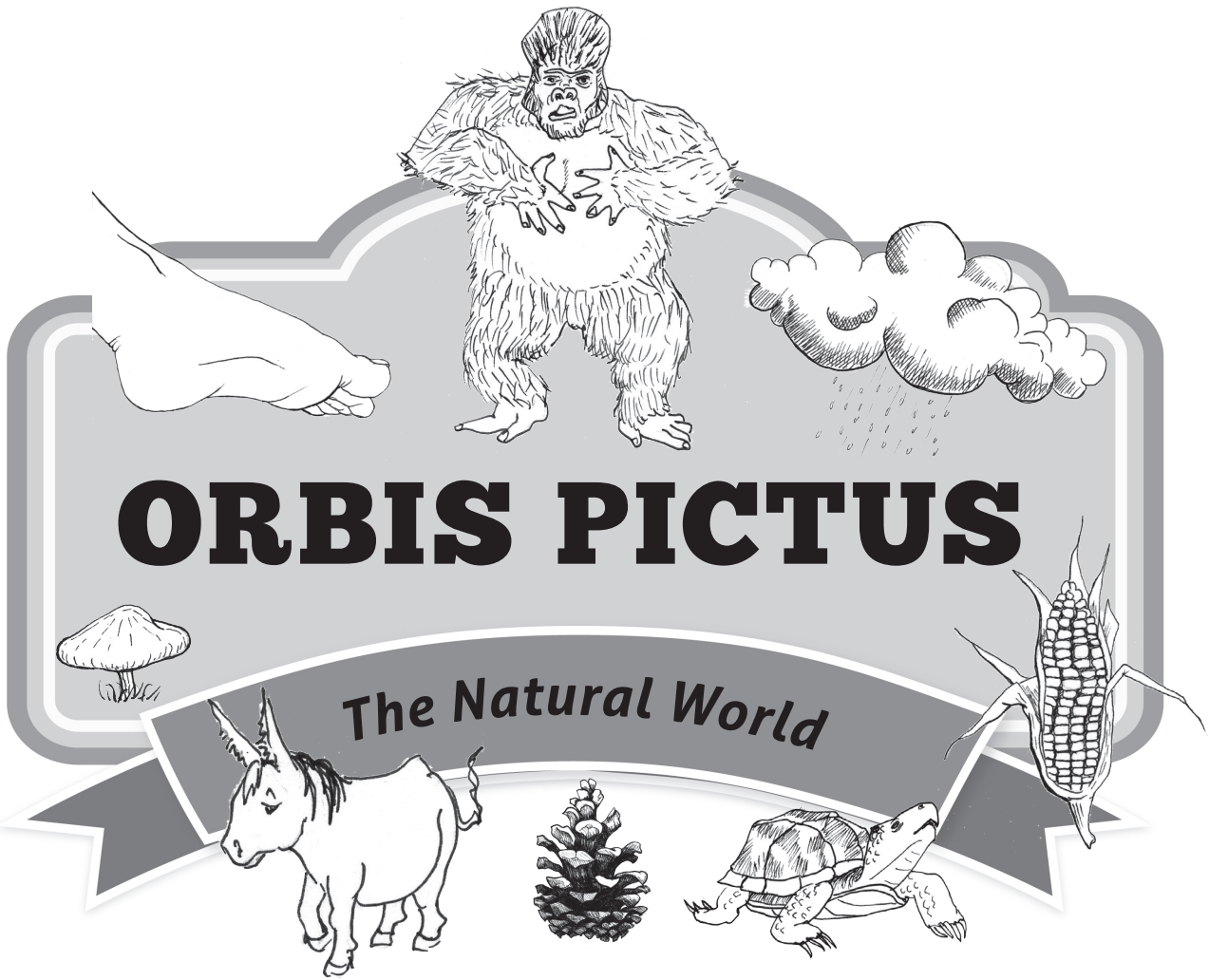


ORBIS PICTUS

The Natural World



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Timothy Griffith

**illustrations by Nathan Stevenson,
Sarah Schoolland, and Jessica Evans**

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Timothy Griffith, *The Natural World*

Illustrations by Nathan Stevenson, Sarah Schoolland, and Jessica Evans

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<i>Introduction</i>	7
1. Genera Animalium	12
2. Membra Quadrupedis	14
3. Membra Piscis et Avis	16
4. Bestiae Mansuetae	18
5. Bestiae Ferae	20
6. Magnae Bestiae	22
7. Parva Animalia	24
8. Aves Ferae	26
9. Aves Aquatiles.	28
10. Aves Aliae	30
11. Bestiae Marinae	32
12. Bestiolae	34
13. Apes.	36
14. Quae Gignuntur e Terra	38
15. Membra Arborum	40
16. Arbores Silvestres.	42
17. Nuces et Baccae.	44

18. Genera Florum.	46
19. Poma	48
20. Holera et Legumina.	50
21. Condimenta	52
22. Corpus	54
23. Caput et Facies	56
24. Manus et Pes.	58
25. Membra Interiora Corporis	60
26. Ossa	62
27. Terra	64
28. Mare.	66
29. Dies et Nox.	68
30. Tempestas Caeli.	70
31. Genera Terrae	72
32. Membra Floris et Frumenti	74
<i>Glossary</i>	77
<i>Appendix of Declensions</i>	99



INTRODUCTION

Commenius' *Orbis Pictus*

The *Orbis Pictus* series is a new twist on a 350-year-old idea for teaching Latin. The namesake and inspiration for this new textbook is a work of the celebrated educator, John Amos Commenius (1592-1670) called *Orbis Pictus* or *Orbis Sensualium Pictus* ("The Visible World in Pictures"). This book is considered to have been the first children's picture book. It was first printed in 1658 in Nuremberg in Latin and German, subsequently translated into numerous languages, and widely used throughout world for over two hundred years.

The original *Orbis Pictus* was designed to be a child's first Latin textbook and introduced vocabulary to beginning students (about twelve or thirteen years old) through 150 chapters on every topic from the nature of God to the water cycle to species of birds to a cobbler's workshop. Each chapter contained illustrations of the vocabulary to be taught and very simple narrative in both Latin and a student's mother tongue in parallel columns.

Commenius produced this textbook in part to correct problems with how students were learning Latin vocabulary in his day: students were either 1) learning lists of Latin vocabulary (often from a dictionary) along with their definitions, or 2) hoping to build up vocabulary naturally by reading Latin texts. He criticizes the first practice, pointing out that students who learn lists of vocabulary frequently do not fully understand the concepts themselves behind the words. He likens a person who tries to learn vocabulary in such a way to one who "hopes he can gather the sand of the seashore with his bare hands." He allows that the second method (learning vocabulary by wide reading) is possible, but points out that it is inefficient since a student only encounters vocabulary at random when reading. As he put it, "It would be much easier for one to learn to distinguish all the animals by sight by visiting Noah's ark . . . than to travel to the whole world until he has chanced upon every animal."

Commenius' *Orbis Pictus* was designed to improve upon these two methods, 1) by giving illustrations and context for each new word so students could understand exactly what it was referring to, and 2) by systematizing vocabulary by topic. Although modern Latin textbooks have made great strides in introducing basic Latin grammar to students, modern classrooms have largely fallen into these same two pitfalls when teaching new vocabulary. The result is that students who have studied Latin for many years often lack even a rudimentary knowledge of Latin vocabulary. This is a travesty, considering that knowledge of Latin vocabulary bears the most immediate fruit for a modern student of Latin.

Since Commenius' method was so effective in improving the instruction of Latin vocabulary in the seventeenth century, I have generally sought to follow his example in the construction of this textbook. However, in order to be more useful to a modern audience, I have made a few significant changes.

First, I have not attempted to be exhaustive. The original *Orbis Pictus* is daunting to the modern student for the sheer number of vocabulary it introduces (upwards of ten thousand). I have sought instead to include only the words most common in Latin texts, words that are frequently

used in biology, and words for things modern students are most likely to want to know (e.g., *taraxacum*, "dandelion").

Second, I have used macaronic (English mixed with Latin) instead of straight English for the vernacular column. This is to allow a student to pick up Latin vocabulary from context without having any prior knowledge of Latin. The English equivalents for each Latin word are included, but only in an appendix. This encourages a student to figure the meaning of the word out from the picture provided or context.

Third, I have included wherever possible something axiomatic about the concept the word refers to, in order both to present a handle to aid a student's memory, and also to help younger students better understand the concept that the word represents.

Lastly, I have not attempted to encompass every topic in one volume. The first volume contains topics concerning the natural world. The second will focus on Greco-Roman society with chapters on war, agriculture, clothing, etc. Subsequent volumes will likely focus on medieval and modern society.

Methodology

Although Latin has been remarkably stable for over two millennia, there have been significant changes in its vocabulary and word order. It is consequently impossible to choose a perfect general vocabulary or composition style, especially considering the broad goals of this textbook. I have attempted to do what is most useful for a general student of Latin and will doubtless offend purists in every camp.

In regard to word order, even a beginning student of Latin may notice that I do not follow the style of Cicero and other orators that has become accepted as "authentic." The truth is that authentic Latin is extraordinarily flexible in this regard. I have deliberately taken advantage of this to make my parallel columns in English and Latin as like as possible. Although the style of both the English and Latin is consequently somewhat affected, there is a clear pedagogical advantage to using a similar word order: even the most elementary student may find the English equivalents of the Latin column by reading it as they would an interlinear text.

Whenever practical I have selected words and spellings used in the classical period. Where synonyms exist, I have chosen what seems most popular in the surviving literature. Because his usage is more precise, I often preferred words found in Pliny the Elder's *Natural Histories* to those used by the poets and orators. Additionally, since this book seeks to aid a student's comprehension of modern technical terminology, I have preferred words later adopted in the scientific community. When absolutely necessary I have used neo-Latin words, which are clearly designated with an asterisk. For teachers who object to my vocabulary choice, I would encourage them to simply change it. I have included a list of possible alternatives in the glossary.

***Orbis Pictus* Users' Guide**

This textbook is not designed to replace a teacher. It is a merely a tool, but one flexible enough to aid anyone teaching or learning Latin at any level. As such, it contains no schedules, worksheets, quizzes, or instruction for students. Teachers, parents, and those learning Latin on their own should use it in such a way and at such a pace that best meets their needs. That said, I have included some general guidelines.

For Beginning Students

The Natural World is divided into thirty-two chapters, and each in *Orbis Pictus 1: Mundus Naturalis*, each chapter is focused on some area of the natural world. Every chapter is organized into four parts: the picture, the word list, the macaronic sentences, and the Latin sentences.

Specific vocabulary concepts in a given chapter are marked with a lowercase Roman numeral. By matching numerals, a student can find the specific Latin word for the concept in the vocabulary list, which is located under the picture. The numeral also matches the macaronic sentence (located in the left-hand column) which describes, specifies, and contextualizes the vocabulary word.

In the right-hand column, the student will find Latin translations of the macaronic sentences. I have preserved word order between the sentences to allow the reader to refer back to the macaronic sentences, if stumped by the Latin. Should a reader need further help, all the vocabulary for the chapters is found in the back of the book, along with English definitions and pronunciation help for singular and plural forms. Also included in the glossary at the back are extra words which could crop up during the study of a given chapter.

Students that cannot yet read Latin should ignore the right-hand column entirely and begin instead with the macaronic story in the left-hand column. As they come to Latin words, they should try to guess from context what they mean. This can be done as a class or individually. They should also be encouraged to refer to the pictures on the left-hand page. Once students have made their way through the entire column by going back and forth between the macaronic text and the pictures, they should quiz themselves on the pictures alone. Once students have mastered all the words in the chapter this way, a teacher or parent may quiz them in two ways: a teacher may point out the pictures in the book, or she may read the macaronic text aloud, and allow students to fill in the Latin words. This kind of quiz can be oral or written. Ideally, it would be done orally first, then written. These exercises can be done one after another in a day or stretched out over an extended period of time. It is normally difficult to learn more than one chapter of vocabulary per week.

In the case of younger students, it is highly recommended to spend some time talking about the concept behind each Latin word. For instance, once a third-grader (or a class of third-graders) makes the realization that *aquila* means “eagle,” try asking what he knows about eagles. Then, have a discussion about it. Anyone that has ever taught elementary or junior-high students knows how much they love discussions. Discussions of this sort are not tangents—thinking about the concept will solidify what the word really signifies.

For Advanced Students

The right-hand column is designed for students who already know Latin grammar and can read Latin prose. They should begin by reading slowly through the right-hand column. If they prefer, they can first use the pictures and labels to learn the major vocabulary. When they come to unfamiliar words in the text, they should first attempt to figure them out from context. If they cannot, they can look at the pictures or the left-hand column to see what a word or phrase means. Once they have made it through the entire column once slowly, they should read over it several times to make sure they remember all the words. Advanced students can be quizzed in the same way as beginning students. Additionally, they can be assigned to retranslate the English column into Latin without referring to the Latin column. They can also write a Latin composition using some of the new vocabulary.

As a Stand-Alone

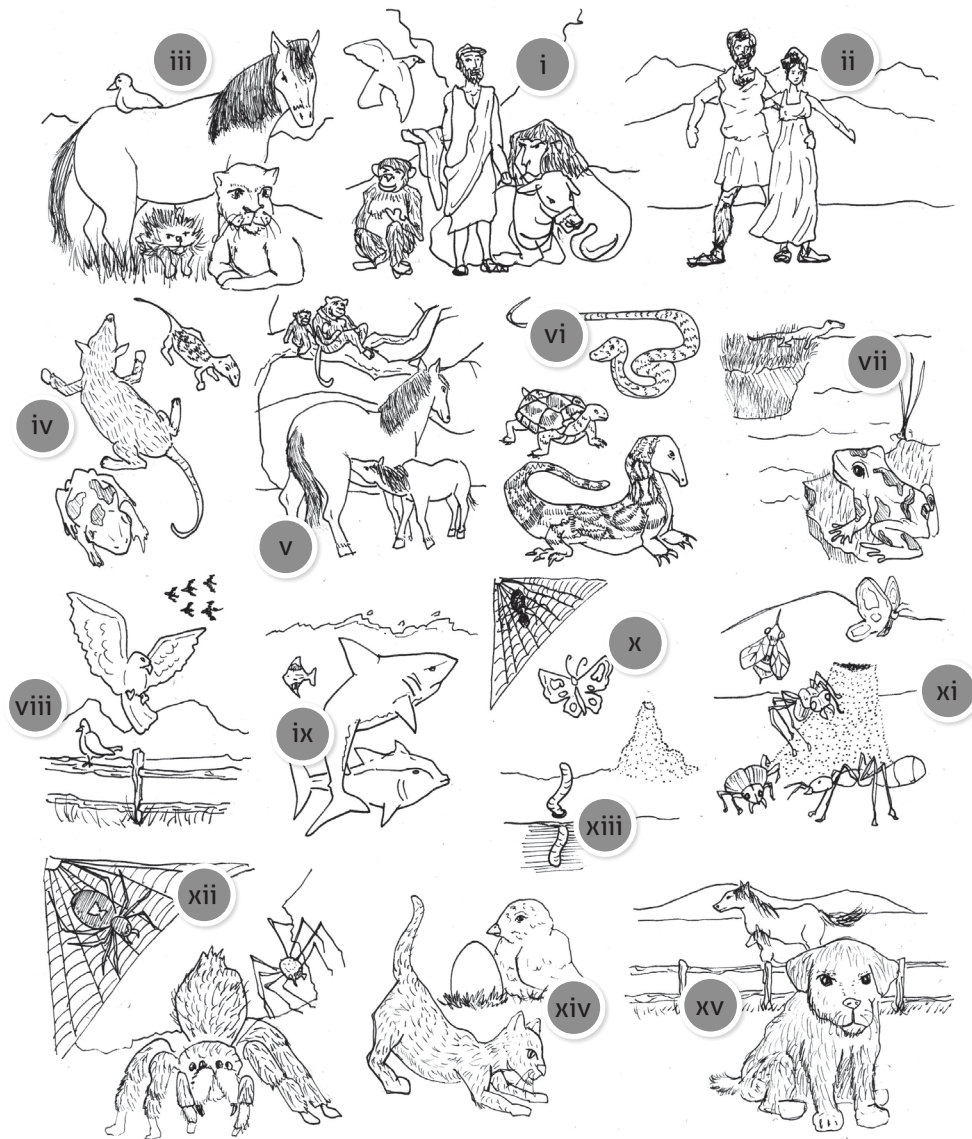
Latin vocabulary is useful on its own. Even without learning the grammar and language, a student can learn how words work, learn Latin roots for English and the Romance languages, and build a foundation for scientific terminology. If students only wish to work on vocabulary roots, they may use the Orbis Pictus series without ever learning the grammar.

In Combination with Another Textbook

If the students are working through another textbook, vocabulary with *The Natural World* can serve as a welcome break to the students' chanting, translating, or reading. However, since other textbooks may use different vocabulary, it is recommended that a teacher replace words throughout *The Natural World* to make the vocabularies consistent.

ORBIS PICTUS

The Natural World



CH. 1 WORD LIST

i. animal, animālis, n.

ii. homo, -inis, c.

iii. bestia, -ae, f.

iv. quādrupēs, quādrupedis, f.

v. mammal, mammālis, n.

vi. reptile, -is, n.

vii. amphibion,* -ī, n.

viii. avis, -is, f.

ix. piscis, -is, m.

x. bestiola, -ae, f.

xi. insectum, -ī, n.

xii. arānea, -ae, f.

xiii. vermis, -is, m.

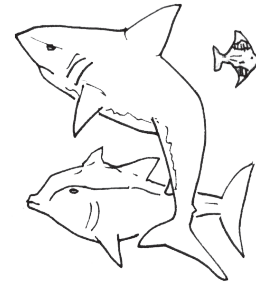
xiv. pullus, -ī, m.

xv. catulus, -ī, m.



GENERA ANIMALIUM

Ch. 1



Whatever draws breath is called an *animal*. i

The *animal* that rules the world is the *homo*. ii
All other *animalia* are also called *bestiae*. iii

An *animal* that has four feet is called a *quādrupēs*. iv

A *quādrupēs* that feeds its young with milk is called a *mammal*. v

A *quādrupēs* that crawls on its belly is called a *reptile*. vi

A *quādrupēs* that lives both in water and on land is called an *amphibion*. vii

An *animal* that has two feet and two wings is called an *avis*. viii

An *animal* with fins and a tail that lives in the water is called a *piscis*. ix

A very small *bestia* is called a *bestiola*. x

A *bestiola* with six legs is called an *insectum*. xi

A *bestiola* with eight legs that weaves webs is called an *arānea*. xii

A *bestiola* without legs that crawls on the ground is called a *vermis*. xiii

The young of any *animal*, but especially of an *avis*, is called a *pullus*. xiv

The young of a *quādrupēs* is also called a *catulus*. xv

Quīdquīd dūcit animam appellātur *animal*.

Animal quod regit orbem terrārum est *homo*.
Omnia alia *animālia* etiam appellāntur *bestiae*.

Animal cui sunt quattuor pedēs appellātur *quādrupēs*.

Quādrupēs quae alit prōlem lacte appellātur *mammal*.

Quādrupēs quae rēpit super ventrem appellātur *reptile*.

Quādrupēs quae habitat et in aquā et in terrā appellātur *amphibion*.

Animal cui sunt duo pedēs et duae alae appellātur *avis*.

Animal cum pinnīs et caudā quod habitat in aquā appellātur *piscis*.

Exigua *bestia* appellātur *bestiola*.

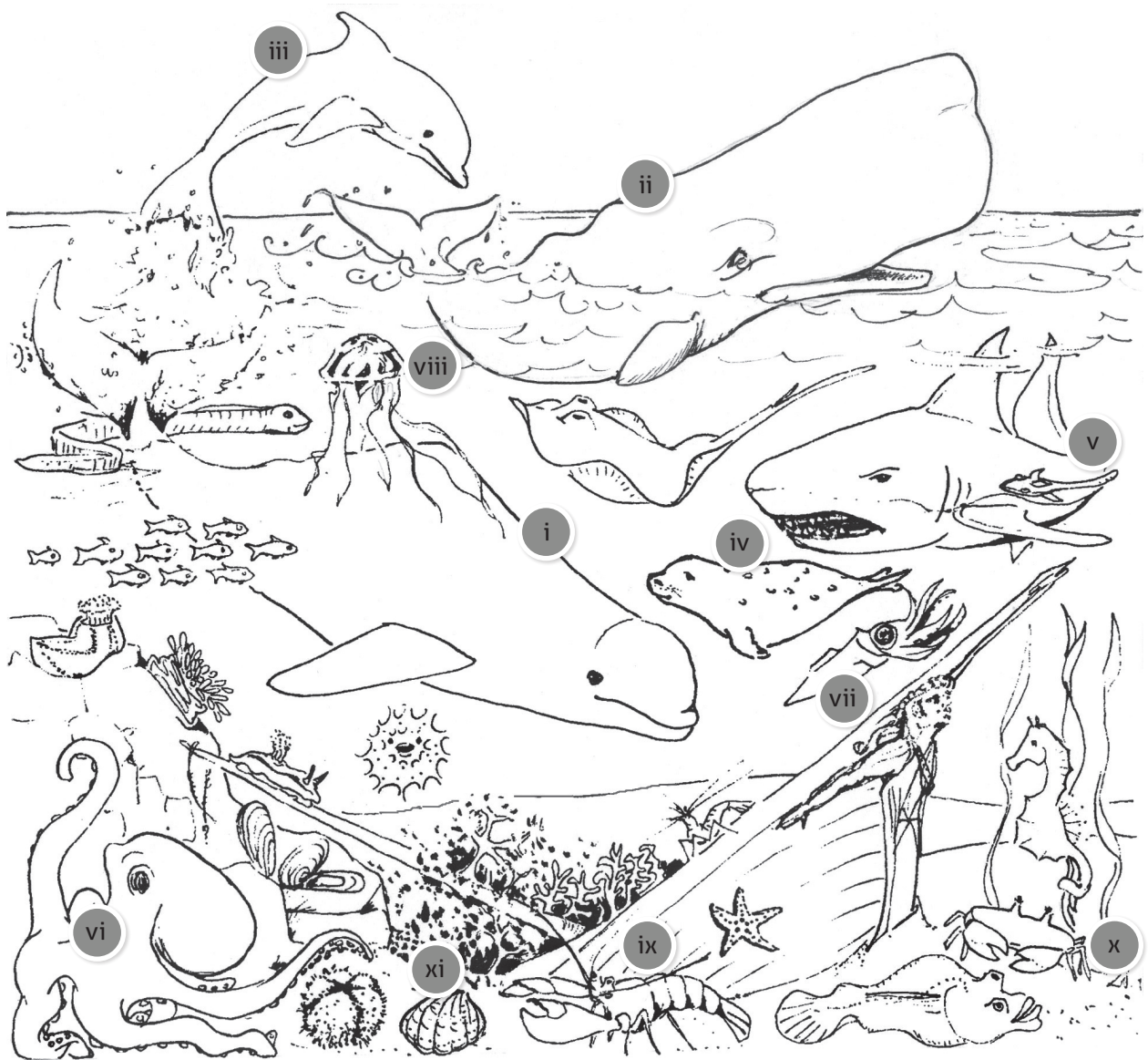
Bestiola cum sex pedibus appellātur *insectum*.

Bestiola cum octō pedibus quae tēxit tēlās appellātur *arānea*.

Bestiola sine pedibus quae rēpit in terrā appellātur *vermis*.

Prōlēs cuiusvīs *animālis* sed maximē *avis* appellātur *pullus*.

Prōlēs *quādrupedis* etiam appellātur *catulus*.



CH. 11 WORD LIST

i. bālaena, -ae, f.

ii. cētus, -i, m.

iii. delphīnus, -i, m.

iv. phōca, -ae, f.

v. squalus, -i, m.

vi. pōlypus, -i, m.

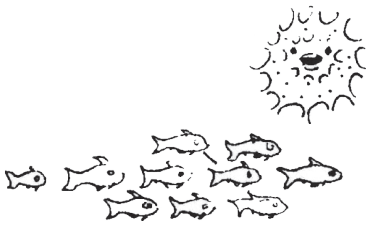
vii. sēpia, -ae, f.

viii. urtica, -ae, f.

ix. lōcusta, -ae, f.

x. cancer, cancrī, m.

xi. concha, -ae, f.



BESTIAE MARINAE

Ch. 11



The greatest of the animals of the sea is the *bālaena*, ⁱ which breaches the waves and spouts water from its blowhole.

Maximum animalium marīnōrum est *bālaena* quae ēmergit ex undīs et ēiicit aquam ex spīrāculō.

Fiercer is the *cētus*, ⁱⁱ which fishermen once hunted for the spermaceti in its giant head.

Ferōcior est *cētus* quem piscātōrēs olim vēnābantur ob sperma cētī in ingentī capite.

The most playful and friendliest to men is the *delphīnus*, ⁱⁱⁱ which sometimes even carries them on its back.

Maximē lascīvus et amīcus hominibus est *delphīnus* quī interdum etiam vehit eōs super dorsum.

The swift *phōca*, ^{iv} which lives both on land and at sea, barks like a dog.

Celeris *phōca* quae habitat et in terrā et in marī latrat tamquam canis.

The most terrifying to men is the *squalus* ^v because of its many teeth and its love for blood.

Maximē terribilis hominibus est *squalus* ob multōs dentēs et cupidinem sanguinis.

With its eight tentacles the soft *pōlypus* ^{vi} swims, hunts, and climbs ashore.

Octo tentāculīs mollis *pōlypus* natat, venātur, et ēgreditur in terram.

With its black ink the many-tentacled *sēpia* ^{vii} confuses its enemies and flees.

Atrāmentō frondōsa *sēpia* confundit hostēs et aufugit.

Swimming by contracting itself, the stinging *urtīca* ^{viii} spreads its hairs to catch little fish and swallows them.

Natāns contrahendō sē mordāx *urtīca* spargit frondem ut capiat pisciculōs, atque vorat eōs.

Protected by a fragile shell is the *lōcusta*, ^{ix} which has long thin antennae which feel out its way, and giant claws which pinch.

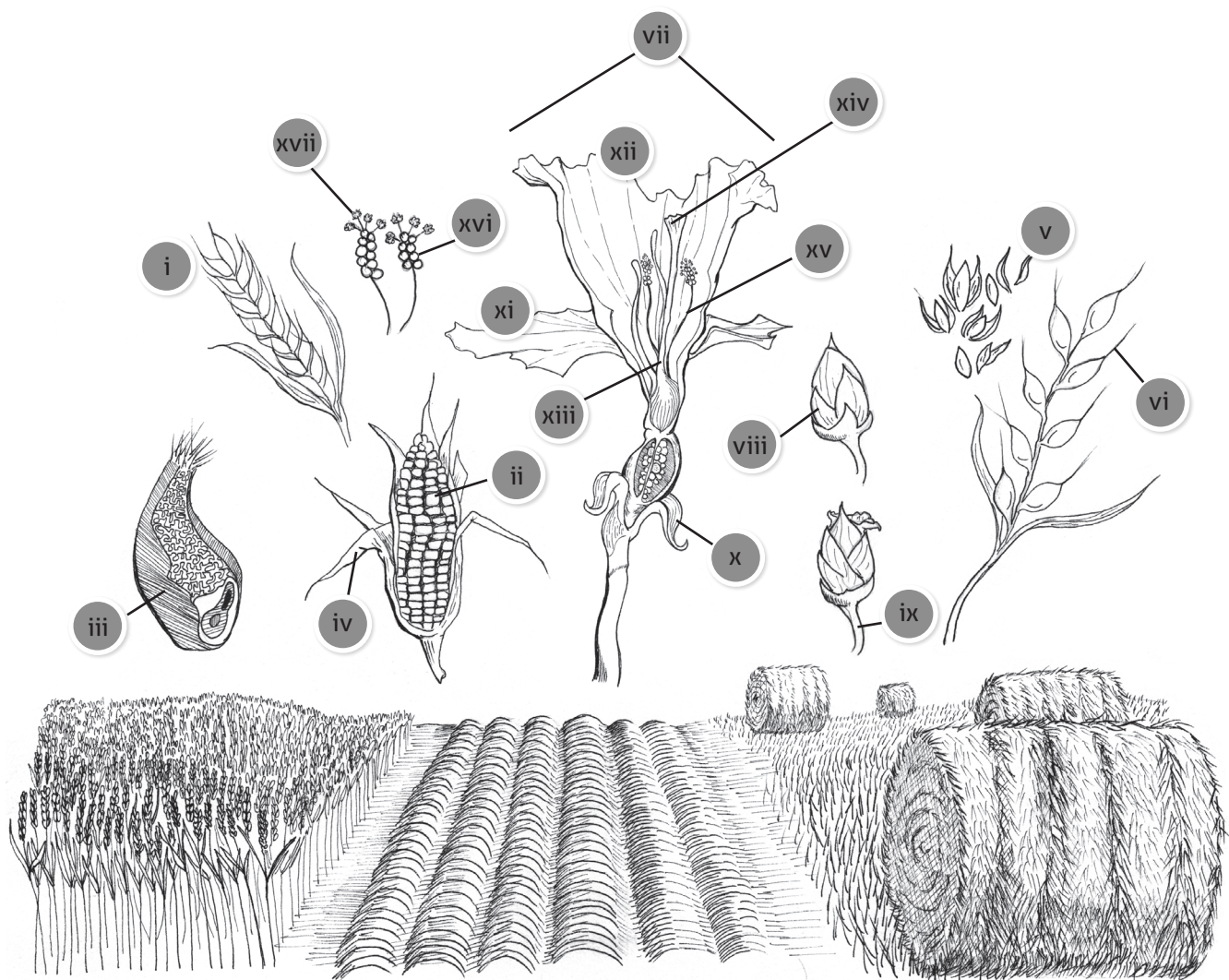
Mūnīta fragilī crustā est *lōcusta* cui sunt longa tenuia cornua quae perīclitant viam, et ingentēs chēlās quae vellicant.

A constellation gets its name from the *cancer*, ^x which walks sideways.

Constellātio trahit nōmen ā *cancrō* quī cēdit transversus.

A hard shell covers the various kinds of *conchae*, ^{xi} of which some produce pearls, others purple dye.

Dūra testa tegit varia genera *conchārum* quārum aliae gignunt margarītās, aliae purpuram.



CH. 32 WORD LIST

- | | | |
|----------------------|------------------------|-----------------------------|
| i. spīca, -ae, f. | vii. flōs, flōris, m. | xiii. pistillum,* -ī, n. |
| ii. grānum, -ī, n. | viii. gemma, -ae, f. | xiv. stigma,* stigmatis, n. |
| iii. furfur, -is, m. | ix. caulis, -is, f. | xv. stāmen,* stāminis, n. |
| iv. glūma, -ae, f. | x. calyx, calycis, m. | xvi. anthēra,* -ae, f. |
| v. palea, -ae, f. | xi. petalium,* -ī, n. | xvii. pollen,* pollinis, n. |
| vi. arista, -ae, f. | xii. corolla,* -ae, f. | |



MEMBRA FLORIS ET FRUMENTI

Ch. 32



Grain grows as a blade of grass, and soon is topped in a *spīca*. ⁱ

In the *spīca*, many *grāna* ⁱⁱ are enclosed, which are good for food.

The outer part of the *grānum*, which is hard and dark, is called *furfur*. ⁱⁱⁱ

The *grānum* itself is enclosed in a wrapper, which is called a *glūma*. ^{iv} Once the *granum* is removed, the empty *glūma* is called *palea*. ^v

The thin needles that stick out of the *glūma* are called the *arista*. ^{vi}

Many plants and trees bear a colorful *flōs*, ^{vii} which attracts bees.

The *flōs* begins as a closed *gemma*, ^{viii} which blooms at the end of a *caulis*. ^{ix}

The circle of leaves at the base of the *flos* is called a *calyx* ^x or "cup."

Each of the colored leaves of the *flos* is called a *petalium*. ^{xi}

All of the *petalia* together are called the *corolla*, ^{xii} which is a word that means "little crown."

The column in the center of a *flos* is called a *pistillum*. ^{xiii} On top of the *pistillum* is the *stigma*. ^{xiv}

Each of the threads that stand around the *pistillum* is called a *stāmen*. ^{xv}

On top each *stāmen* is an *anthera*, ^{xvi} which makes a dust called *pollen*. ^{xvii}

Frūmentum crescit in herbā et mox culminātur in *spīcam*.

In *spīcā* multa *grāna* inclūduntur quae sunt bona ad cibum.

Exterior pars *grānī* quae est dūra et nigra appellātur *furfur*.

Grānum ipsum inclūditur tegmine quod appellātur *glūma*. *Grānō* adēptō *glūma* inānis appellātur *palea*.

Tenuēs acūs quī ēminent ē *glūma* appellantur *arista*.

Multae stirpēs et arborēs ferunt multicolorem *flōrem* quī allicit apēs.

Flōs incipit in clausā *gemma* quae florescit in extrēmā *caule*.

Circulus foliōrum in basī *flōris* appellātur *calyx* vel "pōculum."

Quodque ex colōrātīs foliīs *flōris* appellātur *petalium*.

Omnia *petalia* ūniversa appellantur *corolla* quod vocābulum significat "parva corōna."

Columna in mediō *flōre* appellātur *pistillum*. In summō *pistillō* est *stigma*.

Quodque fīlum quod stat circum *pistillum* appellātur *stāmen*.

In summō *stāmine* est *anthera* quae facit farīnam appellātam *pollen*.

GLOSSARY

Latin-English

CH. 1

WORD LIST

- i. **animal**, animālis, n., *animal*
- ii. **homo**, -inis, c., *man*
- iii. **bestia**, -ae, f., *beast*
- iv. **quādrupēs**, quādrupedis, f., *quadruped*
- v. **mammal**, mammālis, n., *mammal*
- vi. **reptile**, -is, n., *reptile*
- vii. **amphibion**,* -ī, n., *amphibian*
- viii. **avis**, -is, f., *bird*
- ix. **piscis**, -is, m., *fish*
- x. **bestiola**, -ae, f., *bug*
- xi. **insectum**, -ī, n., *insect*
- xii. **arānea**, -ī, m., *spider*
- xiii. **vermis**, -is, , *worm*
- xiv. **pullus**, -ī, m., *chick; cub, kid, etc.*
- xv. **catulus**, -ī, m., *cub, kid, kitten, etc.*

SINGULAR

- ánimal
- hómo
- béstia
- quádrupes
- mámmal
- réptile
- amphíbion
- ávis
- píscis
- bestíola
- inséctum
- aránea
- vérmis
- púllus
- cátulus

PLURAL

- animália
- hómīnes
- béstiae
- quadrúpedes
- mammália
- reptília
- amphíbia
- áves
- písces
- bestíolae
- insécta
- aráneae
- vérmes
- púlli
- cátuli

SYNONYMS

- avis**: āles, ālitis, m./f.; volucris, -is, f.
bestia: fera, -ae, f.

CH. 2

WORD LIST

- i. **pilus**, -ī, m., *hair*
- ii. **villus**, ī, m., *fur*
- iii. **lāna**, -ae, f., *wool*
- iv. **saeta**, -ae, f., *bristle, whisker*
- v. **iuba**, -ae, f., *mane*

SINGULAR

- pílus
- víllus
- lāna
- saéta
- iúba

PLURAL

- píli
- vílli
-
- saétae
- iúbae

WORD LIST

- vi. **acūleus**, -ī, m., *quill*
 vii. **cutis**, -is, f., *skin*
 viii. **pellis**, -is, f., *hide*
 ix. **corium**, -ī, n., *leathery hide*
 x. **testa**, -ae, f., *shell*
 xi. **cornū**, -ūs, n., *horn*
 xii. **dens**, dentis, m., *tusk*
 xiii. **unguis**, -is, f., *nail, claw, talon*
 xiv. **ungula**, -ae, f., *hoof*

SINGULAR

- acūleus
 cūtis
 péllis
 córium
 tésta
 córnu
 déns
 únguis
 úngula

PLURAL

- acúlei
 cútes
 péllēs
 cória
 testae
 córnua
 déntēs
 únguis
 úngulae

EXTRA

- floccus**, -ī, m., *tuft of wool*
vellus, velleris, n., *fleece*

SYNONYMS

- acūleus**: spīna, -ae, f.
floccus: mallus, -ī, m.
pellis: tergus, tergoris, n.
testa: cortex, corticis, m.; crusta, -ae, f.;
 putāmen, putaminis, n.

CH. 3

WORD LIST

- i. **branchiae**, -ārum, f. pl., *gills*
 ii. **cauda**, -ae, f., *tail*
 iii. **dorsum**, -ī, n., *back*
 iv. **pinna**, -ae, f., *fin*
 v. **squāma**, -ae, f., *scale*
 vi. **spīna**, -ae, f., *spine*
 vii. **āla**, -ae, f., *wing*
 viii. **penna**, -ae, f., *feather*
 ix. **plūma**, -ae, f., *down feather*
 x. **rōstrum**, -ī, n., *beak*
 xi. **crista**, -ae, f., *crest*
 xii. **ōvum**, -ī, n., *egg*
 xiii. **nīdus**, -ī, m., *nest*
 xiv. **testa**, -ae, f., *shell*
 xv. **vitellus**, -ī, m., *yolk*
 xvi. **albūmen**, albūminis, n., *egg white*

SINGULAR

- caúda
 dórsum
 pínna
 squáma
 spína
 ála
 pénnā
 plúma
 róstrum
 crístā
 óvum
 nídus
 tésta
 vitéllus
 albúmen

PLURAL

- bránchiae
 caúdae
 dórsa
 pínnae
 squámae
 spínae
 álae
 pénnāe
 plúmae
 róstra
 crístāe
 óva
 nídī
 téstāe
 vitéllī
 albúmina