as far east as the Urals, except for most of Iberia, southern Italy, and the southern Balkans. The farthest west it can be found is Ireland, where it has long been thought (erroneously) to be an entirely introduced species.



## The call of the wild

A large male - just emerged from hibernation - stands its ground in the snow, loudly croaking to advertise its presence, stake its territory and find a willing female to start the yearly mating ritual. The average weight of *Rana temporaria* is 22.7 grs. (0.80 oz). Females, as it commonly happens, are usually slightly larger than males.

TEXTS AND PHOTOGRAPHS  
BY CLAUDIO PIA

Northern Italy, Mount Maggiorasca, Aveto Valley - a land of craggy hills and wooded slopes, thick with hazelnut bushes and oak trees. Males are much more numerous than females, so it's a tough battle for them to win the back of the female for mating. The female can carry the male on her back for a few days, until she decides to spawn into the water.

A veritable miracle of nature takes place here every year in the month of March, among the wide, silent expanses of ice and snow...Emerging from hibernation and completely disregarding the freezing temperatures, hundreds of specimens of the Common Frog *Rana temporaria* meet and jostle in the ice with only one goal - mating.

This "miracle" lasts only a few days - I think a maximum of four - and to find myself in the right place at the right time I have to drive for 70 kms and walk in knee-deep snow for at least one hour, carrying all the photographic gear on my back - sometimes even having to pull it along on a small sled. And every time I risk to get there and find out that the frogs are still hibernating..it's a bit of a bet!

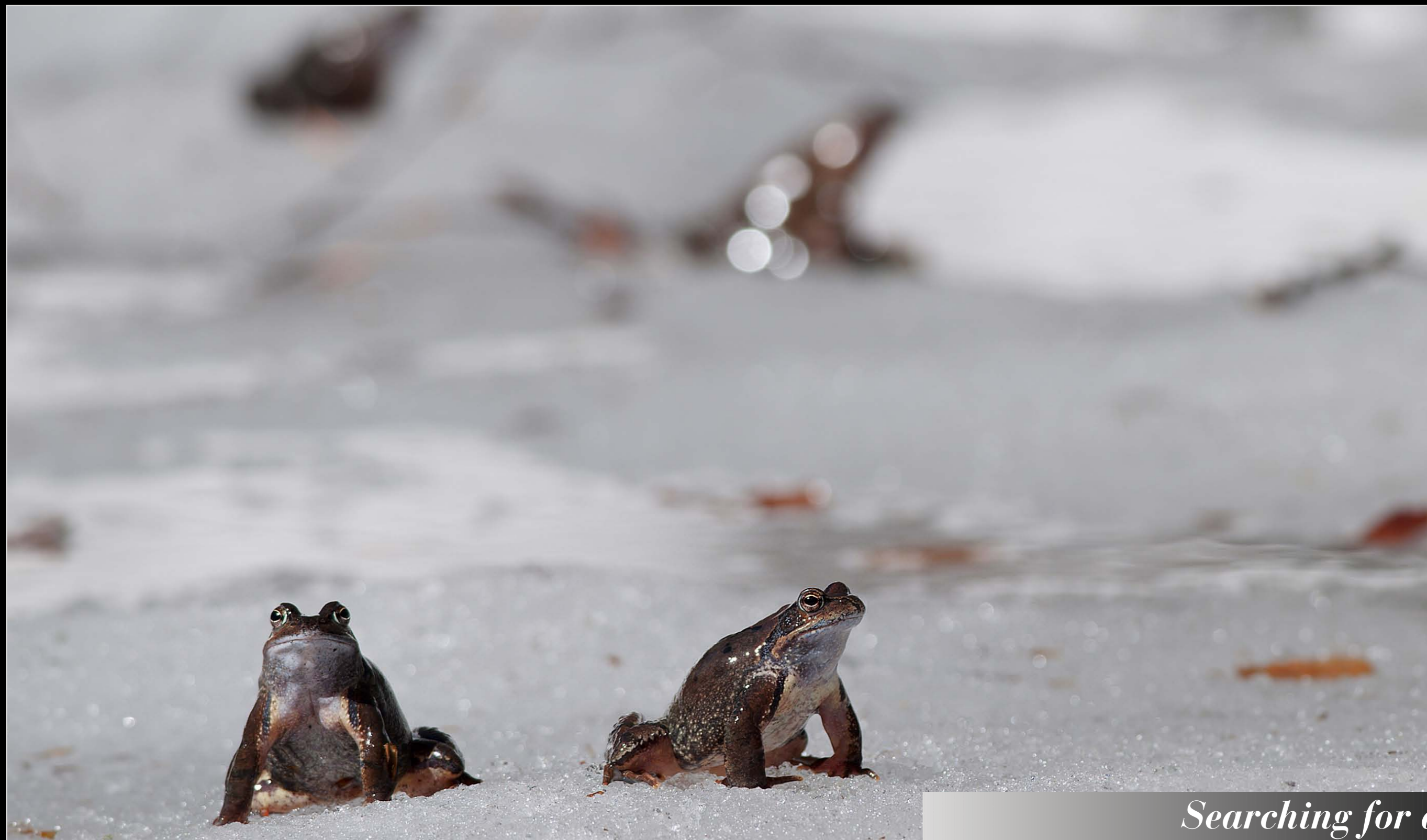
As I'm getting close to the tiny alpine pond - if I have picked the right day - I begin to see a few pairs of frogs hopping around in the snow. The females carry the males on their back.

It's a great effort for her, and at the end of the mating ritual one can see a lot of dead frogs in the water.

What is truly extraordinary about this small place is the astounding number of frogs that show up here - it's hard to believe so many hundreds of *Rana temporaria* can survive in a wood with such a small lake. This population must actually be one of the largest in Italy. The surface of this little alpine lake is often completely covered with a thick layer of eggs, and for a nature photographer like me this is heaven!

Then, after three or four days of continuously mating in the half-frozen, icy waters of the pond, the frogs disappear among the submerged leaves and it becomes quite difficult to spot even a single one of them. Until next year...

*Claudio Pia is a nature photographer based in Northern Italy. To see more of his work visit [www.claudiopia.it](http://www.claudiopia.it)*



### *Searching for a mate*

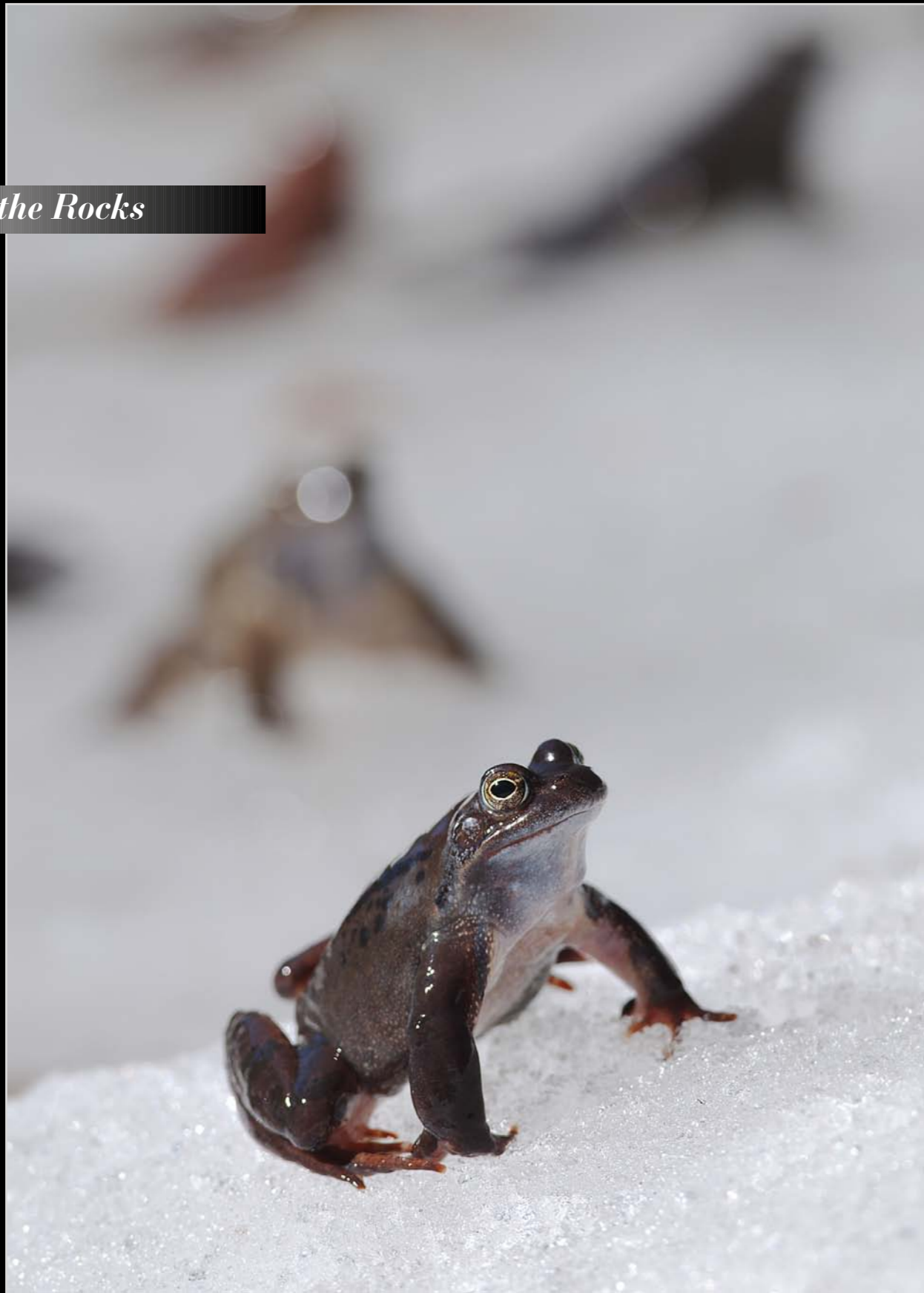
The first males scan their frozen surroundings, looking for a prospective mate. Males are distinguishable from females due to hard swellings (called nuptial pads) on their first finger. These are used for gripping females during mating. Also, males' throats often turn white during the mating season. A final differentiation can be the color—during the mating season, males are generally light and greyish in colour, whereas the female is deep brown or red.



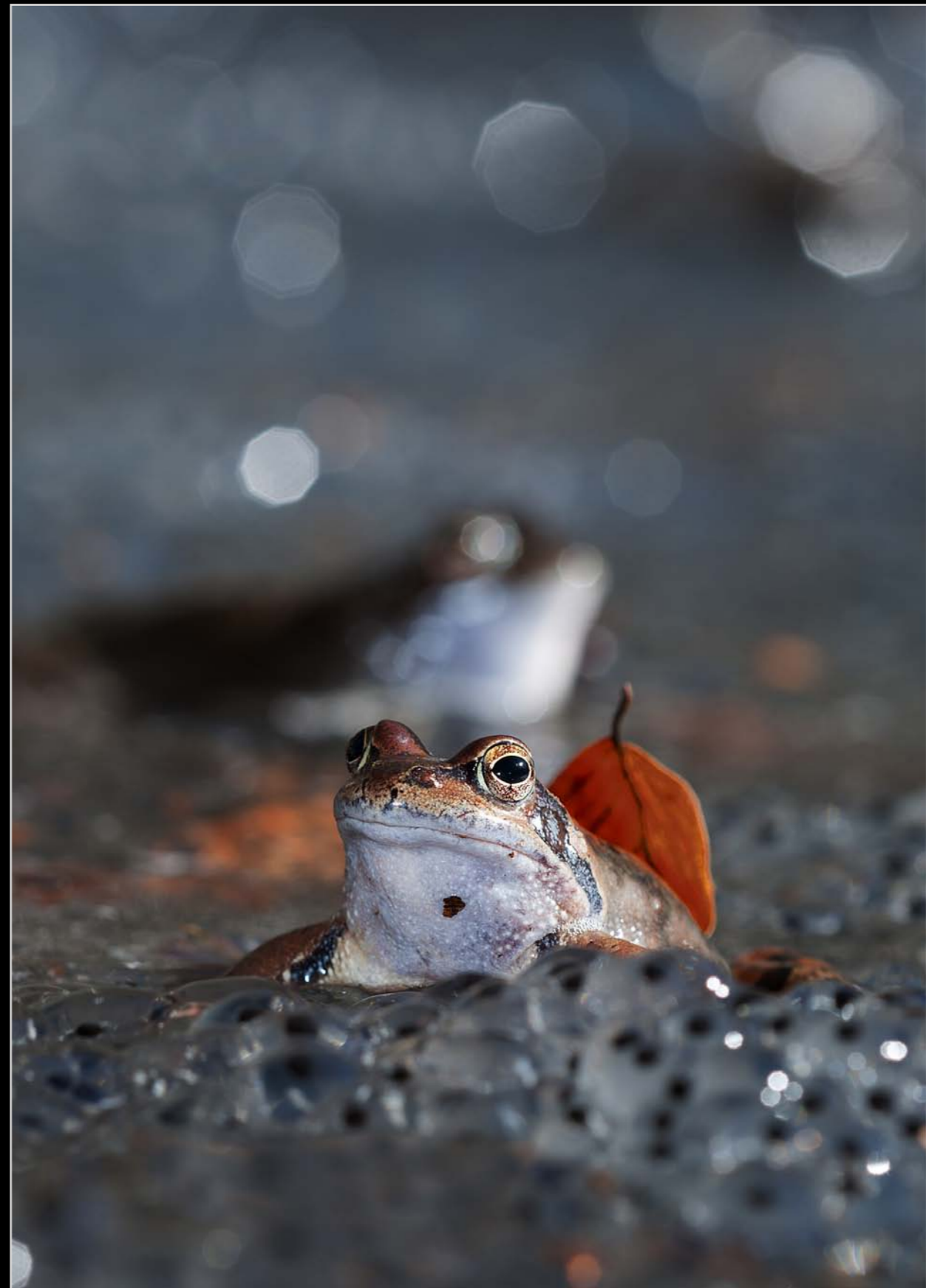
### *The great race among the suitors*

Mating begins in the still semi-frozen water, with several males competing to copulate with a single female. Common frogs breed in shallow, still, fresh water bodies such as ponds, with breeding commencing in March. The adults congregate in the ponds, where the males compete for females. The courtship ritual involves croaking, and a successful male grasps the female under the forelegs.

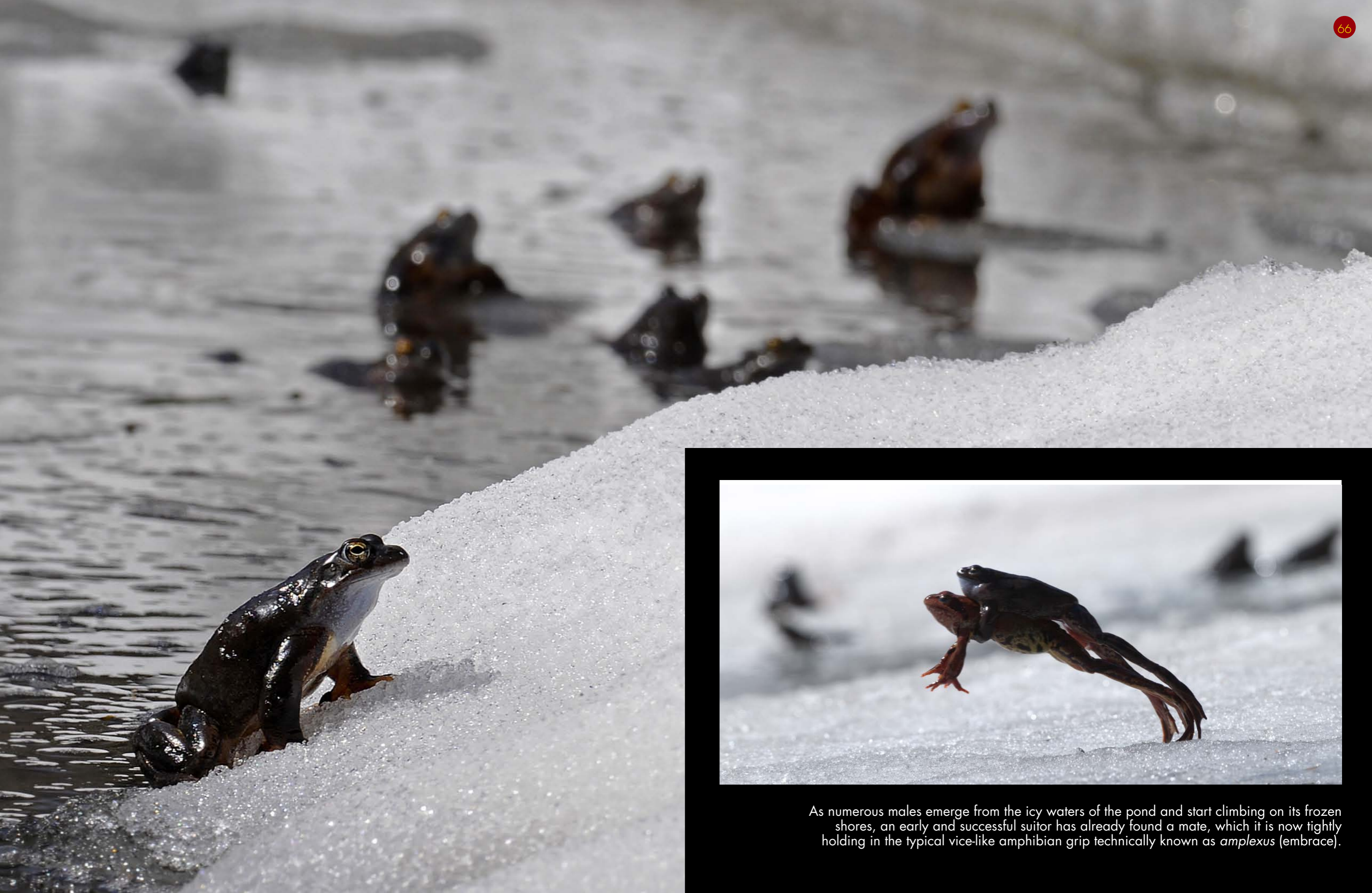
*Love on the Rocks*



Males on the lookout in the snow. The mating season of the species is exceedingly short - just a week in March, after which the frogs move back to their terrestrial habitat.



A female among clusters of freshly-laid eggs. The actual spawning of the species typically occurs at night, but the courtship rituals take also place during daytime.



As numerous males emerge from the icy waters of the pond and start climbing on its frozen shores, an early and successful suitor has already found a mate, which it is now tightly holding in the typical vice-like amphibian grip technically known as *amplexus* (embrace).



## *Wrestling for love*

In a blind frenzy of desire, a male tries to embrace a pair which is already locked in *amplexus*. Females of this species are very often mated to exhaustion, drowning during the embrace or succumbing immediately after spawning. Notice the remarkable difference in color between the two grey-brown males and the red female.





## *In an endless sea of eggs*

A male (on top) and a female are locked in a successful embrace, floating in a veritable ocean of fecundated eggs. The females, which are generally larger than the males, lay between 1,000 and 2,000 gelatinous, transparent, round eggs which float in large clusters.

*Love on the Rocks*



A careful scan of the image reveals an almost inextricable mass of frogs and fecundated eggs with no less than seven males and a single female. The Common Frog is found throughout much of Europe as far north as northern Scandinavia inside the Arctic Circle and as far east as the Urals, except for most of Iberia, southern Italy, and the southern Balkans.

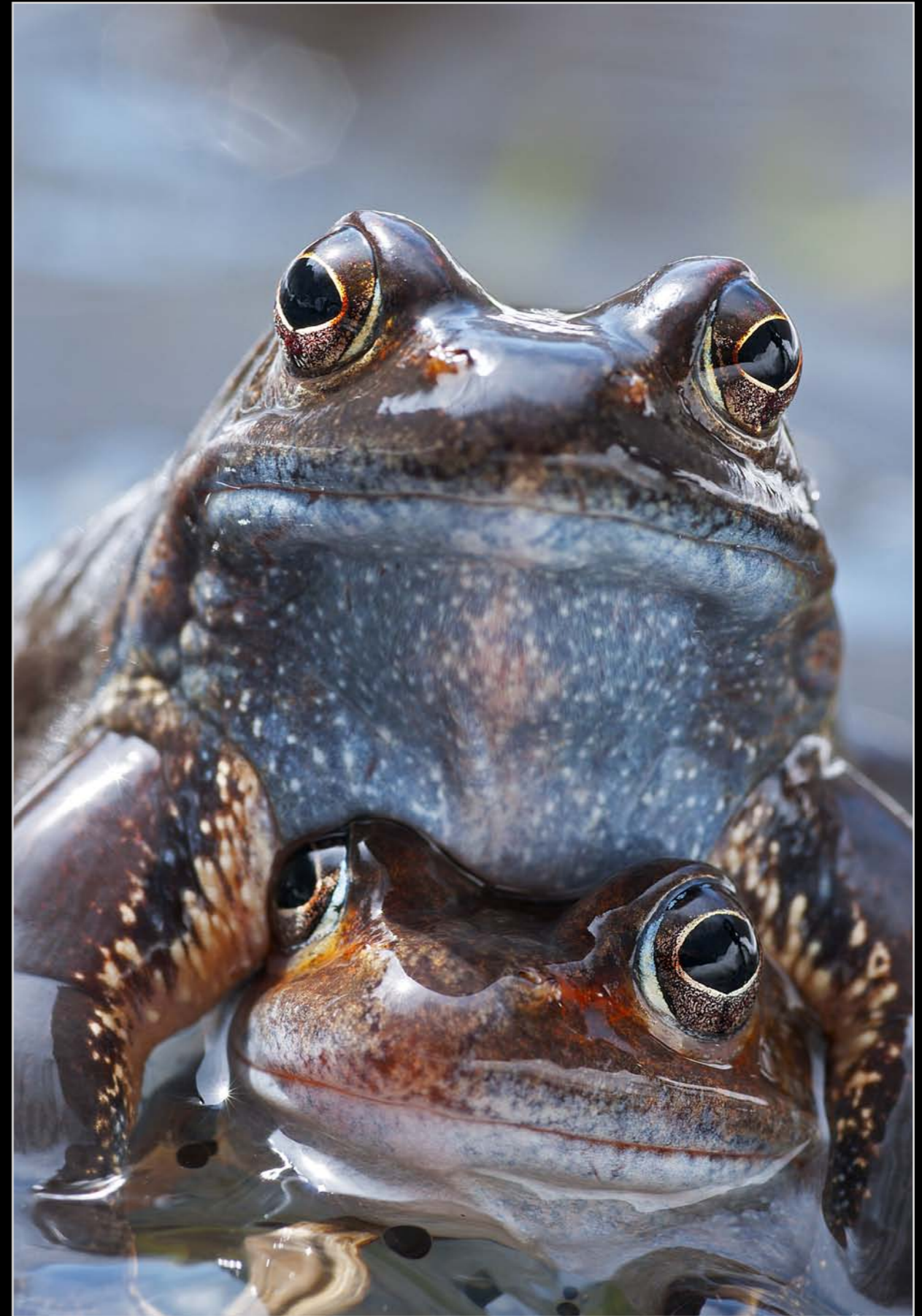


*Group mating in the sun*

Adult Common Frogs have a body length of 6 to 9 centimetres (2.4 to 3.5 in) with olive green, grey-brown, brown, olive-brown, grey, yellowish or rufous backs and flanks. However, common frogs can also lighten and darken their skin in order to match their surroundings. More unusual colourations are occasionally observed - both black and red individuals have been found - and male common frogs have been known to turn greyish blue in the mating season.



Scores of mating frogs, locked in embrace, now dot the half-frozen surface of the small mountain lake, with thick masses of eggs already covering its surface.



A close up portrait of a mating pair of *Rana temporaria* firmly locked in *amplexus*, with the male on top and the female below. The lock can last for several hours.



## *A successful suitor*

The flanks, limbs and backs of this species are covered with irregular dark blotches, and it usually sports a chevron-shaped spot on the back of the neck. The frogs' underbellies are white or yellow (occasionally more orange in females) and can be speckled with brown or orange. Their eyes are brown with transparent horizontal pupils, and they have transparent inner eyelids to protect their eyes while underwater, as well as a darker "mask" which covers their eyes and eardrums.



### *Locked in a deadly love embrace*

A hapless *Rana temporaria* female is being overwhelmed by several male suitors, all trying forcefully - and simultaneously - to lock her in the mating embrace. Many Common Frog females will meet their death in the icy waters of the ponds in this manner during the breeding ritual.



## *A well deserved rest*

A successful male rests momentarily among clusters of spawn. Adult common frogs will feed on any invertebrate of a suitable size, although they do not feed at all during the breeding season. Favorite foods include insects, snails, slugs and worms. Their feeding habits change during their lives; older frogs will exclusively feed on land, but young ones will also feed in the water. Tadpoles are mostly herbivores, feeding on algae, detritus and some plants, although they will also eat other animals in small amounts.



At the end of the mass breeding ritual most of the small pond's surface will be covered in the unmistakable gelatinous masses of eye-like, spawned eggs.



The remains of the day - a female which died of exhaustion lies among masses of spawn. The water is icing up again - but the survival of the colony has once more been assured.