

## INTRODUCTION

THE eggs of most of our species of frogs are laid in the spring. In some cases they are set free almost immediately on the emergence of the frogs from their winter sleep; in other cases the eggs are not laid until some weeks or even months after the frogs have awakened. In almost every instance the eggs are deposited in water and usually in quiet pools or ponds, or in protected bays along streams where the water has backed up and has come to rest. Sometimes the bunches of eggs are stuck to sticks, grass, submerged sedge, or even to stones; in other cases the bunches are not fastened.

The copulation precedes and lasts through the laying-period; a single male fertilizing all the eggs laid by one female. The sperm pours out of the cloaca of the male at the moment when the eggs pass out of the female.

Both the male and the female sexual products, the eggs and spermatozoa, are ripened during the summer and autumn of the year preceding the deposition of the eggs,—at least this is the more usual process. The origin of these sexual cells must first be studied in order to more fully understand their *relation to each other, and the part they play in the subsequent development.*