

## The Combination Hive (*La Ruche Mixte*) of Rodolphe Leroy

Many authors of beekeeping books acknowledge that a cylindrical, domed hive is the ideal shape for housing a bee colony. In his book on beekeeping, Frank Cheshire, co-founder of the British Beekeepers' Association, divided hives into two basic types: 'hives for bees' and 'hives for beekeepers'.<sup>1</sup> In the former category he places the skep, a basket shaped as a cylinder usually with a dome on top. Émile Warré thought that the best hive walls were those of skeps and that the cylindrical shape was thermally the most appropriate. However, in his design of The People's Hive, for maximum simplicity Warré chose wood as the construction material, and a square shape.<sup>2</sup>

A number of beekeepers have developed a more rounded version of the Warré hive, one even to the extent of fully cylindrical.<sup>3</sup> The polygonal versions are all based on wood, joining the corners with tongues and grooves or biscuit joints. The cylindrical version of Gilbert Veuille is based on a mixture of chopped straw and plaster.

Another type of cylindrical hive differs greatly in its fundamental concept from Warré's 'People's Hive' in that it is not nadired, but instead supered. It is the 'combination hive' (*La Ruche Mixte*; 'mixed hive') of Rodolphe Leroy. We include it amongst our Warré beekeeping literature resources to illustrate another solution for achieving a round hive capable of bearing a load.

Most of the material in this document is taken from *Les Abeilles et la Ruche Mixte* (© Yvette Leroy, 1946) by Rodolphe Leroy. The cover of his book is illustrated below.



The essential content of the book has already been summarised by Jean-François Dardenne and an English translation of his summary included in another document on this website.<sup>4</sup> A digital version of much of the book exists but, until its copyright status has been clarified, it will remain unpublished.

This document has been occasioned by the discovery in France of one of Leroy's hives in very good condition. It was seen by Thierry Duroselle while he was visiting some friends and he drew attention to the finding in a short article in *Abeille de France*.<sup>5</sup> The colour photos in this document are taken by him.

### Construction of Leroy's Combination Hive

The hive comprises a cylindrical brood chamber which, outside the main nectar flow season, is capped with a capital (*chapiteau*), a conical top chamber. The comb is supported in the brood chamber with two pairs of spales forming two crosses and eight triangular top-bars, with the downward pointing apices serving as comb guides. The capital is a honey reserve and the comb is supported above by the conical roof and below by two cross bars. During the honey flow a square super is inserted between the capital and the brood

chamber. Several supers can be used as the brood chamber is strong enough to support them. The super contains 8 Layens half frames which in melliferous regions are sized 310 x 185 mm and in less productive regions 310 x 135 mm. If kept in the open, the hive may be covered with a hackle as was customary with skeps.



Above: Photo of an apiary of Leroy hives (Source: *Les Abeilles et la Ruche Mixte*; R. Leroy)



Above: top view of brood chamber with capital lying beside it (Photo: T. Duroselle)

The brood chamber and capital are constructed similarly. The wall is 50 mm thick comprising a double wall of 3 mm sheets of unrolled (i.e. not sawn) poplar wood – chosen for its porosity – sandwiching an insulated cavity filled with straight rye straw, braced internally with eight battens and externally (to the cavity) with wire bands on both the outside and inside of the chamber. The bands are stapled to the battens and the top and bottom of the outer wall is further strengthened with steel bands which are nailed to the battens.



Above: brood chamber viewed from: below (left); the side (right) (Photos: T. Duroselle)



Above: detail of brood chamber wall construction



Above: brood chamber, floor and capital

### Dimensions and capacities

Brood chamber outer diameter	500 mm
Brood chamber height	330 mm
Wall straw thickness	50 mm
Capacity of brood chamber	40 litres
Capacity of capital (honey reserve)	10 litres
Supers	15/20 litres

Reminiscent of Oscar Perone's hive,<sup>6</sup> the brood chamber is 'untouchable'. Rodolphe Leroy writes:

In my view the human hand should never perturb the perfection of this edifice. Indeed, the brood is fragile, cooling can cause thousands of larvae to perish. A brood nest is a sacred thing whose harmony is nature's intention and, although our apicultural science may be advanced, we have not yet completely penetrated the mysteries of the organisation of these wonderful insects.

Summarising the hives main 'bee-appropriate' features:

- cylindrical shape (cf. hollow tree)
- breathable walls
- near natural brood comb (could be fully natural if comb guides are not used)
- untouchable brood chamber
- honey reserve combs fixed to the top of the chamber so, during the cooler months, fully complying with what Johannes Thür called *Nestduftwärmehindung* – retention of nest scent and heat;<sup>7</sup> this honey is not harvested

### References

1. Cheshire, F. R. (1888) *Bees and beekeeping; scientific and practical. Vol. II – Practical*. The Bazaar Exchange and Mart Office, London.
2. Warré, É. (2010) *Beekeeping for All*. Northern Bee Books. Transl. by Heaf, D. J. & Heaf, P. A. from *L' Apiculture pour Tous* 12<sup>th</sup> edition. (Saint-Symphorien, 1948). *Beekeeping for All* is also available as a free download at [www.mygarden.me.uk/beekeeping\\_for\\_all.pdf](http://www.mygarden.me.uk/beekeeping_for_all.pdf).
3. [http://warre.biobees.com/round\\_and\\_polygonal.htm](http://warre.biobees.com/round_and_polygonal.htm)

4. *The pleasure of beekeeping with the Warré hive*. Translation by David Heaf of pages compiled by Jean-François Dardenne at <http://ruchewarre.levillage.org/Ruche%20ronde.htm>. Translation download: [http://warre.biobees.com/round\\_warre\\_hives.pdf](http://warre.biobees.com/round_warre_hives.pdf).

5. Duroselle, T. (2010) La Ruche Mixte de Rodolphe Leroy. *Abeille de France* 973 (October), 39-40.

6. <http://www.oscarperone.com.ar>

7. Thür, J. (1946) *Bienenzucht: Naturgerecht einfach und erfolgsicher*. 2<sup>nd</sup> ed. Friedrich Stock's Nachf. Karl Stropek (Buchhandlung und Antiquariat), Vienna. Chapters 1 & 2 translated as *Beekeeping: natural, simple and successful*. : Heaf, D. J. (2007). Free download: <http://www.users.callnetuk.com/~heaf/thur.pdf>

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