

高等学校试用教材

# 英语

第三册(生物类)

南开大学外文系 蒋增光 钱建业 主编

# English

人民教育出版社

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人 民 教 育 出 版 社

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本书供高等学校生物类专业使用,由南开大学外文系蒋增光、钱建业主编,南京大学陈纳逊、张景桂、刘镔主审。

南开大学汪士彬也参加了本书的编写工作。南开大学崔延子和丁沙铃为本书绘制了插图。本书初稿曾由南开大学外文系李宜燮、Margaret Decker和Phyllis Amos审阅过。

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# 前 言

本书为高等学校理科英语教材第三册(生物类),适于理科生物专业学生作为基础阶段英语教材,也可以作为阅读阶段教材。

本书共 22 课。除精读课文外,每课还配有泛读材料一篇,书后附补充读物 12 篇。共计单词 1,500 个。全书教学共需 88 学时,平均每课 4 学时。

课文内容侧重生物专业的基础知识。大部分课文选自近几年国外出版的书刊杂志。选材力求行文流畅、语言生动、结构严谨、内容新颖。课文编排顺序以文章难易为主,并适当考虑专业知识的系统性。

课文中的难句附有译文,新的语言现象有注释,语法重点和习惯用法配有例句和练习。

练习包括重点词语的用法、课文理解、语法分析和翻译等内容。

单词注音主要参照《牛津现代高级英语词典》第三版(1974 年)。凡该词典未收入的专业词汇,则参照其它词典注音。

本书承南京大学生物系陈纳逊、外文系张景桂、刘镛等同志审稿。我们深表感谢。

编者水平有限,书中疏漏不妥之处在所难免,希望同志们批评指正。

编 者  
一九七九年十一月

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## Lesson One

### TYPES OF GREEN PLANTS

There are thousands of different green plants. You will have seen lots of them already. They can all be separated into two main groups.

The first of these groups is called the seed-plants.

- 5 All the plants in this group produce seeds. The other group is called the non-seed plants. These plants do not produce seeds. A seed contains a young plant that is not active. It is said to be *dormant*. A seed also contains a store of food in the seed-leaves.

#### 10 THE SEED-PLANTS

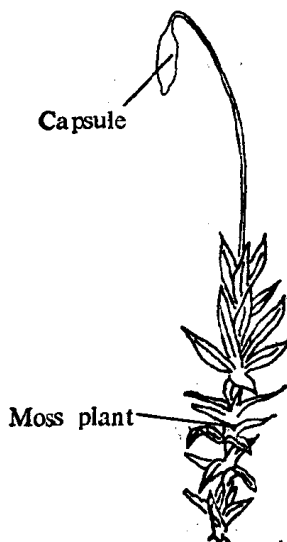
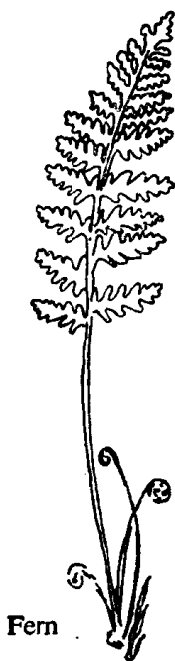
- These plants are very common. They may produce large, brightly-coloured flowers such as the rose and the tulip. It is the flowers that make the seeds. Many of the common trees belong to this group. The flowers
- 15 of the horse-chestnut and the cherry are very pretty. You will have to look carefully to see the flowers of the oak or sycamore as these are green and quite small. You may have seen the acorn of the oak or the keys of the sycamore. These were all made by the flowers.
- 20 The flowers of the grasses are not easily seen either but you have probably seen their seeds.

Some plants such as the pine tree produce seeds in *cones*. The cones are brown and woody when they fall. They do not look like flowers. They are common on

25 the ground under pine trees. The cones may take as  
long as three years to make. When they are very  
young they are small and green. When the cone is  
ripe it dries out and the valves open. The seeds often  
have wings. This is because they are spread by the  
30 wind.

### THE NON-SEED PLANTS

The ferns are green plants that have no flowers.  
Their leaves look as if they are made of lots of tiny  
leaves. Leaves which look like this are called *compound*  
35 leaves. On the shaded underside of the leaves are small  
dots. These turn brown in the autumn when they are



dry. They then release *spores*. The spores are very small and light in mass. If they land in a damp place, they will grow to form a new fern plant.

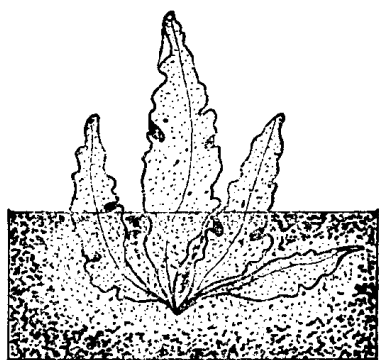
#### 40 THE MOSSES

Another type of green plant that makes spores is the moss. These plants are usually small and grow in damp places. They are also common in gaps between paving stones. They make their spores in special little  
45 containers called capsules which are raised on stalks above the moss plants. When the capsules are ripe the end breaks open. The very small spores are then carried away on the wind.

#### THE ALGAE

50 If you look at a building with an old tile roof you may see that some of the tiles are no longer red. They have turned green. This is because lots of tiny single-celled plants are living there. These plants are called *algae*. Many tree trunks are also green. If you rub  
55 your hand on the green you will rub off a damp green powder. This is algae cells. They usually grow on the shaded side of the tree trunk. These are some of the smallest plants that grow on this planet.

The seaweeds are also algae. They grow on the  
60 rocks around the sea-shore. They are much larger than the algae which grows on tree trunks and some can be as long as 5 metres. Some of the seaweeds are green. Many of them are brown and some are red. They are all really green plants but in the brown and red ones



Red algae



Seaweed

65 you cannot see the green colour. It is there but it is masked. They make their food in the same way as all the other green plants. We can make a table from all these facts as follows:

- |    |   |
|----|---|
| 70 | 1 Plants making seeds from flowers — Flowering plants<br>2 Plants making seeds from cones — Coniferous plants<br>3 Plants making spores on leaves — Ferns<br>4 Plants making spores in capsules — Mosses<br>5 Plants not making seeds or spores — Algae |
|----|---|

— Adapted from *A Course in Environmental Biology — Looking at Life, Stage 2* by  
 J. A. Cameron (Thomas Nelson and Sons,  
 Ltd, London, 1972)

## NEW WORDS

- seed** *n.* 种子
- active** ['æktiv] *a.* 活动的
- dormant** ['dɔ:mənt] *a.* 休眠的
- rose** *n.* 蔷薇; 玫瑰; 月季
- 5 **tulip** ['tju:lɪp] *n.* 郁金香
- horse-chestnut**  
['hɔ:s'tʃesnʌt] *n.* 七叶树  
(*Aesculus*)
- cherry** ['tʃeri] *n.* 樱  
(*Cerasus*)
- oak** *n.* 栎, 橡 (*Quercus*)
- sycamore** ['sɪkəmə:] *n.*  
大槭树, 山槭, 假挪威槭  
(*Acer pseudoplatanus*)
- 10 **acorn** ['eɪkɔ:n] *n.*  
榎果, (栎, 橡的) 壳果
- key** [ki:] *n.* 翅果
- grass** [grɑ:s] *n.* 禾本科植物;  
草(尤指禾本科的草)
- pine** *n.* 松
- cone** *n.* 球果
- 15 **valve** [vælv] *n.* (果的) 裂片
- wing** *n.* 翅; 翼瓣
- fern** *n.* 蕨类, 蕨类植物,
- 羊齿植物
- compound** ['kɒmpaʊnd] *a.* 复  
合的
- shaded** ['ʃeɪdɪd] *a.*  
阴面的, 背阳的
- 20 **underside** ['ʌndesaɪd] *n.* 下  
侧, 下面
- spore** *n.* 孢子
- mass** [mæs] *n.* 质量
- moss** *n.* 藓类, 苔藓植物
- capsule** ['kæpsju:l] *n.*  
(苔藓类的) 孢蒴
- 25 **stalk** [stɔ:k] *n.* 柄
- alga** ['ælgə] *n.* (*pl. algae*)  
['ældʒi:] 藻类
- single-celled** ['sɪŋgl-seld]  
*a.* 单细胞的
- cell** *n.* 细胞
- trunk** *n.* 树干
- seaweed** ['si:wi:d] *n.* 海藻
- 30 **mask** [mɑ:sk] *vi.* 掩盖
- coniferous** [kə'nɪfərəs] *a.*  
具球果的

## PHRASES AND EXPRESSIONS

1. **green plants** 绿色植物
2. **seed-plants** 种子植物
3. **non-seed plants** 非种子植物

4. **seed-leaf** 子叶
5. **brightly-coloured flowers** 色彩鲜艳的花
6. **belong to** 属于
7. **compound leaf** 复叶
8. **paving stones** 铺路石
9. **tile roof** 瓦房顶
10. **single-celled plants** 单细胞植物
11. **shaded side** 阴面, 背阳面
12. **flowering plants** 显花植物
13. **coniferous plants** 球果植物, 针叶植物

## NOTES TO THE TEXT

- 1 *You will have seen* lots of them already. (= *You have probably seen* lots of them already.)

你可能见过不少绿色植物。

“情态动词+不定式的完成式”的句型用于对过去的情况进行估计或推测; 如对现在的情况进行估计或推测, 则用“情态动词+不定式的一般式”的句型。试比较:

- |   |   |
|---|---|
| { | <i>He must be</i> there now.                      |
|   | 他现在准在那里。  |
| { | <i>He must have been</i> there yesterday.         |
|   | 他昨天准去过那里。   |
| { | <i>She may be</i> a doctor.                       |
|   | 她可能是个医生。  |
| { | <i>She may have been</i> a doctor.                |
|   | 她可能当过医生。  |
| { | <i>This will be</i> the bull you are looking for. |
|   | 这大概是你找的那头公牛。                                      |
| { | <i>The guests will have arrived</i> by now.       |
|   | 客人们大概已经到达了。                                       |

本课 18 行的 “*You may have seen the acorn of the oak or*

the keys of the sycamore. (你们可能见过栎树的榈果或者山槭的翅果。)”也是这种句型。

- 8 It is said to be dormant. (= We say that it is dormant.)

我们说它处于休眠状态。

这是 say 的一种特殊的被动式，主语与后面的不定式短语在逻辑上是主谓关系，两者构成复合主语，不定式短语部分称为“主语补语”。注意本句型没有相应的主动形式，即不存在 we say it to be dormant 这样的句子。观察下列例句：

- |           |   |
|-----------|---|
| {         | They say that he is a good student. (主动)      |
|           | It is said that he is a good student. (被动)    |
|           | He is said to be a good student. (被动)         |
| 据说他是个好学生。 |   |
| {         | They say that he has been here before. (主动)   |
|           | It is said that he has been here before. (被动) |
|           | He is said to have been here before. (被动)     |
| 据说他曾来过这里。 |   |

- 8 A seed also contains a store of food in the seed-leaves.

种子还在子叶中贮存着养料。

- 12 brightly-coloured 色彩鲜艳的

观察复合形容词的下列两种构成方式：

- 1) “副词+动词过去分词”

newly-published 新出版的    badly-written 写得很糟糕的  
well-known 著名的            widely-read 博览群书的

- 2) “形容词+名词+ -ed”

white-haired 白头发的        broken-hearted 悲恸欲绝的  
warm-hearted 热心肠的       single-celled 单细胞的

在今后的课文中，这类形容词如无特殊含义，不再一一注出。

- 16 You will have to look carefully to see the flowers of the oak or sycamore as these are green and quite small.

你得仔细观察才能看到栎树或山槭的花，因为这些花是绿色的，而且很小。

“will have to”是情态动词 must 或 have to 的将来式，意思是“将必须”。例如：

You *will have to* come every day, I'm afraid.

我看你得天天来。

There is no more sugar left. I'm afraid you'll *have to* drink the milk without sugar today.

家里没有糖了。我看你今天得喝杯淡奶了。

- 22 Some plants such as the pine tree produce seeds in cones.

松树之类植物的种子长在球果里。

- 25 The cones may take as long as three years to make.

球果可能需要三年之久才能长成。

- 33 Their leaves look as if they *are made of* lots of tiny leaves.

它们的叶片看上去好象是由许多片小叶构成的。

as if 所引出的从句中动词本应用虚拟语气，但在现代英语中，尤其是在 looks as if 和 seems as if 后往往用陈述语气。例如：

It looks as if it *is going to* rain.

看来天要下雨。

It seems as if she *is working* hard at her English.

看来她学习英语很努力。

- 35 On the shaded underside of the leaves are small dots.

背阳的叶背上有许多小点。

这是一句倒装句，主语是 small dots。为了照顾上下文的联系，把与上一句密切相关的状语提到了句首。

- 38 If they land in a damp place, they will grow to form a new fern plant.

孢子落到潮湿的地方，会长成一株新的蕨类植物。

- 44 They make their spores in special little containers called capsules which are raised on stalks above the moss plants.

它们的孢子生长在称为孢蒴的特殊小容器中，孢蒴柄把孢蒴托起到苔藓植物本身之上。

- 54 If you rub your hand on the green you will rub off a damp

green powder.

用手擦一下树干上的绿色部分就会擦下一层湿润的绿色粉末。

57 These are some of the smallest plants that grow on this planet.

这些植物是地球上生长的一些最小的植物。

this planet 直译是“我们这个行星”，指“地球”。

67 We can make a table from all these facts as follows:

上述各项情况可综合列表如下：

## EXERCISES

I. Match the following words with their proper definitions:

- |                    |   |
|--------------------|---|
| 1. seed-plants     | a. plants that do not produce seeds                                 |
| 2. dormant         | b. plants making spores in capsules                                 |
| 3. non-seed plants | c. plants that produce seeds  |
| 4. gap             | d. the colour of growing grass                                      |
| 5. seaweed         | e. a leaf consisting of two or more leaf-lets on the same leafstalk |
| 6. underside       | f. fully developed  |
| 7. green           | g. houses, schools, factories or other structures                   |
| 8. ripe            | h. plants making spores on leaves                                   |
| 9. release         | i. a break; an opening  |
| 10. compound leaf  | j. any sea plant; any alga growing in the sea                       |
| 11. mosses         | k. allow to go; set free  |
| 12. ferns          | l. not having much weight   |
| 13. light          | m. living but not actively growing                                  |
| 14. buildings      | n. the side that is underneath                                      |

II. Insert the two words into their proper places:

1. Mosses can be found gaps the paving stones.

a) in

b) between

2. Seaweeds make their food the same way all the other green