

# *Populus nigra* L.

## I. ADULT TREES IN THE WILD

### 1. Tree shape

- 1.1. massive shape of isolated trees, branches sometimes forming an arch at the bottom; straight stem within stands, branches only in the upper part (Fig. 1)

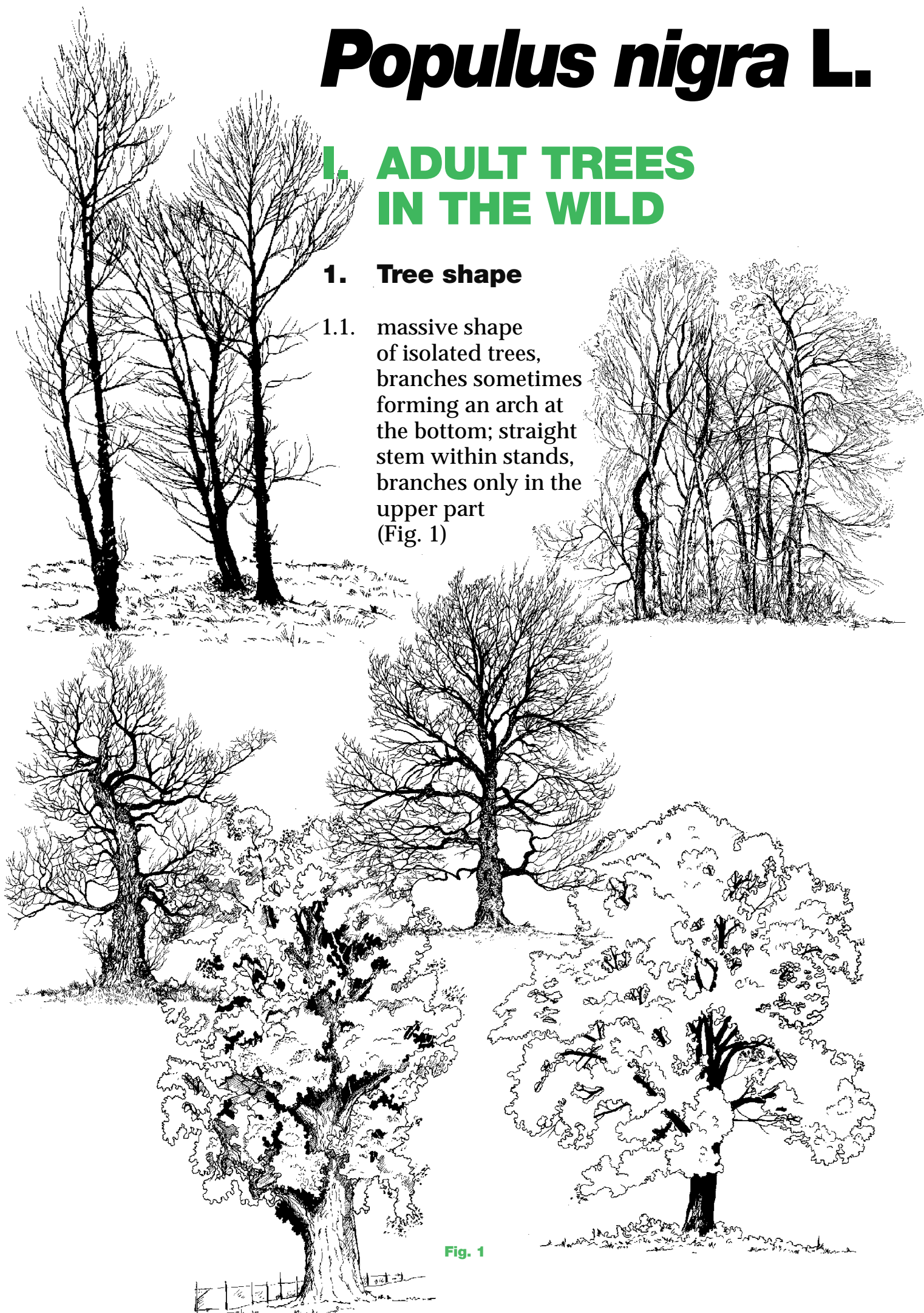


Fig. 1

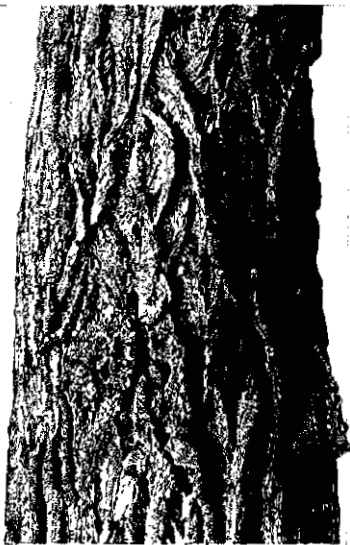


- 1.2. wide spreading, weak apical dominance when old, sometimes fastigiata
- 1.3. branches irregularly distributed along the trunk, frequent epicormic shoots (Fig. 2)



- 1.4. frequent burl (protrusion on the trunk around a group of epicormic shoots and/or over underlying dormant buds; Fig. 3)
- 1.5. frequent buttresses at the base of old trees

Fig. 3



## 2. Bark

- 2.1. juvenile bark clear and smooth
- 2.2. mature bark very rough, longitudinally fissured with characteristic intercrossing (Fig. 4)

Fig. 4

## 3. Shoots

- 3.1. three main types of shoots: long terminal or lateral shoots, short shoots, epicormic shoots
- 3.2. long shoot of the year clearly cylindrical at the base, sometimes subangular, but no ribs
- 3.3. shoot of the year green in springtime, becoming yellow-brown in winter; shoots of the preceding years grey-brown
- 3.4. numerous short shoots remaining on the 2-year-old and older shoots (Fig. 5)



Fig. 5



## 4. Leaves

- 4.1. important variation of leaf shape within a single tree, more typical on the short shoots, preferably from flowering branches
- 4.2. leaf blade on the short shoots small (<10 cm), rhomboidal, cuneate, acuminate (Fig. 6)

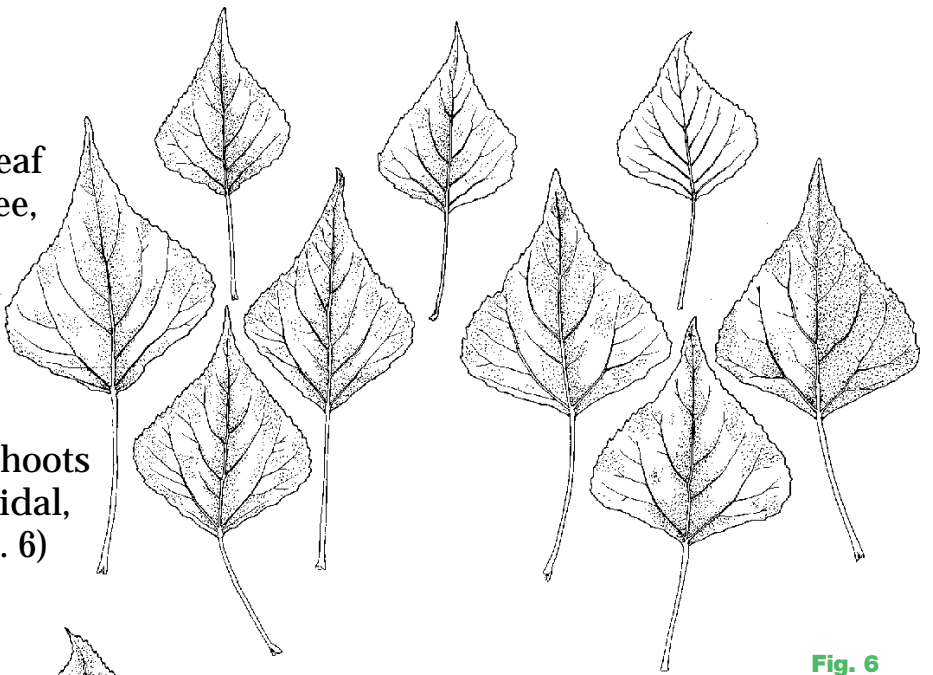


Fig. 6

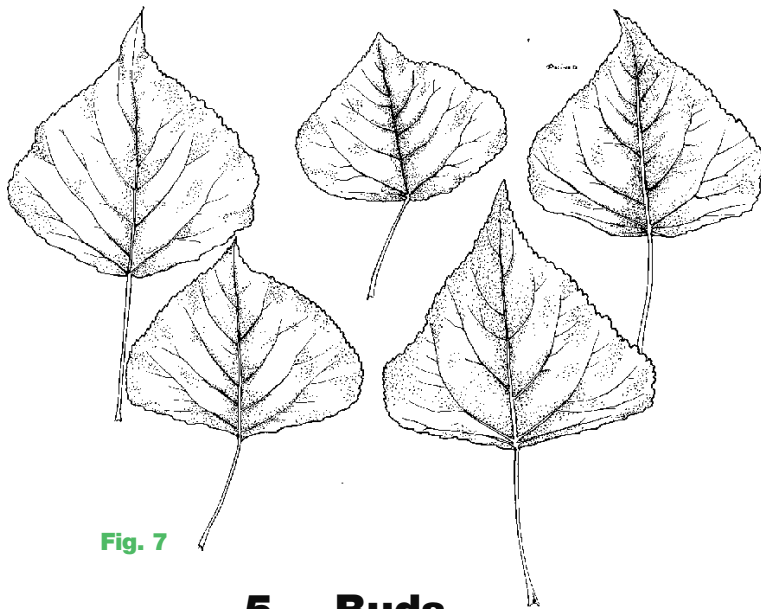


Fig. 7

- 4.3. leaf blade on the long shoots rhomboid to rhomboid-ovate, cuneate, acuminate (Fig. 7)
- 4.4. no permanent pubescence on old leaves

## 5. Buds

- 5.1. vegetative buds short and sharp, stick to the stem, sometimes curving outward, light brown to brown-red
- 5.2. female flower buds curving outward, male buds are larger (Fig. 8)

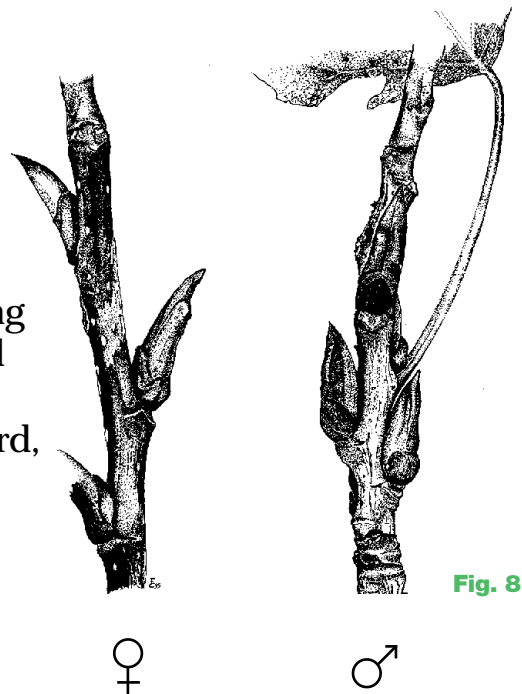


Fig. 8

## 6. Flowers

- 6.1. male: catkins short (<10 cm) and thin (5 mm when open); 6 to 30 stamens (generally 10 to 20) with small purple anthers (Fig. 9)

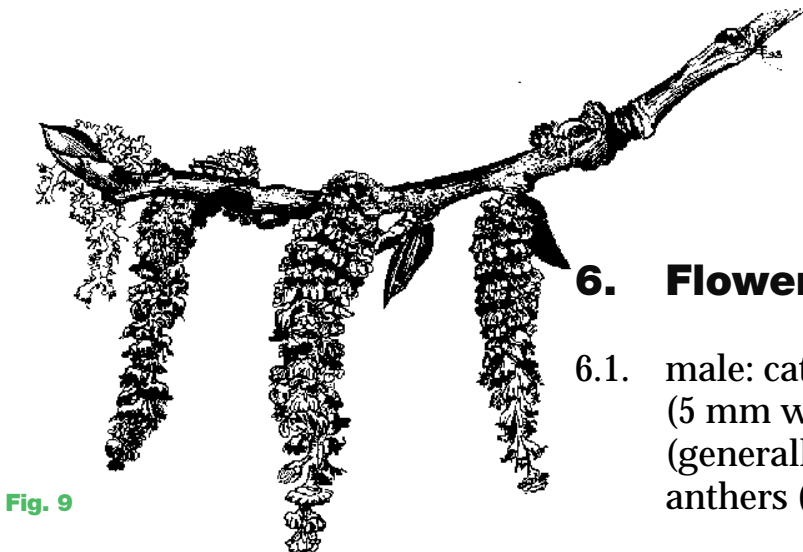


Fig. 9



Fig. 10

- 6.2. female: catkins short (8 to 10 cm when receptive), approximately 50 flowers per catkin; flowers with 2 stigma lobes as big as the ovary (Fig. 10)

## 7. Fruits

- 7.1. capsules with short pedicel (2 mm), ovoid with 2 valvae (Fig. 11)
- 7.2. 13 ovules per ovary, generally producing 5 seeds per capsule

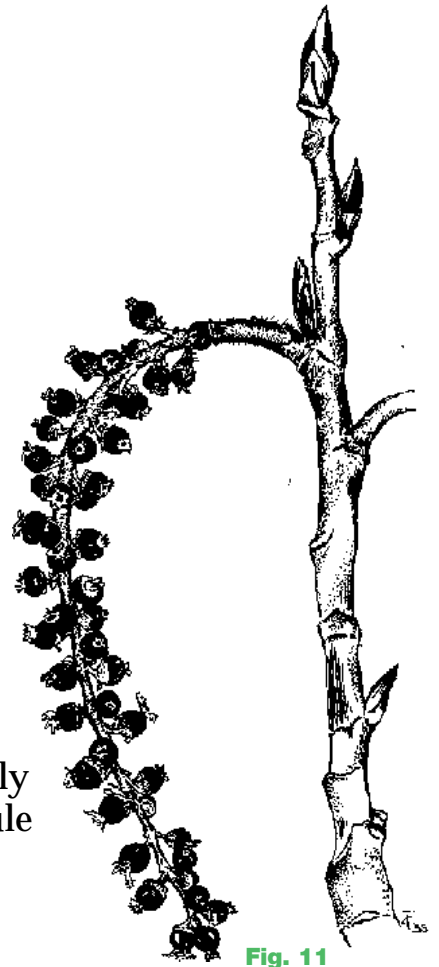


Fig. 11



Fig. 12

hybrid

*P. nigra*

## 8. Other informative traits

- 8.1. generally resistant to mistletoe (*Viscum album*) (Fig. 12)

- 8.2. susceptible to the gall-making aphids of the genus *Pemphigus* (Fig. 13)

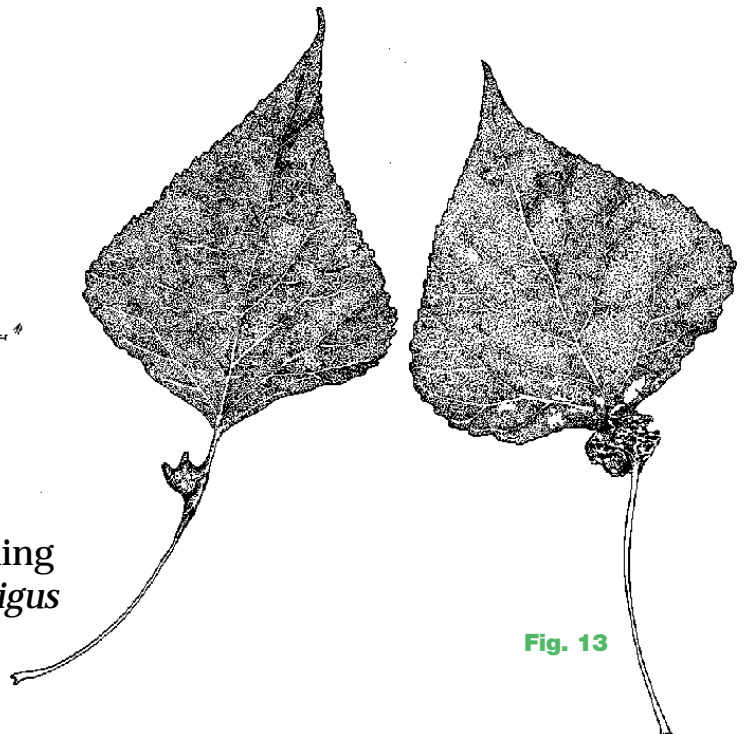


Fig. 13

## II. YOUNG TREES AND NURSERY STOOL-BED

### 9. Leaves

9.1. important variation of leaf shape within a single stem, more typical on the sylleptic branches

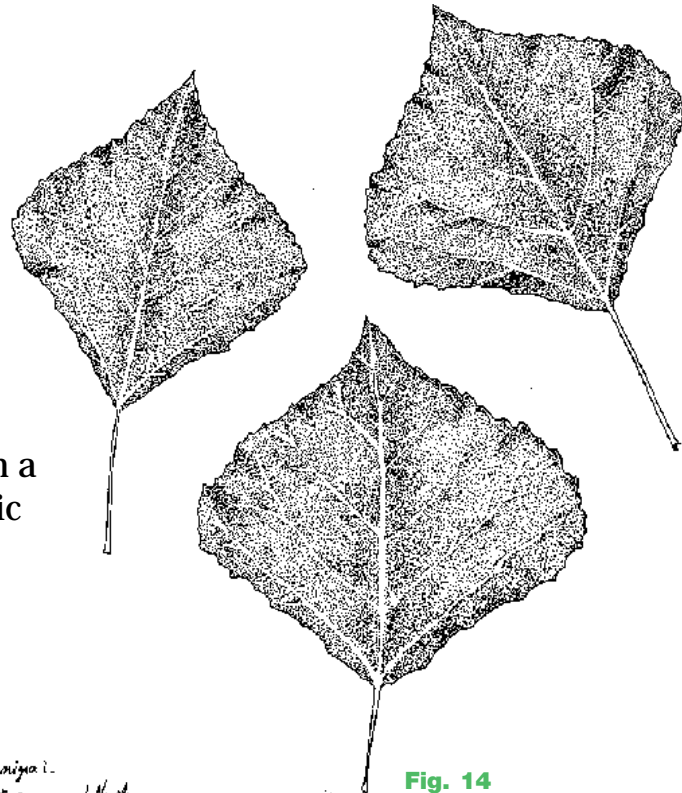


Fig. 14

9.2. leaf blade on the sylleptic branches rhomboid to rhomboid-ovate, cuneate, acuminate (Fig. 14)

9.3. leaf blade on the stem rhomboid to rhomboid-ovate, sometimes subdeltoid but never deltoid; cuneate, acuminate (Fig. 15: a, b, c - *Populus nigra*; d, f - *P. x euramericana*; e - *P. deltoides*)

9.4. no permanent pubescence

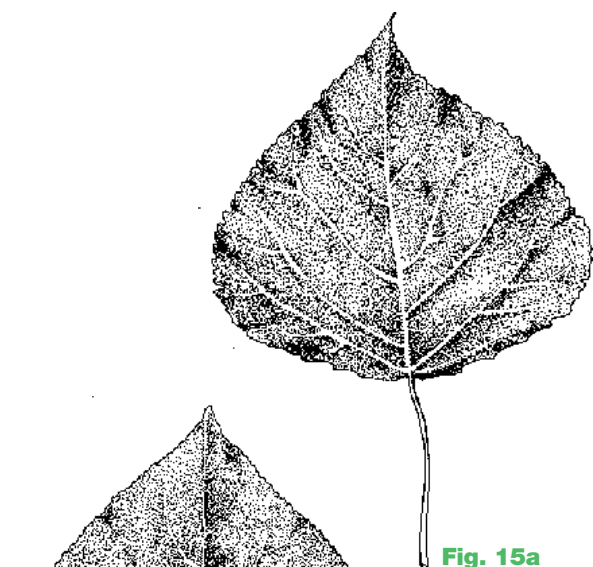


Fig. 15a

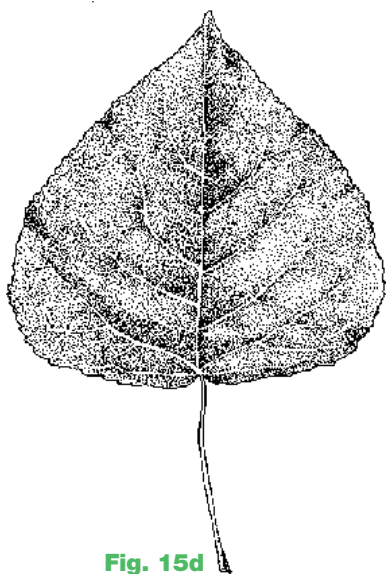


Fig. 15d

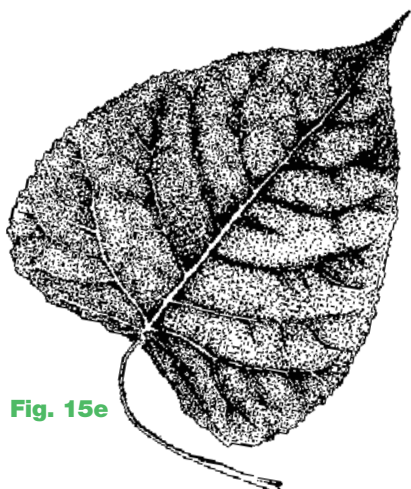


Fig. 15e



Fig. 15b



Fig. 15f



Fig. 15c



## 10. Shoots

Fig. 16



- 10.1. numerous lenticels, mostly not linear
- 10.2. round section of the base of the stem
- 10.3. thin epidermis layers peeling (Fig. 16)
- 10.4. lenticels can remain on young trees (Fig. 17)

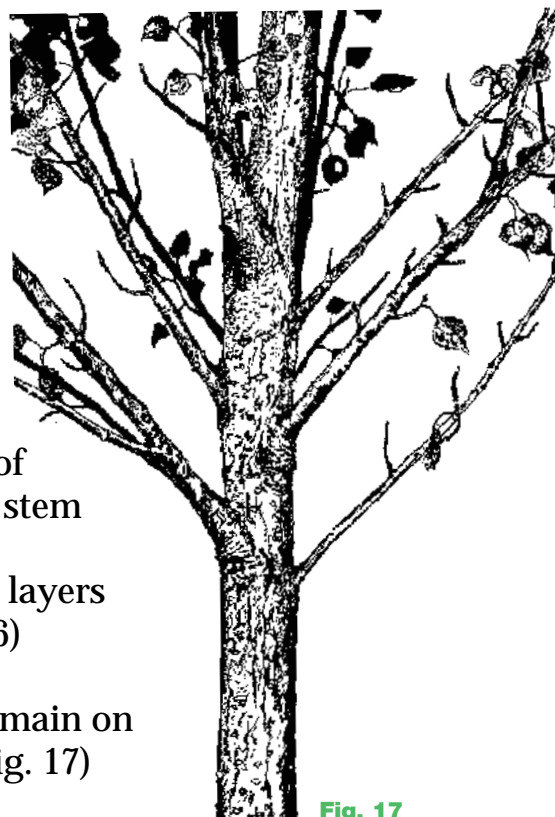


Fig. 17

This Identification Sheet was prepared by members of the EUFORGEN *Populus nigra* Network, in order to facilitate the simplest possible identification of the species from cultivated hybrids and possible introgressive forms. The morphological traits common to different species of the genus *Populus* are not referred to.

The drawings should be considered as having an indicative value in the field and can not represent strict taxonomic criteria. All illustrations were drawn by Mr Filip Coopman of the Institute for Forestry and Game Management in Geraardsbergen, Belgium. The original drawings were kindly provided as Belgium's contribution in kind to the Network.

This Identification Sheet is also available in French. Copies of both versions can be obtained from the EUFORGEN coordinator, IPGRI, Regional Office for Europe, Via delle Sette Chiese 142, 00145 Rome, Italy.

