



# AMERICAN FIREWORKS NEWS

HE WHO HATH ONCE SMELT THE SMOKE IS NE'ER AGAIN FREE

No.299

August, 2006

## TAGGIA: ST. BENEDICT'S CELEBRATION

### A VERY WILD AND UNUSUAL PYROTECHNIC SHOW

By Lucio Cizza

#### THE PLACE

Taggia is a very old Italian country-town on the Ponente Ligure coast, 24km from the French border. It boasts one of the larger historical centers in Northern Italy, is well known for flower cultivation and is in the middle of the production zone of the famous "taggiasca-quality" olives (imported in 1400 by the Benedictine Monks) and the top-quality oil they produce. During the last 40 years the place enjoyed great tourist development, mostly due to the mild climate during the wintertime. But please! Don't confused it with *Arma di Taggia*: this is a parent town at the edge of the sea that is mainly dedicated to summer vacations. Taggia is very proud of their Medieval origins and don't like to be confused with the "modern" *Arma di Taggia*.

Taggia is quite a strange place: we could best describe it using the words of *Giovanni Ruffini* (the Italian Patriot, follower of Mazzini) in the novel "Doctor Antonio" (Edinburg 1855):

*"...Lucy turned sharply round and embraced at one glance the wonderfully varied scene before her. To the North a long, long vista of deep, dark frowning gorges, closed in the distance by a gigantic screen of snow-clad*

*Alps - the glorious expanse of the Mediterranean to the South - East and West, range upon range of gently undulating hills, softly inclining towards the sea - in the plain below, the fresh cozy valley of Taggia, with its sparkling track of waters, and rich belt of gardens, looking like a perfect mosaic of every gradation of green chequered with winding arabesques. Ever and anon a tardy pome-granate in full blossom spread out its oriflamme of tulip-shaped dazzling red flowers. From the rising ground opposite frowned medieval Taggia, like a discontented guest at a splendid banquet..."*

In this description there is most of the character of Taggia and *Taggiaschi*: *medieval* is the town and "medieval" are the inhabitants who interpret the traditions whose origins are lost in the mists of time, with a strong sense of historical continuity (the very first houses seem to have been founded by the Etruscans and successively it became a station for change of horses for the Romans traveling the Aurelia Way to the extreme frontiers of the known world at that time). The second adjective also fits well to both town and inhabitants: the grumbling, intractability and, perhaps some peevishness aren't lacking in the *Taggiaschi*.

#### THE ORIGINS

Among the numerous local traditions, the festivity of St. Benedict is strongly embraced

ISSN 8755-3163

Jack Drewes, Managing Editor  
Dorothy J. Drewes, Associate Editor  
Elizabeth V. Musselwhite, Editor  
Feature Writer: Jason Musselwhite  
Special Correspondent: Charles P. Weeth  
Web Site Manager: John Eric Drewes  
Art: Bob (Nitro) Lawrence

#### THIS MONTH'S CONTRIBUTORS

Lucio Cizza, B.J. & K.L. Kosanke,  
Dean Putt, John Steinberg,  
Carl Steinmacher

#### COPYRIGHT

©2006, Rex E. & S.P., Inc. This publication is edited for, is published by, and is the sole property of the copyright owner, and is not to be sold, distributed or reproduced without written consent. Reproduction without permission will be deemed a purchase and implied authorization by the user to accept billing and make payment of a minimum \$50 user's fee. Distribution is limited to paid subscribers. Articles for publication are solicited but no payment is made for such material.

#### SUBSCRIPTIONS

Issued monthly, subscription is \$20.00 per year. Mailed by First Class mail on the 1st day of each month. Overseas subscriptions are (US) \$35.00; Canada and Mexico \$24.95. Please remit in U.S. funds drawn on a New York bank, or by major credit card. Overseas issues are sent by Air Mail.

#### WARNING

This publication may contain depictions and descriptions of fireworks. The information is based on the experience of the author(s) using specific tools and ingredients under specific conditions not necessarily described in the article. No warranties are made. Readers are cautioned that they must form their own opinion as to the application of anything found in this newsletter.

#### Editorial office and permanent address:

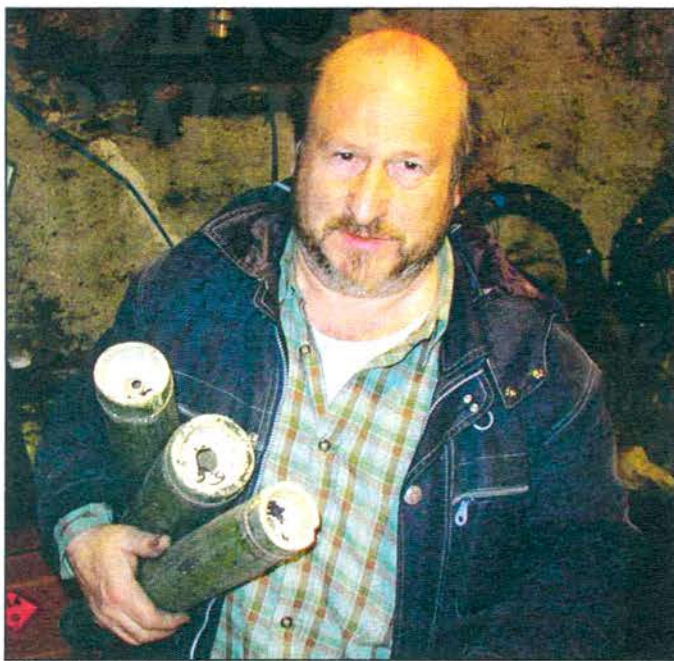
AMERICAN FIREWORKS NEWS  
HC67 - Box 30  
Dingmans Ferry, PA 18328  
Phone (570) 828-8417  
Fax (570) 828-8695

Telephone hours 8 a.m. to 6 p.m. ET  
E-mail: [afn@fireworksnews.com](mailto:afn@fireworksnews.com)

Website:  
[www.fireworksnews.com](http://www.fireworksnews.com)

Printed in U.S.A.





The Wizard



Finished!



Mixing



Inside



Hard charge



since it renews an ancient vow made to the Saint in 1600 by the Senate of the Republic.

As the legend tells it, the Saracen pirates landed on the coast about 3 kilometers from the village; the Taggia's inhabitants lit as many bonfires as possible in the streets, in the gardens and on the roofs too, in an attempt to give the impression of a town already sacked. The trick worked and the plunderers preferred to move on toward new objectives. The City Senate agreed to a solemn and perpetual promise: to celebrate the miracle of escape from danger, every year would see a great feast dedicated to St Benedict, and imposing even a fine of "...soldi tre..." for those breaking the vow.

During this feast, celebrated on the Saturday nearest to the 12th of February, the 19 wards light huge bonfires in the middle of each street and perform the local pyrotechnic specialty: the *fulgari* (probably from the ancient Latin *fulgor* meaning brightness or from the Italian *folgore* meaning lightning). These are pieces of bamboo cane filled with a mild propelling mix generating long (up to 10 meters) jets of flame with a rich sparks fallout.

The celebration starts in every ward with a spontaneous and quite wild show, mixing music, sounds, bonfires, *fulgari* and several similar artifices. The resulting effect is extremely evocative, with flames and shadows reverberating on the ancient vaults and the Spartan stone facades. Perhaps the only acknowledgement to modernity is the recorded music but one can be sure that the bonfires and *fulgari* remain unchanged across centuries!

The celebration lasts until the next morning in every street, house or cellar. During the St Benedict's feast, the town welcomes guests. One can enter any cellar or house, sure to be received with the greatest cordiality and obtaining some wine and a piece of *sardenaira*: a local version of pizza (but absolutely not to be confused! Should you say "pizza", the city could ban you forever!).

This celebration is so heart-felt by the people of all ages and social extraction that it has never been interrupted across the centuries, not even during the Nazi occupation of the WWII.

## THE PYROTECHNIC DEVICES

The *Fulgari* are essentially steel fountains made in two sizes which are used in different manners.

Children or young boys use the small-sized ones quite like a sparkler. The *fulgaro*, the size approximately of a flashlight, is kept in the hand; it burns quietly for a long time and produces a smooth

stream of reddish sparks about one meter long. The boys "spray" the legs of the girls with the fire jet. Far from being disturbed by this treatment, girls interpret this act as a demonstration of great appreciation and some girls, going home without any visible burning on the stockings, cry and complain of having been ignored by the boys!

In the recent past, when boys and girls had occasion to meet outside of family situations, this "flame spraying" was considered quite a public avowal of love!

The larger devices have sizes ranging from 2 inches in diameter and one foot long, up to 5 inches diameter and 2 feet long. The jet can be up to 15 meters long and a tremendous "hissing" is produced during the burning.

Several tubes of this size are placed on the principal streets of the historic center on both sides at the first floor level and lit in a single step to produce an impressive "triumphal arch" of fire (firing is now electric while in the past was obtained with passfires).

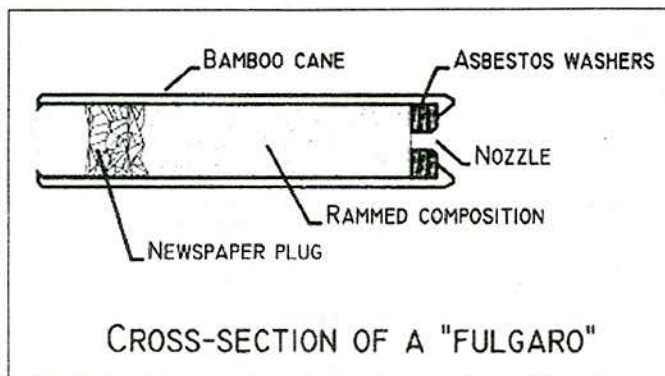
But the main and most impressive use of the big *fulgari* is for the competition among the various wards: after midnight, when the great bonfires have reached the maximum efficiency and the feast is at its apex, several boys representing each ward, dressed with some improvised anti-spark clothing and broad-brimmed hats, (what a resemblance with the *Green Man*!) firmly standing on their legs at the center of the square, ignite the *fulgaro*, keeping it high over the head, trying to counteract the thrust of a device loaded with more than 2kg of powder! The jets of sparks and flame rise up to 10-15 meters and last for 10 seconds or more. There are no winners, just the pleasure and the pride of having produced the most powerful device and to be so brave to defy the risk (very frequent indeed) of an explosion!

In fact, the frequent explosions of these apparently dangerous devices, operating very close to the limit of the case strength, are without consequences because of the clever construction and the choice of materials!

The tubes are made of pieces of natural bamboo cane (the wood being not too dry but still a little green), the bottom end of which is closed with a plug made of newspaper plied and twisted in a very complicated way (everyone has his secret and personal plugging method) the nozzle is made of several washers obtained by cutting discs of asbestos board and firmly compressing them against the core of composition. Sometimes a single, rigid



washer is used instead: the natural bamboo knurls help to maintain the washer in place or a little plaster or concrete is also used to improve sealing. The center hole is the second and most important fabrication "secret" of the *fulgaro* because its diameter determines the power of the device and the maximum height reached by the flame jet. The bore is carefully calculated to operate the device on the verge of an explosion!



In case of explosion, there are two possibilities: the bamboo cane bursts or the bottom plug is ejected. In the first case the fibrous nature of the bamboo produces a sudden, complete opening of the whole tube, without fragments scattering, allowing the very high pressure to discharge immediately with nothing other than a great fireball and a loud "whoosh! (but the exclamation of disappointment by the audience is louder!). In the second case, the internal pressure is immediately released and the whole composition is ejected in a single large jet toward the ground (of course the performer is always very careful to maintain the tube well off-axis with respect to his head!). In both cases the very heavy clothing is sufficient to protect from the most serious consequences. Some minor burning is regarded as decorations of bravery and are worn with evident pride!

The composition is a rough mix of potassium nitrate 60%, hardwood charcoal 10%, sulfur 9%, sugar 9%, steel filings 12%. This is only an "average" formulation, since everyone has his own secret recipe handed on from father to son! The sugar is added to obtain the typical "hissing" and the steel filings are nothing other than brake turnings obtained from the local car service stations. For last year's edition of the feast, I suggested (as *Honorary Technical Consultant for the Compositions Preparation!*) the use of titanium in place of steel, to obtain white and more luminous sparks. This proposal was received favorably and some experimental *fulgari* have been loaded with this new mix. The effect is really superb even if the nozzle

bore of the large *fulgari* has to be recomputed because titanium is much more reactive than steel.

The composition (without the metal) is first ball-milled for several hours the same as any black powder (even so the composition remains quite coarse), then the metal powder is added and the composition is hard rammed inside the tubes.

One month before the St Benedict's "magic" night, the whole Taggia's community starts to prepare the necessary ingredients: canes, powder, plugs and nozzles. In any cellar the activity becomes more and more feverish. No one is free from this strange and ancient call of tradition. The car service stations have reservations for the steel filing six months before and I strongly suspect that many brakes are machined when not necessary, just to increase the metallic powder production!

As with any other private powder making, this activity is quite illegal, and so is the use of the big *fulgari* in close proximity of the houses and in the middle of so many people crowded in the narrow streets of the old borough. The Mayor promptly covers the town walls with official ordinances warning the people from using any pyrotechnic device. Of course these notices are completely disregarded and the few policemen still on duty remain completely blind and deaf during the whole feast (certainly, they too participate secretly in the general insanity with their own production of *fulgari*).

The nature of this celebration is strictly private and the presence of a foreign audience, even if welcomed, is absolutely unnecessary: the *Taggiaschi* take a real pleasure from this celebration and don't worry too much about some eventual astonishment of foreign people not informed about the ancient origins of such enthusiasm.

On the other end, it is worth noting that this great chaos never passes the limits of sane and genuine merriment, serious accidents never have been recorded and the day after you cannot notice any trace of the hundreds of gigantic bonfires. Taggia has come back to the usual serious and a little frowning medieval village.

The attached pictures show some important phases of the fabrication of a *fulgaro*, along with a cross-section of a real device. The "wizard" ramming the *fulgaro* and milling the composition is *Robertino* (Little Robert) the reference man for the fire activities during the feast. He is one of the most active *fulgari* makers and his cellar is a well-known meeting point before, during and after the "magic fire night". LC





Hard nozzle



Front



Hard nozzle



Cascade!