

<http://www.weloennig.de/PlantGalls.xyz.pdf> p. 10:

Translation of (1853) of several of M. Lacaze-Duthier's Figures of Plant Galls (yet to be checked for specific biological English terminology) by Huong Imhoff (September 2020)<sup>1</sup>:

### Explanation of figures

(All the anatomical drawings, taken ["à la chambre clair": perhaps: in the clear chamber or in a bright room], are at 100 magnification, objective [object?] number 1 from Nachet).

## Plate 16

**Fig. 1 .** Local gall nuts.

**Fig. 1'.** Life size gall cut. [Coupe de la Galle de grandeur naturelle: Cut of the Gall of natural size.]

**Fig. 2.** Epidermis and sub-epidermal skin.

**Fig. 3.** Spongy layer.

**Fig. 4.** Columnar cells making the transition from the branchy layer to the hard layer.

**Fig. 5.** Hard layer (a); protective layer (b).

**Fig. 6.** Section of enlarged protective cells.

**Fig. 7.** Food mass; in portion (a) the starch grains turning blue by iodine; in portion (b) they do not color.

**Fig. 8.** Hard galls of the leaf of the oak, greenish white, a little diaphanous, like wax; always spherical; smooth.

**Fig. 9.** Hard galls of the leaves smaller than those of number 8, a little flattened, ovoid, brownish; smooth.

**Fig.10.** Hard oak leaf gall, dark brick-red and white zebree.

**Fig.11.** Epidermis; subepidermal cell tissue in species nummer 1.

**Fig.12.** Parenchyma cells, hard, thickened, prismatic, id.

**Fig.13.** Protective layer, id.

**Fig.14.** Hard galls of the oak leaf, a bit cylindrical and chagrined.

## Plate 17

**Fig.1.** Spongy galls of the oak leaf, mostly on the pyramidal

**Fig.2.** Pyramidal oak leaf spongy gall tissue:

a)epidermis;(b) sub-epidermal layer; (c) spongy layer

**Fig.3.** Protective layer

**Fig.4.** Gall of the terminal oak bud

**Fig.5.** Gall cut:(a) epidermis; (b and c) subepidermal layer, the cells of which are filled with starch, presenting this peculiarity:  
in (b) the grains are colored green;  
in (c) they are colorless: this gives the gall a white dot appearance;

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<sup>1</sup> Comments in square brackets added by W.-E. L. (had only a brief look at it.)

in (d) vessels;  
in (e) protective layer.  
(f,g) food layer;  
in (f) starch grains colorable by iodine;  
in (g) we do not get coloring. Each cell of this layer contains a yellowish-brown corpuscle.

**Fig.6.** Epidermis seen from the front.

**Fig.7.** Cupuliform oak gall.

**Fig.8.** Magnified at various periods of its development.

**Fig.9.9'and 9"**. Gall cut. Same letters as for figure 5.

## Plate 18

**Fig. 1, 2, 3, 4.** Four species of galls, in parasol, gimblettes, or lenticulars of oak.

[Quatre espèces de Galles, en parasol, en gimblettes, ou lenticulaires du Chêne.]

**Fig. 5, 6, 7, 8, and 9.** Anatomical details of the gland nr. 1 (1or 4?).

5(c) sub-epidermal cell layer filled with starch grains; cell parenchyma;  
e,e, protective layer; g, food layer here containing very little starch;  
d, elongated cells corresponding to the vessels.

**Fig. 6.** Epidermis at the bottom of the cup: (a) two layers of epidermal cells;  
(a') five layers of empty flattened cells; (c) parenchyma.

**Fig. 7.** Edges of the bucket; origin of hairs.

**Fig. 8.** d and e, reticle cells magnified to 300 diameters.

**Fig. 9.** Theoretical figure of galls in parasol.

3rd series. Bor. T. XIX. (Notebook nr. 6.)

**Fig. 10.** Spherical galls of the rosehip leaf.

**Fig. 11.** Epidermis.

**Fig. 12.** Cell layers, with a few grains of fire.

**Fig. 13.** Inner edges of cell layer, with some spheroidal cells.

**Fig. 14.** Bédégar: the beginning of their development.

**Fig. 15.** Anatomical details of the bédégar.

**Fig. 16.** Oak apples cut lengthwise.

**Fig. 17.** Spongy tissues of these gall.

## Plate 19

**Fig. 1** . Large oak root gland.

**Fig. 2** . Epidermal, subepidermal, and thick-walled prism cells.

**Fig. 3** . Protective layer limiting compartments.

**Fig. 4** . Inner gall of the herbaceous cell lyer of oak twigs.

**Fig. 5** . Theoretical section of this gland.

**Fig. 6** . Anatomy:

a, epidermis;

b, suber layer;

c, herbaceous layer hypertrophy;

d, layer of flattened cells, resembling those in the suber layer;  
e, tissue-like layer protecting the outer galls.

**Fig. 7 and 16** . [Willow] leaf tumor section. [Coupe de la tumeur de la feuille de l'Osier:

**Fig. 8** . Internal gall of the petiole of the poplar leaf.

**Fig. 9,9',9"** . Tumor tissue, from the outer surface to the cavity.

**Fig. 10** . Italian poplar tumor.

**Fig. 11** . Section of the tumor.

**Fig. 12** . Oak artichoke galls, cut lengthwise.

**Fig. 13** . Anatomy of small central tumor. We notice cells filled with starch,  
and forming a thicker layer towards the base of the tumor.

**Fig. 14** . Anatomy of the base of one of the enlarged scales of the bud.

**Fig. 15** . Anatomy of the neck of the artichoke: we see groups of punctate cells, very thick, very large, relatively to the cellular tissue that surrounds them. These cells look like those of the protective tissue.

**Fig. 16** . Tissue corresponding to the upper middle lower part of the [willow] tumor.