OPUR

Organisation Pour l'Utilisation de la Rosée

(Association Loi de 1901)

N°5 - 27/02/2002

OPUR NEWSLETTER

BEST WISHES FOR THE NEW YEAR

The year 2001 was a very favorable one for our Association. Much dew was condensed, many scientific articles appeared, an artistic book was born, a scientific enigma was solved and our web site allowed us to attract new members. We succeeded in becoming better known through our activities on atmospheric water recovery. The dew section of the Second International Conference on Fog and Fog Collection, held in St. John's, Newfoundland, Canada in July 2001, was chaired by one of our members, Simon BERKOWICZ. The successful introduction of dew research within the conference will likely lead to the word "dew" being included in the title of the next conference.

With regard to the special dew condensation foil we have used in the past, we are unfortunately out of stock and now have the difficult task to find another manufacturer of this essential material. Contacts have are already made and we believe that a new manufacturer will be found soon.

Our Association continues to grow, is becoming increasingly popular, and is generating encouraging support among people. This year promises to be an even better one for OPUR!

HAVE A GOOD DEW YEAR !

Daniel BEYSENS
President of OPUR

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NEWS FROM VIGNOLA (CORSICA)

The first dew condenser at Vignola began operating in July 2000. It has a 30 m² surface area and, under good conditions, produced up to 11.4 L of water per day. The average quantity was 3.5 L of dew per day (see the Summary File).

Because of general and extreme weather conditions, this condenser ceased to function in December 2001. The polyethylene sheetfoil, which had worked out for 16 months, became more fragile due to exposure to temperature extremes, sunlight, moisture, etc), and broke following violent winter winds. This experiment, however, still allowed us to collect important data on the dew output for a condenser of this kind, and an insight on the average life span of the foil. We will now evaluate the cost of the construction of condensers and the price of a liter of water.

In place of the former condenser, another condenser of same type, but constructed directly on the ground level, was established at Vignola and began operation on 10/12/2001. It is composed of the same material given by our Swedish member Torbjörn NILLSON. The structure rests at a 30° surface angle inclined with respect to horizontal. Insulation consists of polystyrene foam sheet 30 mm thick. Measurements are taken of surface and ambient air temperature using thermocouples.

New condenser in Vignola, 2002

SUMMARY OF THE EXPERIMENT IN AJACCIO - VIGNOLA

Marc MUSELLI sent us a summary report of the first condenser in Vignola: (Data from the first condenser prototype).

Some "key" figures:

1. ***Life time of the foil: 478 days***
2. ***Dew days on the foil: 214 (44.8%). A reference plate of received "only" 25% of dew days***

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3. ***Quantity of collected water: approximately 767 liters, including 53% from gravityflow.***
4. ***Quantity of dew per day (average): 3.6 liters***
5. ***Max Quantity: 11.4 liters***
6. ***Max production rates: 0.078 mm/h (reference PMMA: 0.053 mm/h)***
7. ***max output max: 0.32 mm (reference PMMA: 0.243 mm)***
8. ***The water volume "scraped" from the dew surface corresponds on average to 1.24 liter (± 0.78 liter)***
9. ***In this condenser, the events of dew corresponding to the average yield are increased.***

A CONDENSATION EXPERIMENT MOVED IN PESSAC

This experiment by Daniel BEYSENS and colleague was first established in Grenoble, but was subsequently moved in Summer 2001 to Pessac. The equipment has been installed in the home of our President, Daniel BEYSENS, who bleary-eyed and with great dedication, personally checks the condenser every day at dawn. He gathers the first dew of the day for chemical and bacteriological analysis, carried out at the Faculty of Pharmacy in Bordeaux. This condenser is located in a dead-end street, nearly free of any vehicle circulation or artificial heating from modern technology. The first months of observation showed that the dew in the Bordeaux area is extremely frequent and abundant.

Interestingly, the dew in Pessac shows a pH equal to » 6,3 on average and is less acidic than rainwater (pH » 5,4). By comparison, Bordeaux wine has a pH » 3,4 !

Our president near his "home" condenser

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PROJECTS WITH BURKINA- FASO

OPUR is hoping to establish dew condensers in Burkina-Faso. Projects for atmospheric water condenser construction in the arid areas of the country have been discussed with the University of Ouagadougou. We also trying to become affiliated with the CIEH (Interafricain Center of Hydrological Research). To be continued...

OUR ISRAEL CORRESPONDENT VISITS BORDEAUX

Simon BERKOWICZ, the OPUR correspondent in Israel, visited Marc MUSELLI in Vignola, Corsica, and the OPUR headquarters in Bordeaux, in December 2001, within the framework of the French-Israel program "Arc-en-ciel" (Rainbow). It provided an excellent opportunity for discussions and planning of joint research. Experiments on condensation of atmospheric water will soon commence in the Negev desert and represents one of our new projects for 2002. Simon BERKOWICZ has constructed 3 mini-condensers using remnants of the standard OPUR condenser foil.

PERHAPS, CONDENSERS IN MOROCCO

A request for a joint Franco-Moroccan effort on atmospheric water condensation was brought to the attention of the French International Bureau for the development of scientific relations between France and Morocco. The project involves the creation of two experimental dew condensers stations, one in Agadir (in partnership with the University Ibn Zohr, Faculty of Science, Department of Geology of Agadir), and the other in Marrakech (the University of Marrakech, Faculty of Science Semlalia of Marrakech (FSSM), Department of Physics).

INNOVATIONS IN "DEW PAINTING"

Now drop the "science" side of atmospheric water and turn towards another concept - an "art" vision.

Jean-Paul RUIZ, our Vice-President, is very faithful to our cause, continues to develop "Art School" aspects of dew, which fit perfectly with scientific experiments.

Here is what the artist writes :

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"Following innovations generated from the dew paintings carried out last summer at Correze, I currently work with tinctorial powder pigments provided by the Academy Horticole of Rochefort (academy of tinctorial plants), with which I continue to paint using dew. These plant pigments have the characteristic of changing colour according to the pH of the element with which they are mixed. This allows me, on the same canvas and according to the element added with the powders (citric acid or potassium sodium), to have after exposure to dew or frost, subtle colour differences for the same pigment. For example, red wood turns yellow in an acid medium, red in a base medium, while the neutral pH generates a purple colour. I continue my painting experiments."

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For any additional information on the subjects of this bulletin, please contact the OPUR Secretary.
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