

# THE STORY OF THE RIVER

Colouring Pencil Activity Book



**TUAM**  
*Tidy Town*

Local Authority  
**Waters**  
Programme

vibrant communities | catchment assessment | healthy waters

Galway  
**Atlantaquaria**

## THE STORY OF THE RIVER (SCÉAL AN ABHAINN)

### "A lotic freshwater ecosystem"

This is the story of the interactions of animals and plants that live in a river habitat. The Story of the River poster shows a very simple version of that habitat. The part played by insects in this and indeed other habitats is not well known or understood and it is the purpose of this poster to change that.

All the higher animals, including fish, birds, bats and otters depend, either directly or indirectly on these insects for food; thus, these insects have intrinsic importance.

There are 25,000 species of insects in Ireland. They are close to the base of the food chain. A study in Germany found that insects in general have declined all across northern Europe by 75% in the last 30 years. At present, 26% of birds in Ireland are on the verge of extinction. There is a connection here. If we want to preserve the environment then we have to start preserving our insects. We need to learn about them, to appreciate them and stop killing them. Pollinators are well known: bees, bumble bees, hoverflies, butterflies make up just over 1% of Ireland's insects.

How about learning what the other 99% do? Aquatic flies are a start.

#### Macroinvertebrates

The word macroinvertebrates describe the organisms that live in the bed of a river and includes worms, snails, and beetles but we are just considering some flying insects common to all river sites. Macroinvertebrates that become flies are an important part of what makes a river habitat work. They live in the riverbed and eat all the detritus and leaves that get washed into rivers and thus speed up its decomposition by 1000 times. If you walked on the bed of a river in November, you would see that it is matted with decaying leaves. Or if you witnessed the floods that occur at that time of year and saw all the water cluttered with detritus so much that it is cloudy. Have you ever wondered how the same river is as clean as a whistle the following spring? Well, it wasn't all washed away, it was eaten by macroinvertebrates. So, you see they are cleaners of the river and they make it habitable for other species.

They are an essential layer of the food pyramid. All species higher in the pyramid rely on them for food, directly or indirectly. Their wellbeing affects every other species in the habitat. It is worth noting that by observation of the range of macroinvertebrates that live in a river, you can discover how clean or polluted the river is.

The species in the poster represent hundreds of species rather than just the five mentioned, Mayfly, Caddis fly, Stonefly, Midge, Dragonfly. All start as eggs and go through several stages of nymphs and at the last minute of their lives, so to speak, hatch out as flies in order to mate and start the whole process again. Dragonflies are predators of all the other species and live the longest, up to five years as macroinvertebrates and up to 3 weeks as flies. Midges are at the other end of the scale, a few months as macro invertebrates and a few hours as flies.

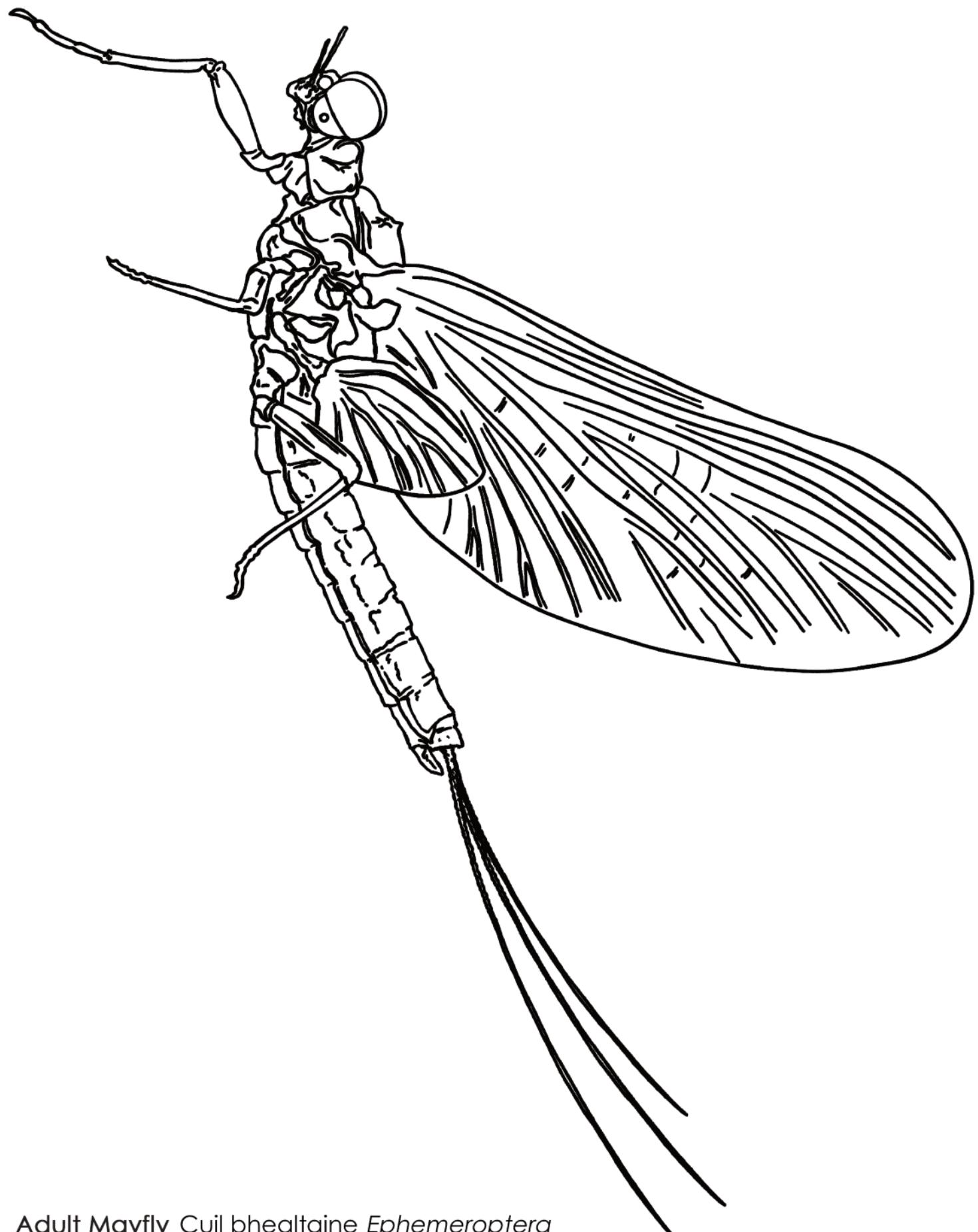
If pollution kills these insects, then the whole ecosystem is adversely affected. The type of insects that live in a river directly points to its state of cleanliness or pollution. At this time 2021 from the source in Cartoon to the Garda Station in Tuam the quality of water in the Nanny River changes from good to moderate status and is monitored by the EPA (Water Quality in Ireland 2013-2018).

We must all support each other in protecting and improving the water quality of the Nanny."

- Michael Waldron Tuam Tidy Town Chairman.

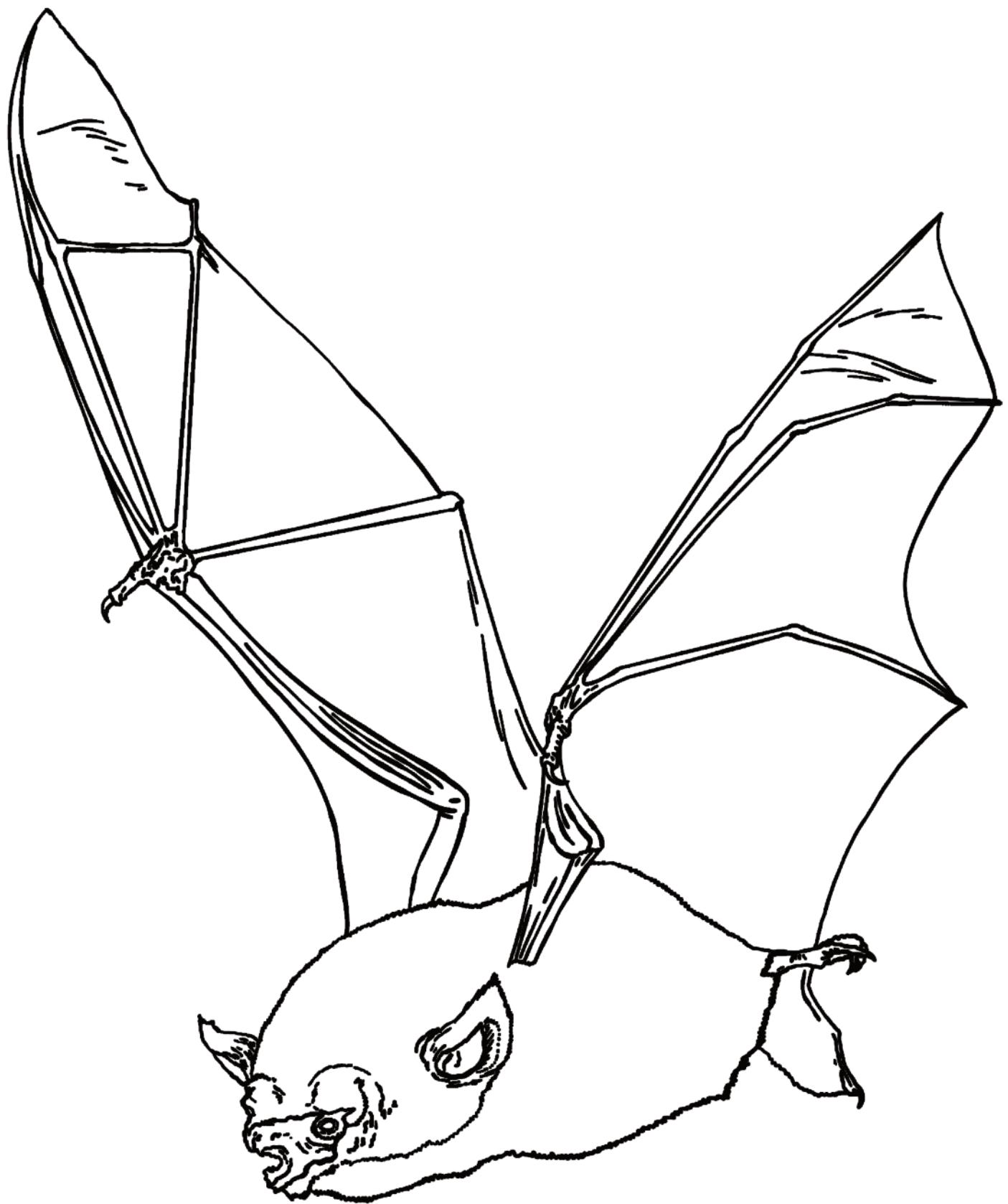


# THE STORY OF THE RIVER

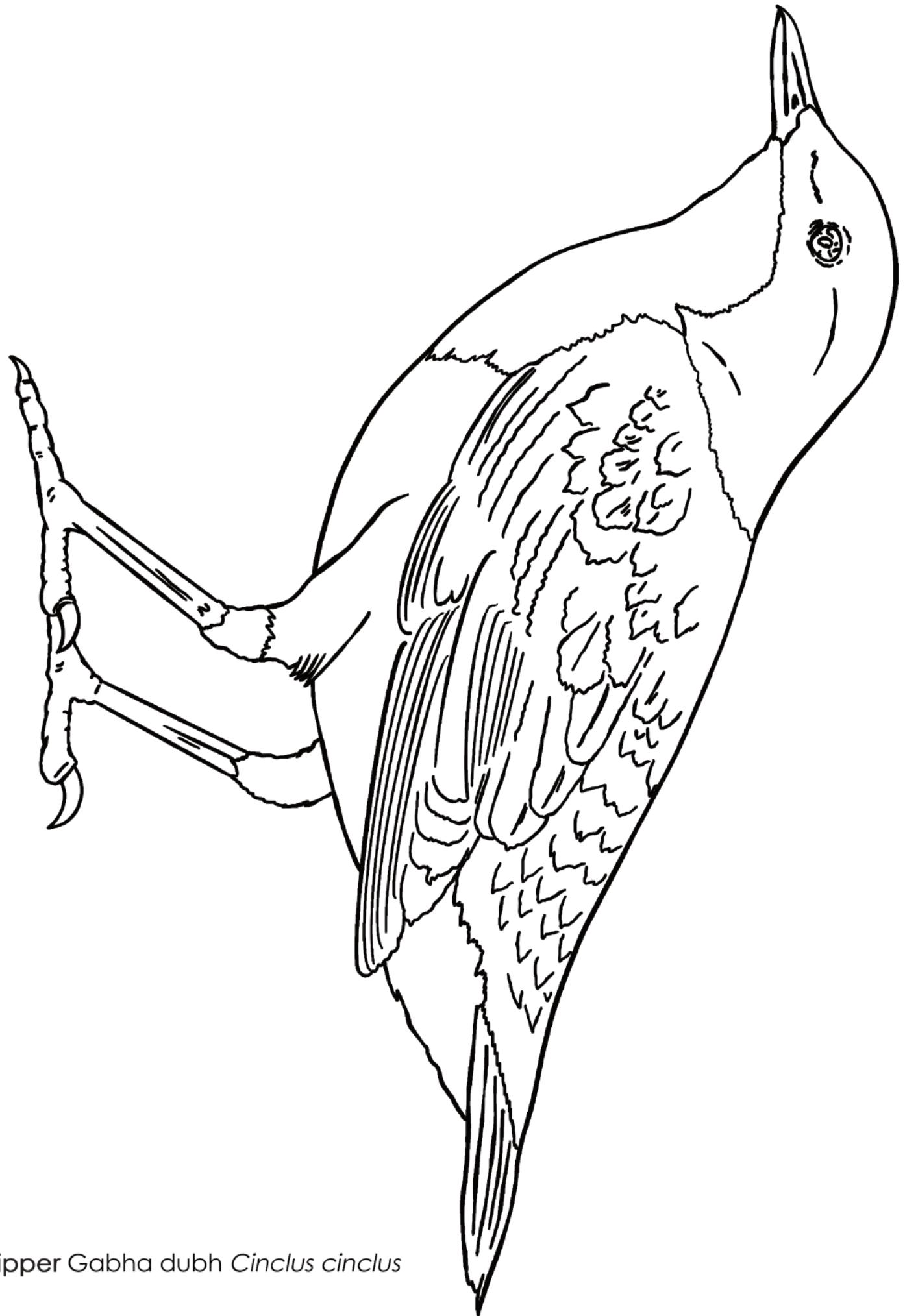


Adult Mayfly Cuil bhealtaine *Ephemeroptera*

THE STORY OF THE RIVER



Daubenton's Bat laltog uisce *Myotis daubentonii*



Dipper Gabha dubh *Cinclus cinclus*

# THE STORY OF THE RIVER



Fully fledged dragonfly imago Snaithhead mhór Odonata/Epiprocta sp.



Newly emerged Teneral Dragonfly Tāinig snaithead mhór as larbha  
*Odonata/Epiprocta sp.*

## THE STORY OF THE RIVER

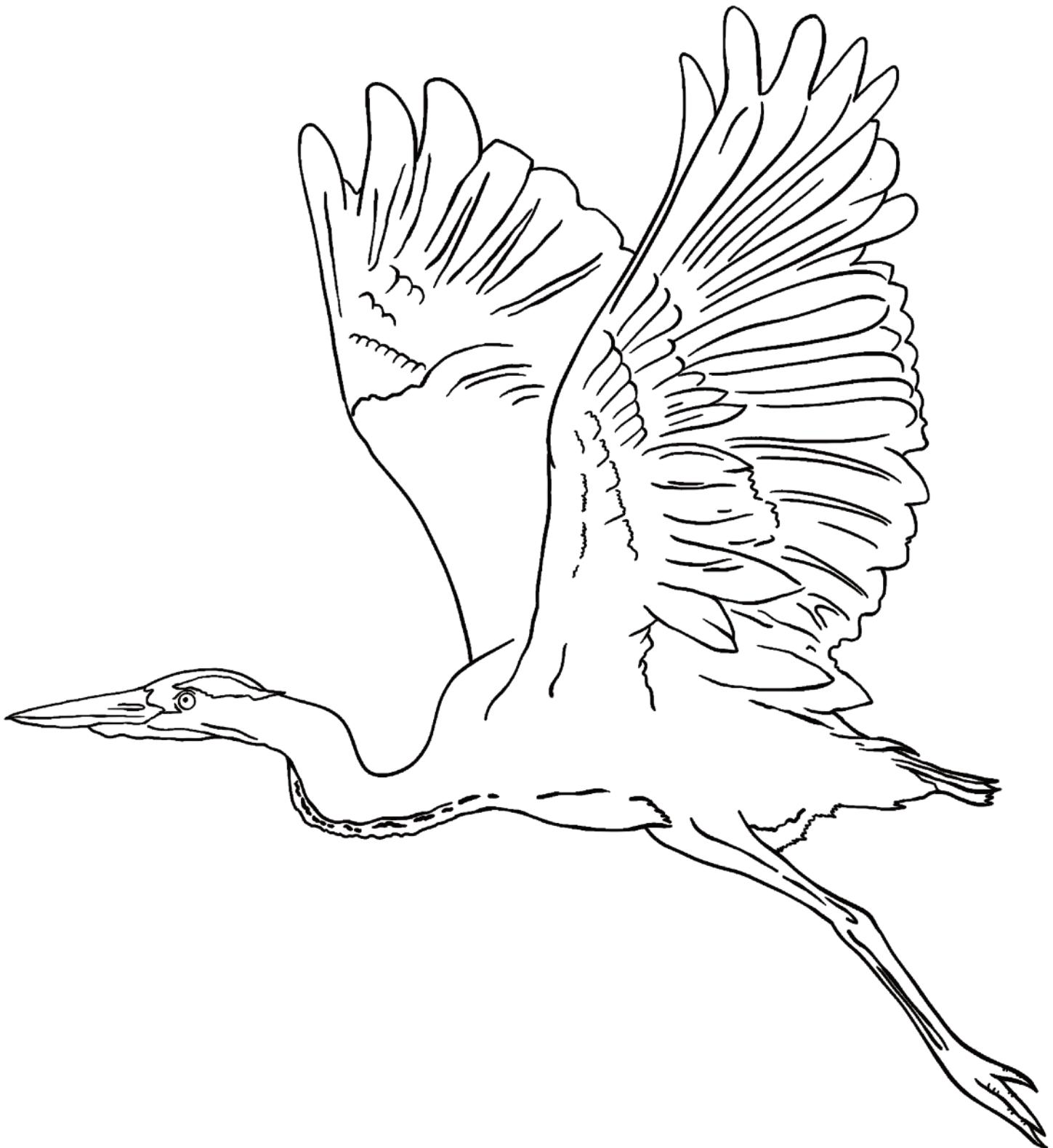


Grey Wagtail Glasógl iath *Motacilla cinerea*

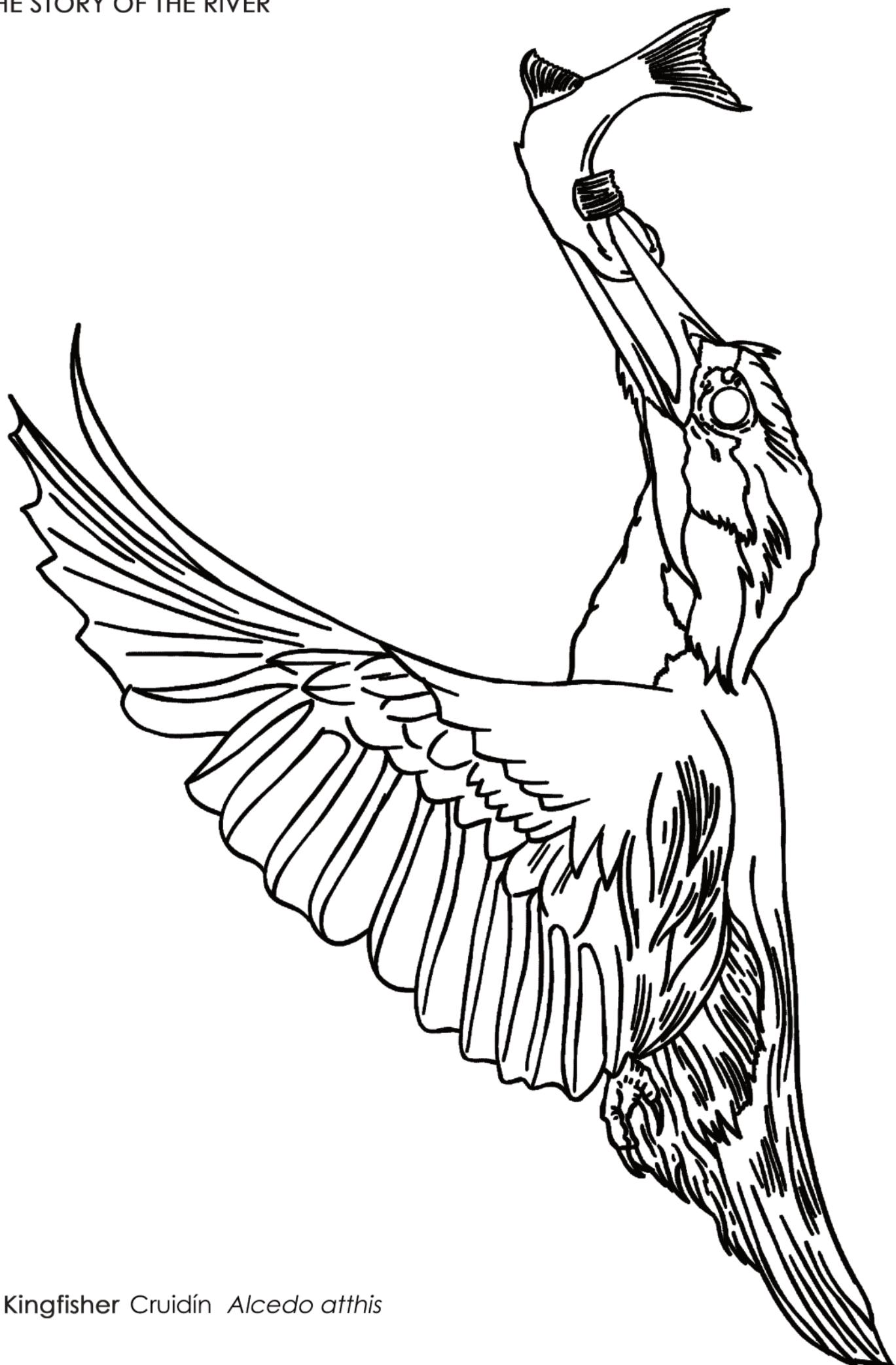


Pied Wagtail Glasógl shráide *Motacilla alba yarellii*

# THE STORY OF THE RIVER



Grey Heron Corr rēisc *Ardea cinerea*



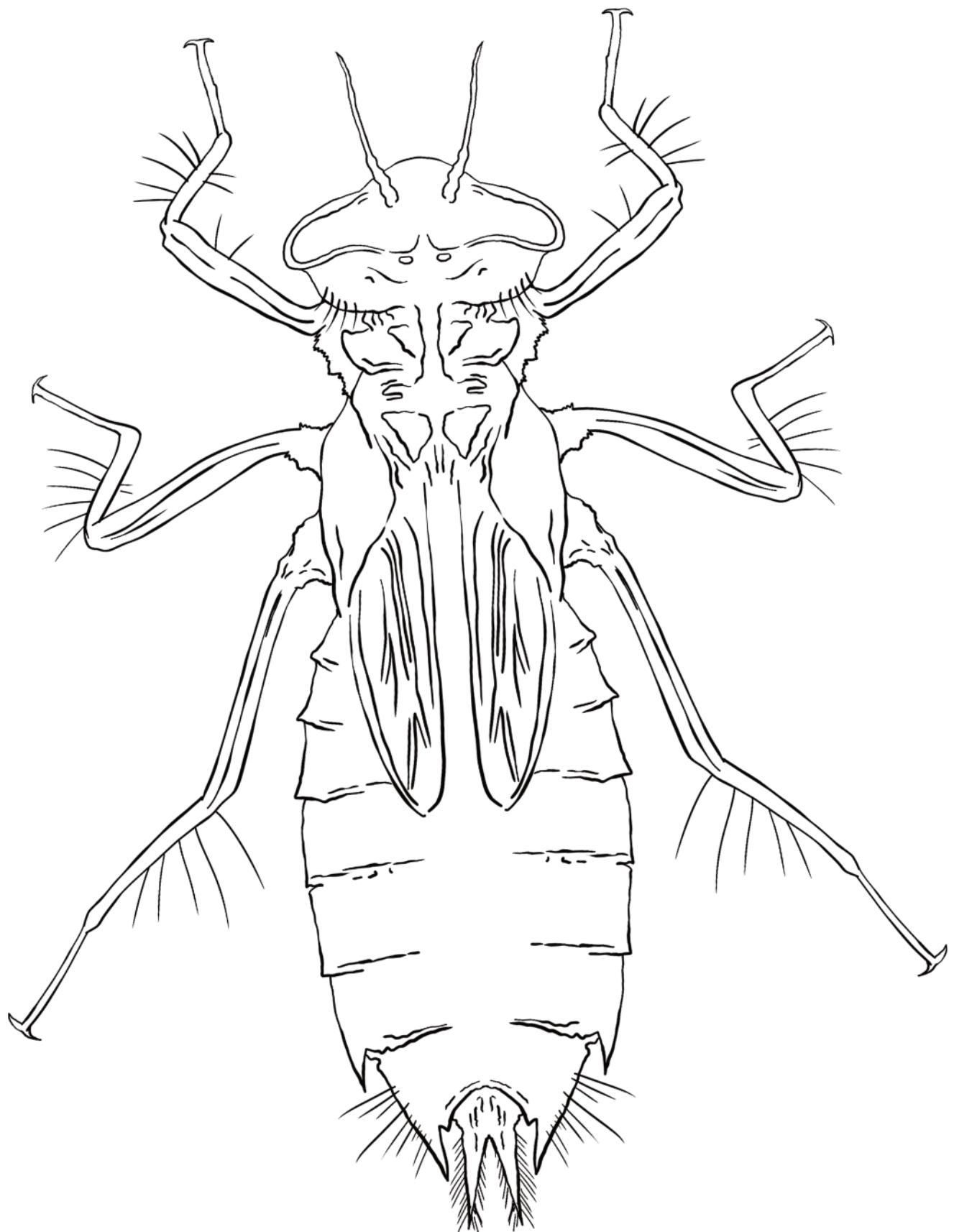
Kingfisher Cruidín *Alcedo atthis*

# THE STORY OF THE RIVER



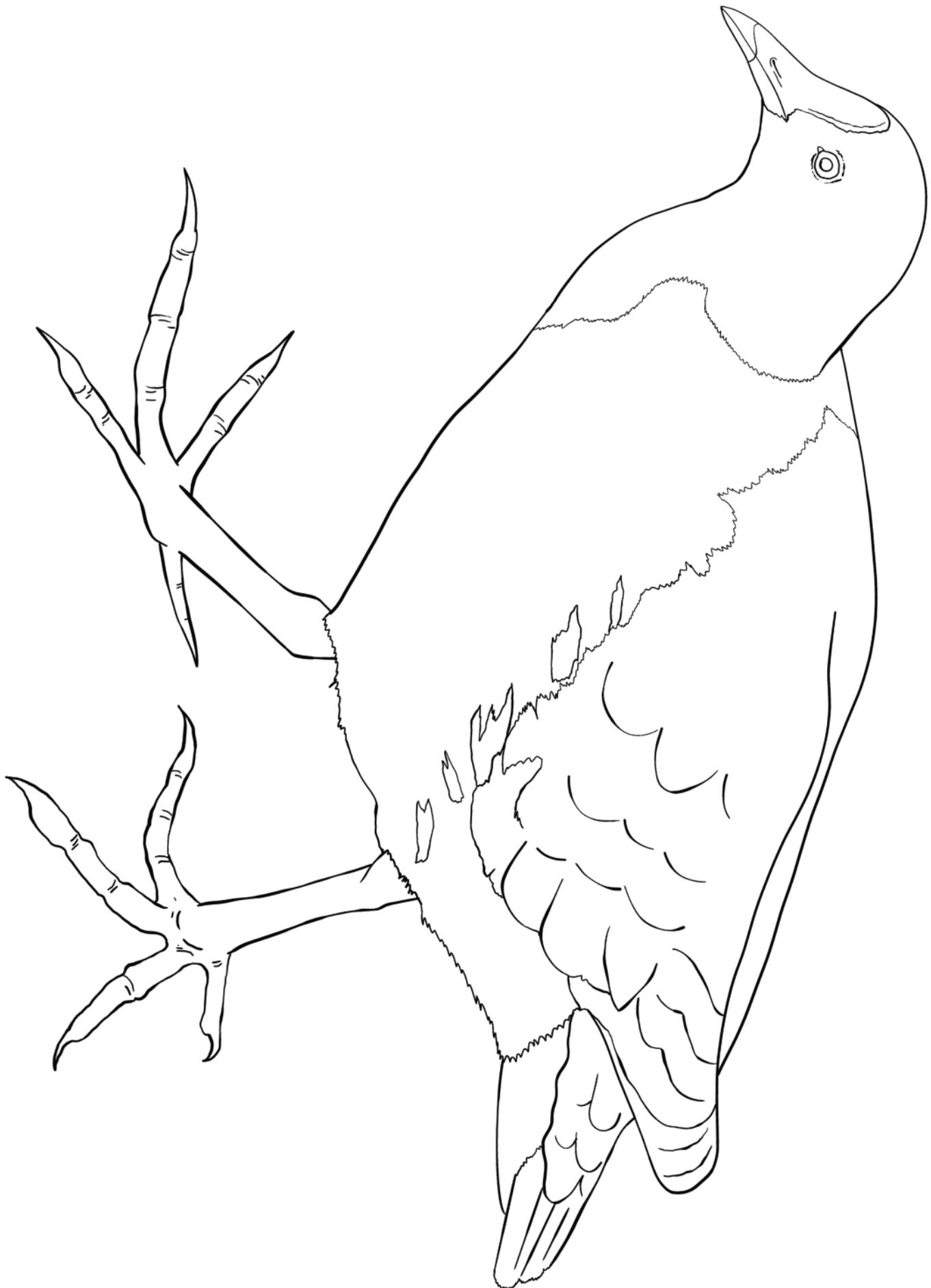
Mallard drake *Anas platyrhynchos*

# THE STORY OF THE RIVER



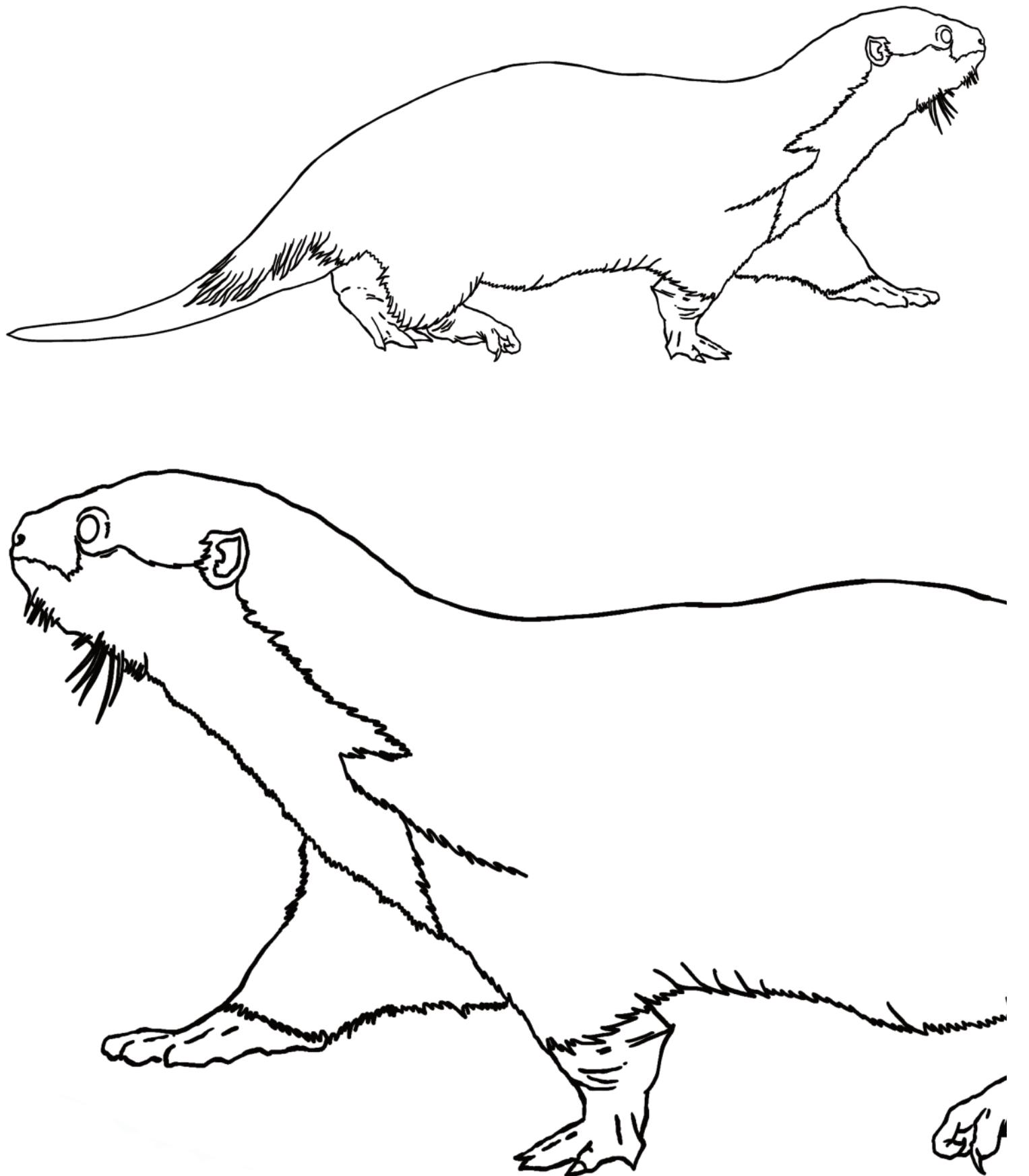
Dragonfly nymph Nimfeach snaithead mhór Odonata / Epiprocta

# THE STORY OF THE RIVER



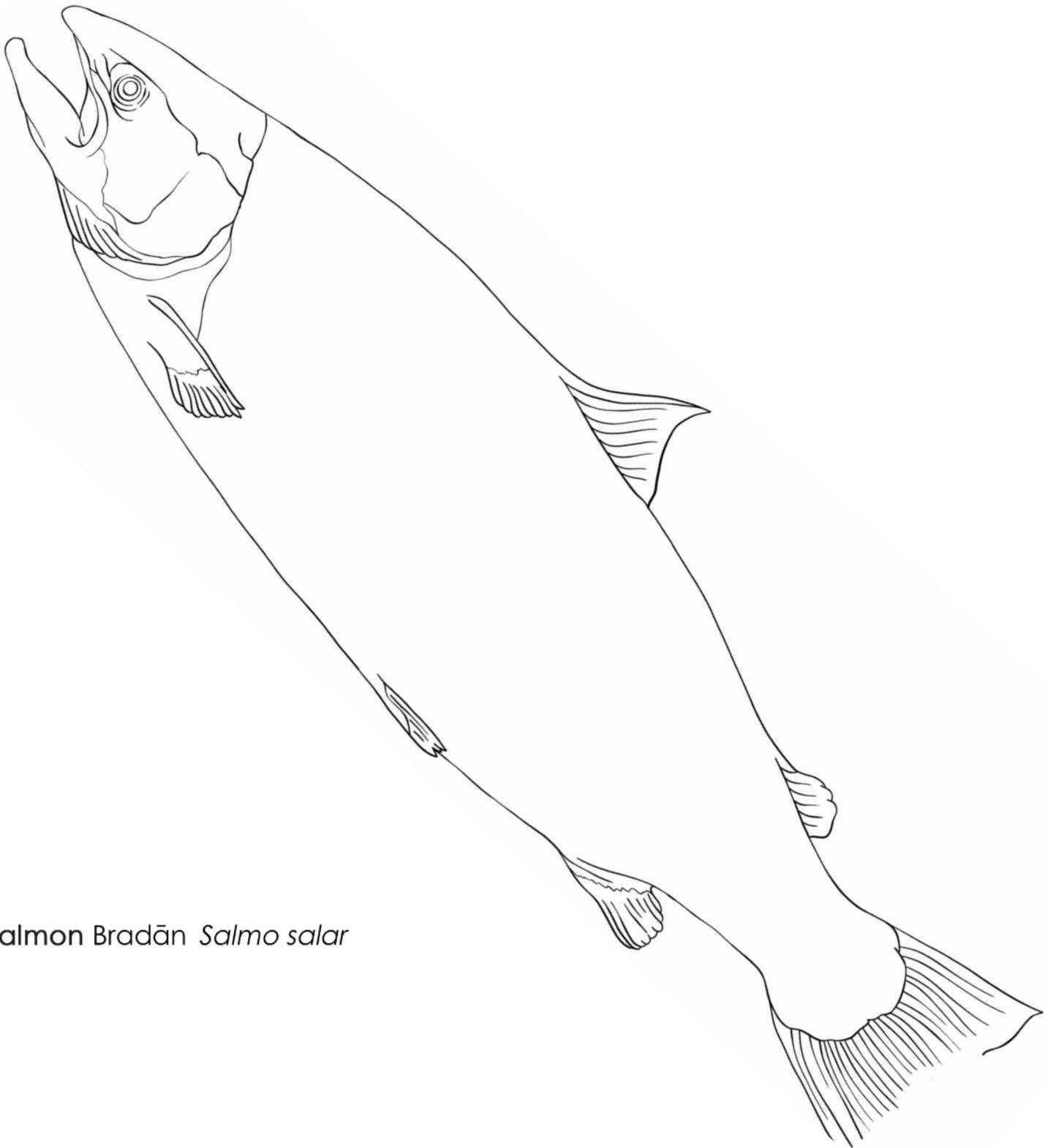
Moorhen Cearc uisce *Gallinula chloropus*

# THE STORY OF THE RIVER



Eurasian Otter Madra uisce *Lutra lutra*

# THE STORY OF THE RIVER



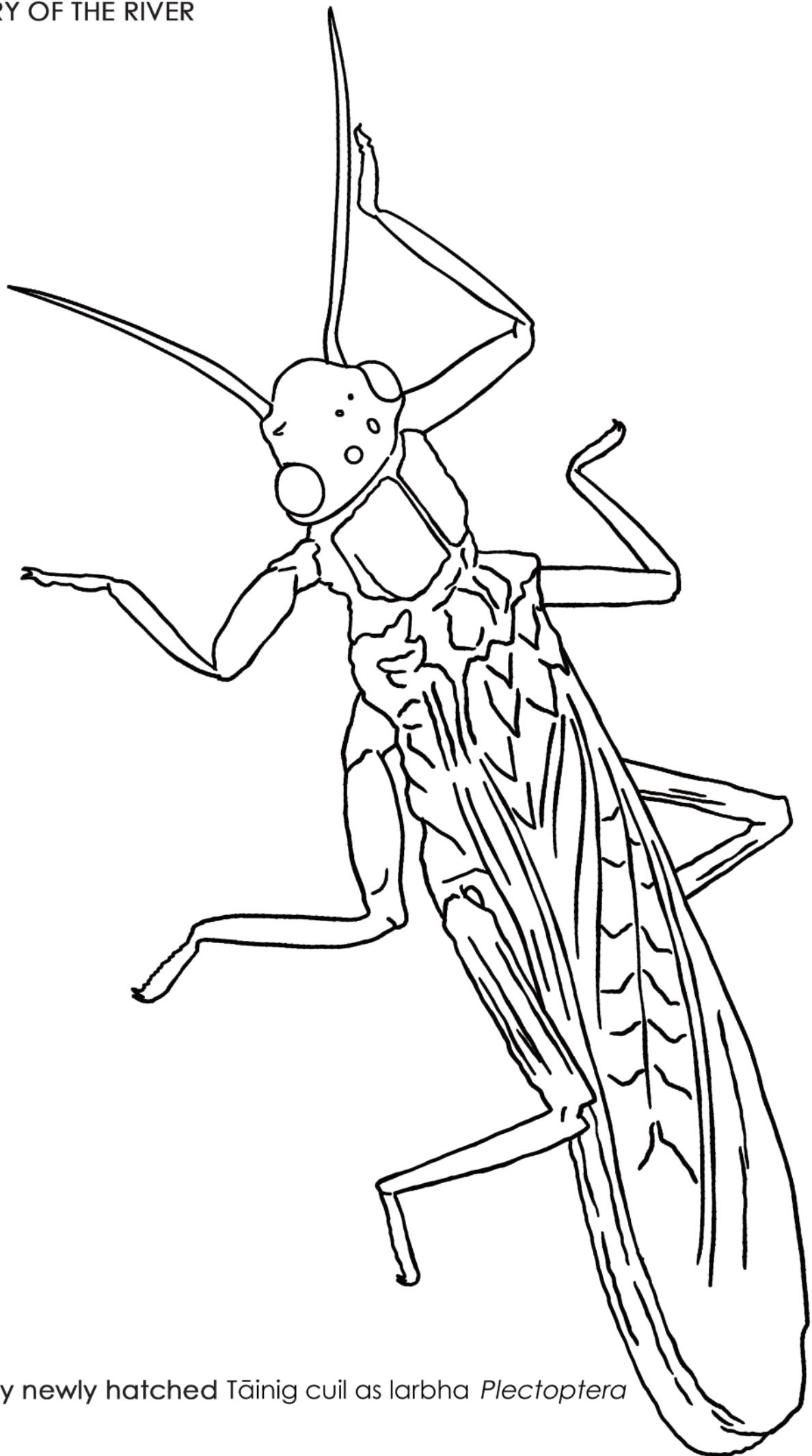
Salmon Bradān *Salmo salar*

School: .....

Teacher: .....

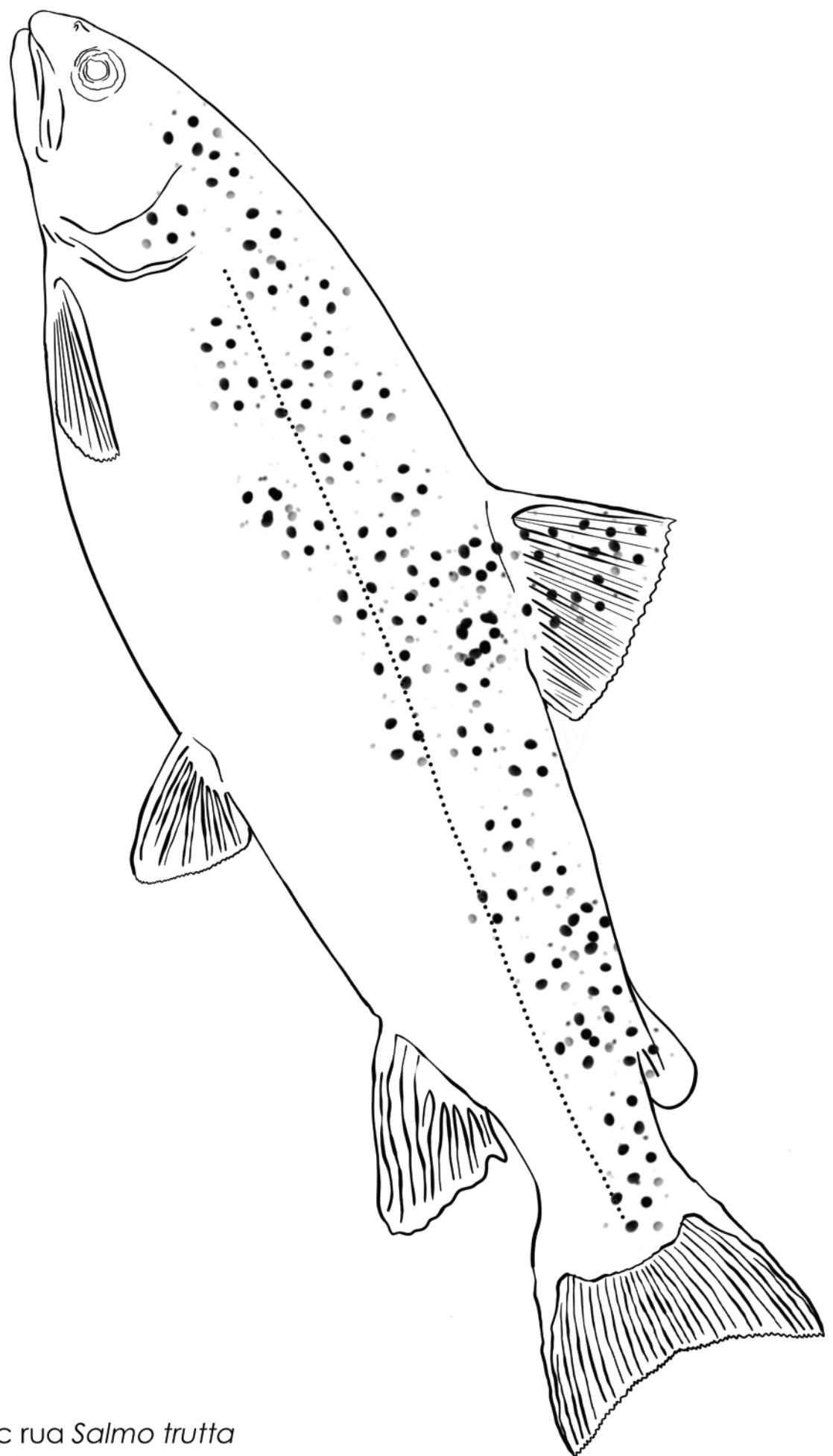
Class(es): .....

# THE STORY OF THE RIVER



Stonefly newly hatched Tāinig cuil as larbha *Plectoptera*

# THE STORY OF THE RIVER



Brown trout Breac rua *Salmo trutta*



Nanny River *Abhainn an Eanaigh*

## Éiceachóras fionnusisce lotic

Seo scéal imoibrithe ainmhithe agus plandaí a mhaireann i ggnáthóg abhainn. Tá leagan shimplí den ghnáthóg seo le feiceáil sa phostaer, "Scéal an Abhainn". An sprioc atá leis an bpostaer seo ná an chúis atá ag feithidí sa ghnáthóg seo agus gnáthóga eile a shoileáriú.

Tá tábhacht intreach, díreach nó indhíreach ag feithidí mar fhoinsé bia do na hardainmhithe; éisc, éin, ialtoga agus madraí uisce/dobharchú.

Tá 25,000 speiceas feithidí in Éirinn. Tá siad gar do bhun an bhiashlabhra. Tá staidéar ón Ghearmáin a thuairiscíonn go bhfuil laghdú de 75% tagtha go ginearálta ar méid feithidí i dtuaisceart na hEorpa le 30 bliain anuas. Ag an bpointe seo tá 26% de h'ein na tíre seo ar tí diobhadh. Tá ceangail idir an dá rud. Más mian linn an timpeallacht a chaomhnú ní mór dúinn ár bhfeithidí a chaomhnú freisin. Caithfidh muid foghlaim fúthú, léirthuiscent a bheith again orthu agus stop a chuir leis an marú. Tá fios mitheach againn ar na pailneoirí; beacha, bumbóga, beacha ghabhair, feileacán. Déanann na pailneoirí seo beagán níos mó ná 1% de fheithidí na tíre. Bhfeidir go bhfuil sé in am dúinn foghlaim faoin 99% eile? Cuileoga uisceach mar thus.

### Maicrinveirteabraigh

Déanann an téarma maicrinveirteabraigh cur síos ar orgánach a bhfuil cónaí orthu ar ghrinneall abhainn, san áireamh tá peisteanna, ciaróga ach anseo déanfaidh muid trácht ar roinnt fheithidí eitilte atá le fáil go coitianta i ngach abhainn. Is cuid thábhachtach de ghnáthóg abhainn na macroinveirteabraigh a athraíonn ina chuileoga. Conaíonn siad i leabha abhainn agus íosann siad an dráimh agus na duilleoga a thagann isteach in abhainn. Méadaíonn siad luas lobhadh an ábhar seo 1000 uair. Má shiúlann tú ar leaba abhainn i Mí na Samhna tabharfaidh tú faoi deara go bhfuil sé clúdaithe le duilleoga atá ag lobhadh. Má fheiceann tú na tuillte a tharlaíonn ag an am sin den bhiliaín feicfidh tú go bhfuil an oiread dráimh san uisce go bhfuil sé modartha.

Ar smaoinigh tú riamh faoi cén fáth atá an abhainn sin chomh glan le fíorusce, an tEarrach dár gcionn?

Níl sé ar fad imithe le sruth, tá sé ithe ag macroinveirteabraigh. Glanann siad an abhainn agus déann siad ináitrithe do speiceas eile an abhainn.

Is dúil riachtanch do phiramid bia iad na feithidí. Braitheann gach speiceas atá níos airde sa phiramid orthu go díreach nó go hindíreach mar fhoinsé bia. Téann a bhfolláine i bhfeidhm ar gach speiceas eile sa ghnáthóg. Is fiú nótáil gur féidir léibhéal truaillithe abhainn a mheas trí bhreathnóireacht ar an réimse macroinveirteabraigh atá ann.

Is macasamhlú iad na speiceas sa phostaer do na céadta speiceas in ionad an chúig atá luaite; an chuil Bhealtaine, an cuil chadain, an cuil chloch, míoltóig agus an tsnáithid mhór. Tosaíonn said ar fad mar ubháin agus téann said trí stáideann nimfeachagus ag an bpointe dheirneach dá saol tagann said amach mar chuileoga, cúplaíonn said agus cuitear tú leis an phróiséis arís. Is creachadóirí gach speiceas eile an tsnáithid mhór agus maireann said níos faide; suas le cúig bliana mar macroinveirteabraigh agus suas le trí sheachtain mar chuileog. Tá míoltóga ar an taobh eile den scála, cúpla mí mar macroinveirteabraigh agus cúpla uair an chloig mar chuileog.

Má mharaíonn truailliú na feithidí seo bíonn éifeacht dhíobhálach ar an éiceachóras. Léiríonn an chinéal feithidí atá ag conaí san abhainn an leibhéal glainteacht nó truailliú atá ann. Ag an am seo 2021 ón bhfoinsé i gCartún go dtí Stáisiún na nGardaí i dTuaim athraíonn an chaighdean uisce in Abhainn an Nanny ó stadas mhaith go stadas mheasartha agus é faoi mhonatóireacht ag an EPA( Caighdén Uisce in Éirinn 2013-2018) Caithfidh muid ar fad tacú le chéile le caighdeán uisce an Nanny a chosaint agus a fheabhsú."



## THE STORY OF THE RIVER

- |   |                                     |
|---|-------------------------------------|
| 1. Newly emerged Teneral Dragonfly      | 1. Tāinig snaithhead mhór as larbha |
| 2. Eurasian Otter                       | 2. Madra uisce                      |
| 3. Fully fledged dragonfly imago        | 3. Snaithhead mhór                  |
| 4. Mallard drake                        | 4. Mallard                          |
| 5. Common Duckweed                      | 5. Ros lachan                       |
| 6. Dipper                               | 6. Gabha dubh                       |
| 7. Daubenton's Bat                      | 7. Ialtog uisce                     |
| 8. Moorhen                              | 8. Cearc uisce                      |
| 9. Grey Wagtail                         | 9. Glasóg liath                     |
| 10. Pied Wagtail                        | 10. Glasóg shráide                  |
| 11. Adult Stonefly                      | 11. Snathaid buí                    |
| 12. Kingfisher                          | 12. Cruidín                         |
| 13. Non-biting Midge (Black gnat midge) | 13. Mioltóg                         |
| 14. Salmon                              | 14. Bradān                          |
| 15. Fool's-water-cress                  | 15. Gunna uisce                     |
| 16. Salmon parr                         | 16. Muóg bradāin                    |
| 17. Adult Mayfly                        | 17. Cuil bhealtaine                 |
| 18. Adult Sedge/Caddisfly               | 18. Cuil chadáin                    |
| 19. Water-Crowfoot                      | 19. Néal uisce coiteann             |
| 20. Grey Heron                          | 20. Corr rēisc                      |
| 21. Reed canary grass                   | 21. Cuiscreach                      |
| 22. Common reed                         | 22. Giolach                         |
| 23. Caddisfly larva "Cased caddis"      | 23. Cuil chadáin Cásáidach          |
| 24. Freshwater hog louse                | 24. Míol uisce                      |
| 25. Brown trout                         | 25. Breac rua                       |
| 26. Non-biting Midge larva (Bloodworm)  | 26. Nimfeach mioltóg                |
| 27. Mayfly nymph                        | 27. Nimfeach cuil bhealtaine        |
| 28. Mayfly egg                          | 28. Uibheacha cuil bealtaine        |
| 29. Dragonfly egg                       | 29. Uibheacha snaithead mhór        |
| 30. Dragonfly nymph                     | 30. Nimfeach snaithead mhór         |
| 31. Canadian Waterweed                  | 31. Failli uisce                    |
| 32. Dragonfly nymph climbing to hatch   | 32. Snaithead mhór dreapadóireacht  |
| 33. Stonefly newly hatched              | 33. Tāinig cuil as larbha           |
| 34. Water-dropwort                      | 34. Dathabha                        |
|   | 1. Odonata/Epiprocta sp.            |
|   | 2. Lutra lutra                      |
|   | 3. Odonata/Epiprocta sp.            |
|   | 4. Anas platyrhynchos               |
|   | 5. Lemna Minor                      |
|   | 6. Cinclus cinclus                  |
|   | 7. Myotis daubentonii               |
|   | 8. Gallinula chloropus              |
|   | 9. Motacilla cinerea                |
|   | 10. Motacillaa alba yarellii        |
|   | 11. Plectoptera                     |
|   | 12. Alcedo atthis                   |
|   | 13. Chironimid                      |
|   | 14. Salmo salar                     |
|   | 15. Apium nodiflorum                |
|   | 16. Salmo salar                     |
|   | 17. Ephemeroptera                   |
|   | 18. Trichoptera                     |
|   | 19. Ranunculus sp.                  |
|   | 20. Ardea cinerea                   |
|   | 21. Phalaris arundinacea            |
|   | 22. Phragmites australis            |
|   | 23. Trichoptera                     |
|   | 24. Asellus aquaticus               |
|   | 25. Salmo trutta                    |
|   | 26. Chironimid                      |
|   | 27. Ephemeroptera                   |
|   | 28. Ephemeroptera                   |
|   | 29. Odonata/Epiprocta               |
|   | 30. Odonata/Epiprocta               |
|   | 31. Elodea canadensis               |
|   | 32. Odonata/Epiprocta               |
|   | 33. Plectoptera                     |
|   | 34. Oenanthe sp.                    |

