

An unknown destructive earthquake in 18th century Sicily

Dante Mariotti

SGA, Storia Geofisica Ambiente, Bologna, Italy

Abstract

The current Italian seismic catalogues are generally considered «complete» as regards the destructive seismic events which occurred from the 17th century onwards. In fact, research performed using target methodologies still reveal earthquakes of high intensity, not yet known to the seismological tradition. This is the case of an earthquake which occurred on 14 September 1780, which caused serious damage and victims in some towns of the Tyrrhenian coast of North-eastern Sicily ($I_0 = VIII$ MCS). The information reported in an anonymous printed account was verified in the administrative records; this allowed a reconstruction of a macroseismic outline of great interest, which may make more precise the seismic hazard assessment in an area at high environmental risk due to the presence in Milazzo of an important chemico-industrial complex.

Key words *historical seismology – North-eastern Sicily – unknown earthquake*

Statistical evaluations relating to the current seismic catalogues in Italy tend to consider «complete» the number of earthquakes of greatest intensity (upwards of MCS grade VIII) during the last three centuries. In effect, while the «discovery» of hitherto unknown seismic events prior to the 18th century is not infrequent, it is fairly unusual to trace reports of unknown earthquakes which occurred in more recent times and which caused significant damage.

It should be noted, however, that research aimed at finding sources which enable this informational «gap» to be filled has a completely different character than that aimed at elucidating and filling in our knowledge of already known earthquakes. It demands a major organizational input and considerable commitment in terms of time and effort. It needs to be conducted systematically on manuscript sources or rare publications dating to the period under consideration – using as far as possible topographical indices, and having more frequent recourse to characteristic «key words», and com-

prehensively scanning the available series of periodicals, without any prior guarantee that the search will produce really innovative results.

In some cases, however, the above-mentioned approach does permit the retrieval of new data which have proved to be of considerable importance in the definition of the historical seismicity of a particular territory.

In the course of research conducted between 1989 and 1991 in conjunction with the project for the «Revision of the Major Earthquakes of Calabria and Sicily» planned by the Istituto Nazionale di Geofisica, a source was found reporting on an earthquake which occurred at Patti (in the province of Messina), and which has so far been ignored by the Italian seismic catalogues.

Nearly at the same time, that source was found independently by Ligresti and Gallo (1991); from their presentation, one may think it is a handwritten chronicle. In fact, it is a four-page anonymous pamphlet, published in Palermo in 1780, and entitled *Distinto ragguaglio del terremoto delli 14 del corrente Settembre, che accadde nella Città di Patti, ed altri Paesi circonvicini*. A copy of this publica-

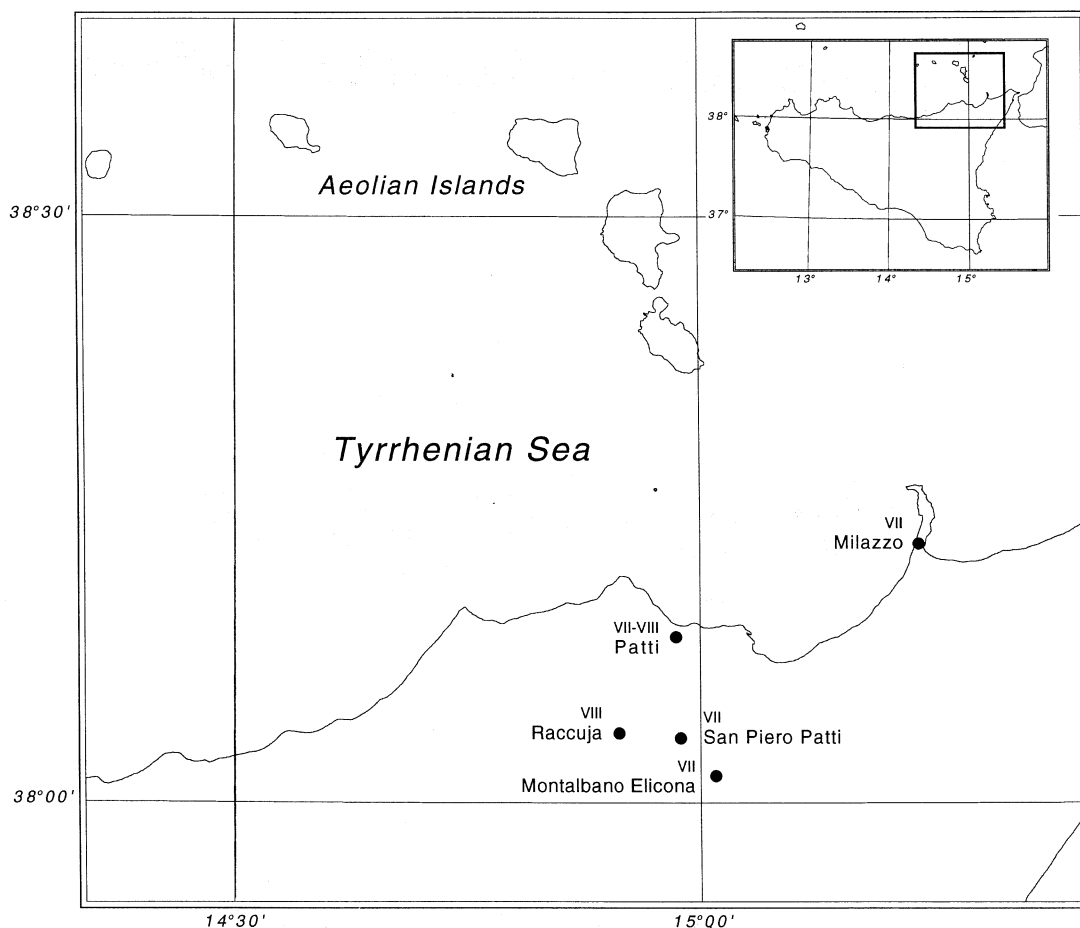


Fig. 1. Map of the intensities (MCS grade) of the 14 September 1780 earthquake (c. 17.20 GMT) previously unknown in the Italian seismic catalogue (Postpischl, 1985).

tion is preserved within a miscellaneous volume of manuscripts in the Biblioteca Centrale della Regione Siciliana in Palermo (BCPA, XVIII cent.).

The description of the phenomena observed to have taken place at Patti is rather short: Thursday, 14 September 1780 – after «a very violent storm of hail, rain, wind, lightning, and very loud claps of thunder, something which not unusually happens before earthquakes» – at 21.30 (corresponding roughly to 15.05 GMT) a first strong shock was felt, terrifying the population and forcing them to abandon their homes

and seek shelter in the open. Just less than two hours later, at 23.45 (c. 17.20 GMT) a second shock violently struck the town.

The second shock – «far stronger, and more prolonged than the first» – caused serious damage to the town: «it almost totally demolished two houses and the Cathedral; the Palazzo Vescovile suffered a great deal; the Convent of the Reformed Fathers is open to the sky, as is that of the Observant Fathers; no less damage was caused to the Convent of the Capuchin Fathers; and in that of the Conventual Franciscan Fathers, apart from the damage to some ordi-

nary buildings, one could observe even the royal vaults in large part open; and in the rest of the town many other buildings could be seen collapsed, some to a greater, some to a lesser extent».

Similar, or even more serious damage was caused at Raccuja, Montalbano Elicona, San Piero Patti, Milazzo and other neighbouring villages, where collapsing masonry also caused some victims, «various persons having been found who had miserably perished below the collapsed walls». Penitential processions and

other customary religious rites were undertaken by the local community after the earthquake, while the aftershocks continued, albeit slight.

The informative value of this account is that common to a whole series of topical *Reports, Accounts, Remarks and Relations*, almost invariably anonymous, which circulated through much of Europe from just before the mid-16th to almost the end of the 18th century, propagating the «fame» of natural disasters (earthquakes, eruptions, landslides, floods) or other

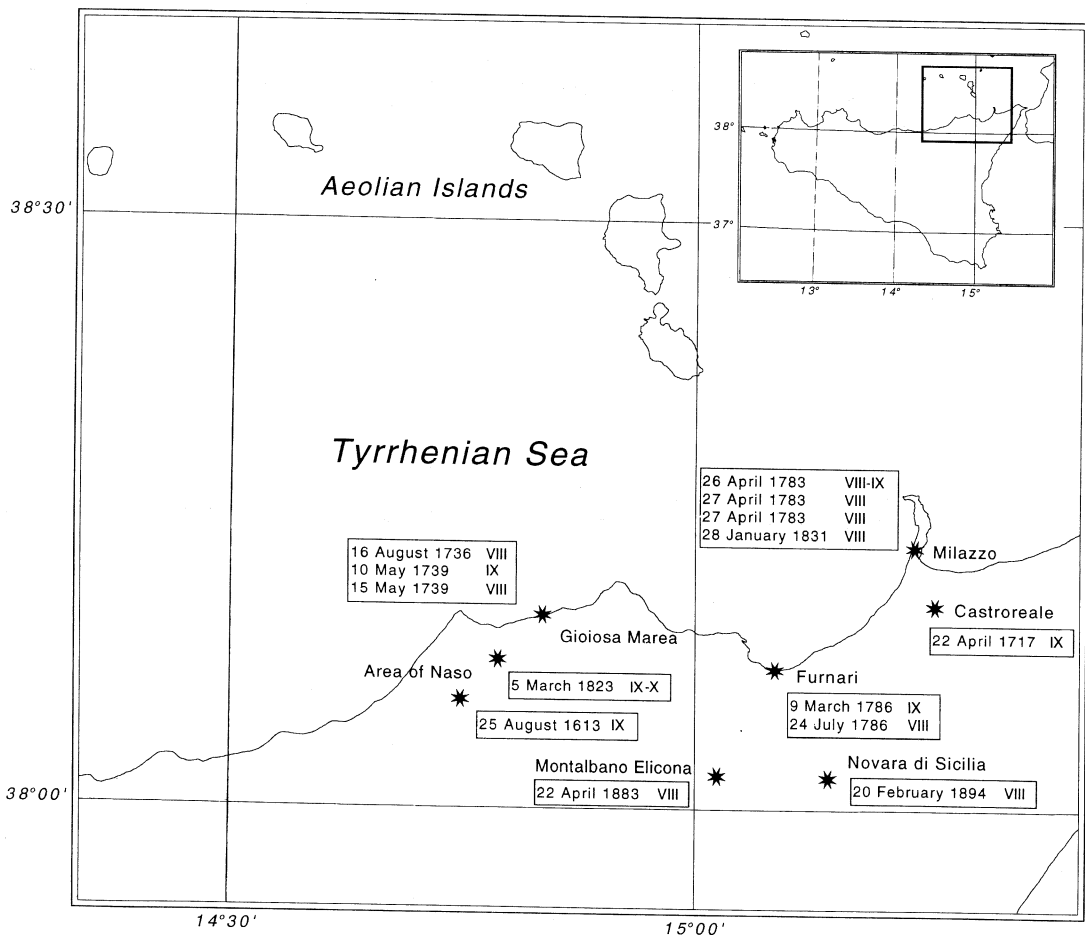


Fig. 2. Location and chronology of the earthquakes of epicentral intensity of MCS grade \geq VIII relating to the Tyrrhenian coastal area of North-eastern Sicily recorded in the Italian seismic catalogue 1000 to 1980 (Postpischl, 1985). The first recorded event dates back to the 17th century.

catastrophic events. They represent the most accessible sources available to us for many seismic events.

But while these «proto-newspapers» have the virtue of recording the events in question almost immediately after their occurrence, they also have, in many cases – in common with the periodical literature proper to the following period – the drawback of a certain degree of vagueness or an excessive rhetorical emphasis in reporting them. Their factual content needs therefore, wherever possible, to be checked against that derived from other types of source, in particular that of administrative documentation.

The reliability of the facts reported by the source here being analyzed has in fact been corroborated by checking them against various documentary sources in the Archivio di Stato in Palermo. In particular, a search conducted in the *Real Segreteria* collection produced a positive result. This archive contains the documentation relating to the office of the Viceregal Secretary, which played a role of considerable importance, acting as it did as a channel of liaison with the other administrative structures of the *Regno*.

During this research, a letter was found in the series *Incartamenti*, dated 21 September 1780, sent to the Viceroy by the Administrator of the Sicilian estates of the Prince of Butera, who reports to him on the serious damage caused by the earthquake at Raccuja, a feud of the family in question (ASPA, 1780). On the basis of the information reported to the Administrator by the civil and religious authorities of Raccuja, we know that the quake «ruined, and destroyed almost to its foundations» the Mother church, the other parish and daughter churches, the two monasteries of the town, the baronial palace and many private houses, also severely damaging the Castle. The victims ascertained were only two, but a more precise report on the number of the dead and injured and on the overall extent of the damage was promised. Unfortunately, this second document has so far not been traced among the papers of the state archive in Palermo.

To conclude, the earthquake of 14 Septem-

ber 1780 (fig. 1) struck the Tyrrhenian littoral of the province of Messina, facing the archipelago of the Aeolian Islands. It reached an estimated maximum intensity of at least MCS grade VIII, and, like the other seismic events of the zone (fig. 2) mentioned by Mongitore (1743) and Baratta (1901) and then recorded in modern seismic catalogues (Carrozzo *et al.*, 1975; Postpischl, 1985), affected a rather limited area.

The data so far retrieved on this hitherto unknown earthquake in 18th century Sicily need to be further elucidated and extended with further research also at the local level, which the present communication hopes to stimulate. But they are already of considerable interest. For they are able to make more precise the seismic hazard assessment and forecast periods of recurrence of seismic events in a highly populated zone which is considered at high environmental risk due to the presence in Milazzo of the second largest Sicilian chemico-industrial complex.

REFERENCES

- ASPA (Archivio di Stato di Palermo) (1780): *Real Segreteria, Incartamenti, Rappresentanze Palermo*, vol. 267, No. 208.
- BCPA (Biblioteca Centrale della Regione Siciliana di Palermo) (XVIII cent.): *Miscellanea*, vol. 10, *Raccolta di flagelli della mano onnipotente del Signore, ed accidenti funesti in varie Città avvenuti*.
- ANONYMOUS (1780): *Distinto ragguaglio del terremoto delli 14 del corrente Settembre, che accadde nella Città di Patti, ed altri Paesi circonvicini*, Palermo.
- BARATTA, M. (1901): *I terremoti d'Italia. Saggio di storia, geografia e bibliografia sismica italiana*, Torino.
- CARROZZO, M.T., M. COSENTINO, A. FERLITO, F. GIORGETTI, G. PATANÈ and M. RIUSCETTI (1975): *Earthquakes catalogue of Calabria and Sicily (1783-1973)*, *Quaderni de «La Ricerca Scientifica»*, 93.
- LIGRESTI, D. and F. GALLO (1991): *Elementi per una revisione critica dei terremoti della Sicilia orientale in età moderna*, in *Proceedings of the GNDT Meeting, Pisa, Italy, 25-27 June 1990*, edited by P. ALBINI and M.S. BARBARO, vol. 2, 59-67.
- MONGITORE, A. (1743): *Istoria cronologica de' terremoti di Sicilia*, in id., *Della Sicilia ricercata nelle cose più memorabili* (Palermo), tome 2, 345-445.
- POSTPISCHL, D. (Editor) (1985): *Catalogo dei terremoti italiani dall'anno 1000 al 1980*, *Quaderni de «La Ricerca Scientifica»*, 114 (2B).