

**Data from investigation on seismic Sea waves events  
in the Eastern Mediterranean from 1800 to 1900 A.D.**

Part 5

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1. INTRODUCTION

Tsunamis from 1800-1900 A.D. in the Eastern Mediterranean Sea between 31-44 N and 18-36 E excluding the Black Sea and the Italian coasts of the Adriatic Sea is the object of the present paper.

2. DESCRIPTIONS OF EVENTS

1. 1802 January 4. *Adriatic Sea. Fiume (Rijeka) (m=iii).*  
*Ref: Moniteur Universel, Paris. (10th year, Nrs. Pluviôse 7, 10, 16, 25 and Ventôse 3).*

2. 1804 June 8. Northwest coasts of Peloponnesus. Patras ( $m=iii$ ).  
(G C:  $38\frac{1}{4}$  N —  $21\frac{3}{4}$  E,  $I=IX$ ,  $M = ?$ ,  $d = n$ ).  
Ref: *Journal des Debats, Paris. (Thermidor 10)*, *Moniteur Universel, Paris. (Thermidor 10)*, 31, 11.
  
3. 1817 August 23. Gulf of Corinth. Aigion ( $m=iii+$ ).  
(G C:  $38\frac{1}{4}$  N —  $22\frac{3}{4}$  E,  $I=X$ ,  $M = ?$ ,  $d = n$ ).  
Ref: *Gentleman's Magazine, London. (vol. 88, pt. 1, p. 71)*.  
*Journal des Debats, Paris. (November 21, 1817, January 10, 1818)*, 24, 26.
  
4. 1818\* January. Athens.  
Ref: 37.  
Mallet (p. 112 + 114) mistakes the event before mentioned.
  
5. 1821 January 6. Gulf of Corinth. Alcyonic Sea ( $m=iv$ ).  
(G C:  $37\frac{3}{4}$  N —  $21\frac{1}{4}$  E,  $I=X$ ,  $M=?$ ,  $d = n$ ).  
Ref: 62, 31, 37, 49, 21.  
  
In Patras the harbour facilities and a number of houses near the sea front were severely damaged. The water overflowed the shores and covered the ancient Temple of Demeter dedicated to St. Andrew.
  
6. 1823 August 20. Dalmatian coasts. Ragusa (Dubrovnik) ( $m=iv-$ ).  
Ref: *Annales de Chimie et de Physique, Paris. (vol. 33, p. 408)*, *Tilloch's Magazine. (vol. 62, p. 315)*, 49.
  
7. 1825 January 19. Ionian Islands. Leukas, (S. Maura), between the islet of Sessoula and east coasts of the inland ( $m=iii?$ ).  
(G C:  $38\frac{3}{4}$  N —  $20\frac{3}{4}$  E,  $I=XI$ ,  $M=?$ ,  $d=n$ ).

8. 1829 May 23. Constantinople (Istanbul) ( $m=ii$ ).  
Ref: *Casseler Zeitung, Cassel.* (Nr. 184, p. 955, 1829), 18.
9. 1833 January 19. Albanian coasts. Valona and Saseno Isle ( $m=iv-$ ).  
Ref: 28, 36a, 41.
10. 1835 July 12. Ionian Islands. Zante ( $m=ii$ ).  
Ref: 15, 11.
11. 1837 January 1. Syrian and Israeli coasts of Tiberia ( $m=iv$ ).  
Ref: 43, 15, *Moniteur Universel, Paris.* (24 February, 22 May).
12. 1843 September 14. Dalmatia. Ragusa (Dubrovnik), Gravosa (Gruz) ( $m=iv$ ).  
Ref.: *Courrier de France, Paris,* (5, 12, 15 October 1843), *Institut, Paris,* (14 December 1843), *Quotidienne, Paris,* (12, 14 October 1843), *Democratie Pacifique, Paris.* (9 October 1843).
13. 1844 March 3. Dalmatia. Ragusa (Dubrovnik) ( $m=iii$ ).  
Ref: *Courrier de France, Paris* (10 April 1844).
14. 1844 March 23. Dalmatia. Ragusa (Dubrovnik) ( $m=ii$ ).  
Ref: 49.
15. 1845 August 16. Dalmatia. Ragusa (Dubrovnik), Gravosa (Gruz) ( $m=iii$ ).  
Ref.: *Constitutionnel, Paris,* (18 September 1845), *Estafette, Paris.* (18 September 1845), *Journal des Debats, Paris* (August 1845), *Mercure de France, Paris* (August, September 1845).

16. 1851 February 28. Asia Minor. Fetiye ( $m=iii$ ) ( $H=0,60$  m).  
(G C:  $36\frac{1}{2}$  N —  $28\frac{3}{4}$  E,  $I=IX$ ,  $M=?$ ,  $d=n$ ).  
Ref: 50.  
Information has been obtained from A. Perrey (1847) but A. Galanopoulos (1960, p. 9), makes no reference to tsunami.
17. 1851 April 3. Asia Minor. Fetiye ( $m=iii$ ) ( $H=1,80$  m).  
Ref: 50, 48, 25.
18. 1851 May 23. Khalki Isle, Rhodes ( $m=ii$ ).  
Ref: 50.
19. 1851 October 12. Albanian coasts, Valona ( $H= 0,60$  m)  
( $m=iii$ ).  
Ref: 28, 40, 41, 44, 50.
20. 1852 May 12. Asia Minor, Smyrna ( $m=iii$ ).  
Ref: 50.
21. 1852 September 8. Asia Minor, Smyrna ( $m=iii$ ).  
Ref: 50, 59.
22. 1853 August 18. Euboean Gulf ( $m=iii+$ ).  
(G C:  $38\frac{1}{4}$  N —  $23\frac{1}{2}$  E,  $I=IX$ ,  $M=?$ ,  $d=n$ ).  
Ref: 59 (p. 44).
23. 1855 February 13. Asia Minor, Fetiye ( $m=iii$ ).  
Ref: 59 (p. 45, 175), 51.
24. 1856 November 13. Eastern Sporades. Chios ( $m=iii+$ ).  
(G C:  $38\frac{1}{4}$  N —  $26\frac{1}{4}$  E,  $I=IX$ ,  $M=?$ ,  $d=n$ ).  
Ref: 29, 64, 23.

25. 1859\* October 20. Piraeus ( $m=ii-$ ).

Ref: 59 (p. 186).

Most probably a strong seiche.

26. 1861 December 26. Gulf of Corinth. Northeast coasts ( $H=1,80$  m) ( $m=iv-$ ) South coasts ( $m=iii$ ).

(G C:  $38\frac{1}{4}$  N —  $22\frac{1}{4}$  E,  $I=XI$ ,  $M=?$ ,  $d=n$ ).

Ref: 42, 59, 60, 10, 24, 26.

This event is better known because of the landslide which took place in the Corinthian Gulf. In this area, several repeated landslides have taken place with or without earthquake. Sometimes, the landslides themselves have caused earth tremors. De Ballore relates the event to the corresponding one in Helike which was in the same area, and slid and sank in the sea in 373 B.C. It is likely that both events had the same origin.

The fissure line on the ground stretches along the feet of the hills which are north of the Corinthian Gulf (Fig. 1). The area north of the fissure suffered a landslide of about two metres.

27. 1866 January 2. Albanian coasts. Valona, Himara ( $m=iv$ ).

Ref: 59, 40, 41, 44.

28. 1866 January 6. Albanian coasts. Valona, Narta ( $m=iii$ ).

Ref. 41.

29. 1866 February 2. Eastern Sporades. Chios ( $m=iii$ ).

(G C:  $38\frac{1}{4}$  N —  $26\frac{1}{4}$  E,  $I=VIII$ ,  $M=?$ ,  $d=n$ ).

Ref: 19 (p. 441), 59.

Information has been obtained from Fuchs C.W. (1866, p. 441) and Schmidt (1879), but A. Galanopoulos (1960, p. 13) makes no reference to tsunami.

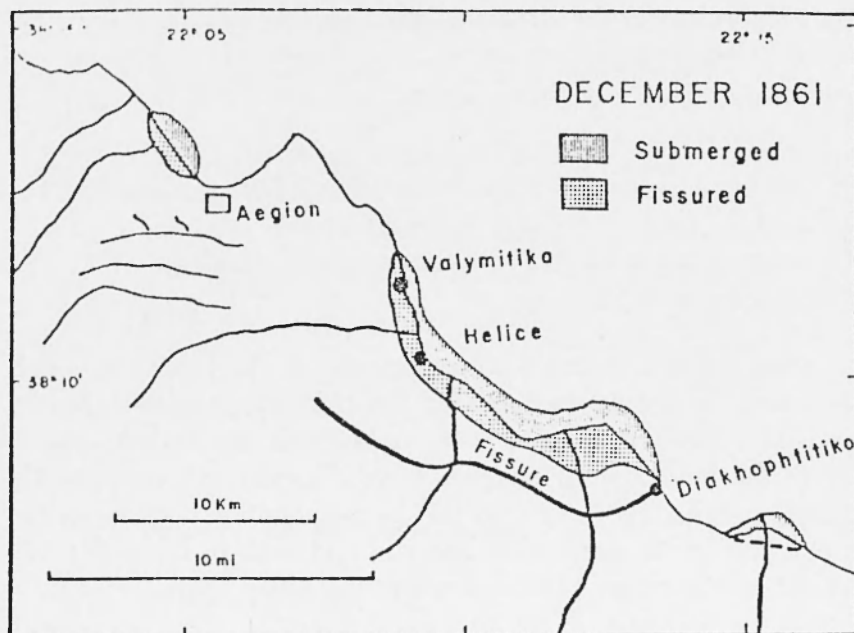


Fig. 1: Effects of the earthquake of December 1861 (Gulf of Corinth). (57).

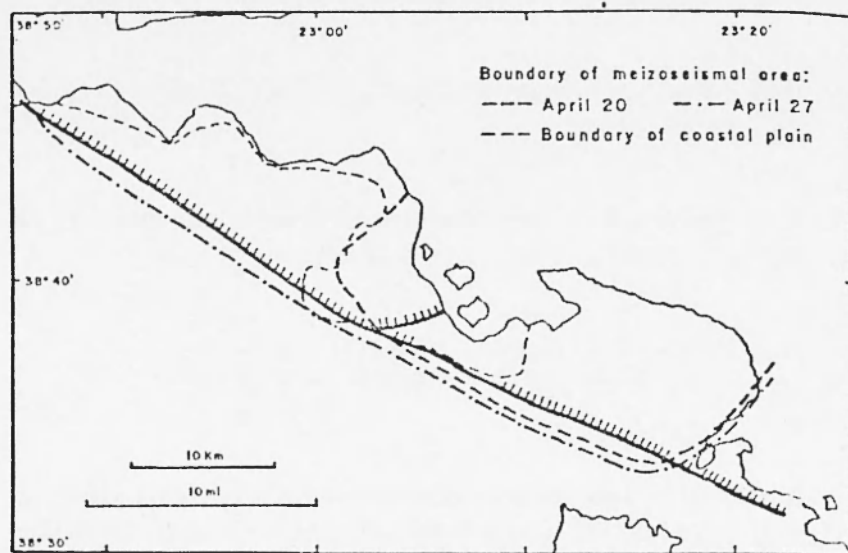


Fig. 2: Faulting in earthquakes of Locris, Greece, April 1894, (57).

30. 1866 February 6. South coasts of Peloponnesus. Island of Kythera ( $H=7,80$  m), ( $m=iv$ ).  
(G C: 36 N — 23E,  $I=VIII$ ,  $M=?$ ,  $d=n$ ).  
Ref: 12 (p. 441), 61, 24, 26.
31. 1866 March 3. Albanian coasts. Valona ( $m=iii$ ).  
Ref: 59 (p. 223), 41.
32. 1866 March 6. Albanian coasts. Himara, Kanina ( $m=iv$ ).  
Ref: 62 (p. 223), 40, 41, 44.
33. 1866 March 13. Albanian coasts. Himera, Kanina ( $m=iii$ ).  
Ref: 40, 41.
34. 1867 September 20. South coasts of Peloponnesus. Gythion ( $m=iv$ ), Crete, Herakleion ( $m=iv$ ), Ionian Islands, Syros ( $m=iii$ ), Southeast coasts of Italy ( $m=ii+$ ).  
(G C:  $36\frac{1}{2}$  N —  $22\frac{1}{4}$  E,  $I=IX$ ,  $M=?$ ,  $d=n$ ).  
Ref: *Ethnophylax*, Athens (Nr. 1325), 59 (p. 104, 150, 103, 108, 113).
35. 1869 December 28. Albanian coasts. Valona ( $m=iii$ ).  
(G C:  $38\frac{3}{4}$  N —  $20\frac{3}{4}$  E,  $I=XI$ ,  $M=?$ ,  $d=n$ ).  
Ref: *Leipziger Illustrierte Zeitung*, Leipzig, (Nr. 1883), 44, 41, 22.
36. 1870 June 24. Alexandria ( $m=iii$ ).  
Ref: 19 (p. 529), 59.
37. 1870 July 29. Adriatic Sea. Island of Lissa (Vis) ( $m=iii$ ).  
Ref.: *Leipziger Illustrierte Zeitung*, Leipzig. (Nr. 1414), 19 (p. 259).

38. 1878 April 19. Sea of Marmara. Izmid ( $m=iii$ ).  
Ref: 19 (p. 459, 486), 24.
39. 1883 June 27. Ionian Islands. Corfu ( $m=iii$ ).  
(G C:  $39\frac{1}{2}$  N — 20 E, I=VI, M=?,  $d=n$ ).  
Ref: *Nea Ephimeris*, Athens, (Nr. 171), 23, 25, 26.
40. 1886 August 27. South coasts of Peloponnesus. Messenia, Pylos ( $m=iii$ ). Asia Minor, Smyrna ( $m=ii$ ).  
(G C: 37 N —  $21\frac{1}{4}$  E, I—XI, M=?,  $d=n$ ).  
Ref: *Nea Ephimeris*, Athens, (Nr. 228-249), *Hora*, Athens, (Nr. 279-308), *Arkathis*, Tripoliza, (Greece), (Nr. 953), *Nea Evthomas*, Athens, *Herakleion - Crete*. (Nr. 86), *Phorologoumenos Patras* (Greece), (Nr. 608), 63, 47, 39, 23, 25, 26.
41. 1887 October 4. Gulf of Corinth. South Coasts, Xylokastro ( $m=iii$ ), between Xylokastro and Sykia ( $L=200m$ ).  
(G C:  $28\frac{1}{4}$  N —  $22\frac{3}{4}$  E, I=VIII, M=?,  $d=n$ ).  
Ref: *Nea Ephimeris*, Athens (Nr. 257-271), *Akropolis*, Athens, (Nr. 1923-1929), *Paligenesia Athens*, (Nr. 7032-7041), *Epitheorisis* (Nr. 294-298), 61 (Nr. 659), 23, 25, 26.
- A. Galanopoulos mentions that according to A. Philipson (1889) this event occurred on October 3.
42. 1893 February 9. Sporades Islands. North coasts of Samothrace. ( $H=1,00$  m) ( $m=iii+$ ), Alexandroupolis ( $H=1,00$  m,  $L=40$  m) Thracian coasts ( $m=iii$ ).  
Ref: 24, 25, 26.
- The earthquake data have been obtained from the A. Galanopoulos Catalogue (1960, p. 25) which, however, makes no reference to Tsunami.
43. 1893 June 14. Albanian coasts. Valona, Himara ( $m=iii$ ).  
Ref: 28, 40, 41, 44.



44. 1894 April 27. *Euboean Gulf. Atalanta Bay* ( $H=3,00$  m) ( $m=iv$ ), *West and Northwest coasts of Euboean Gulf* ( $m=iii$ ).  
(G C:  $38.7$  N —  $23.1$  E,  $I=XI$ ,  $M=?$ ,  $d=n$ ).  
Ref: 25, 26.

This event is better known because of the landslide in the northern Euboic gulf. The earthquake known as the earthquake of Locris, started on April 20, 1894 with a medium tremor, with almost no post-earthquake tremors. On April 27, a powerful tremor shook the area with a considerable landslide and a series of post-earthquake tremors some of which were quite strong.

The ground fissure was almost straight (Fig. 2) on a stretch of about 55 km from east-southeast (E-SE), to west-northwest (W-NW). The width of the fissure ranged from 0.30 m to 0.15 m in alluvial soils.

45. 1894 July 10. *Constantinople (Istanbul)* ( $m=iii$ ).  
Ref: 18 (pp. 139, 180-185).

46. 1897 December. *Ionian Islands. Zante*.  
Ref: 62a.

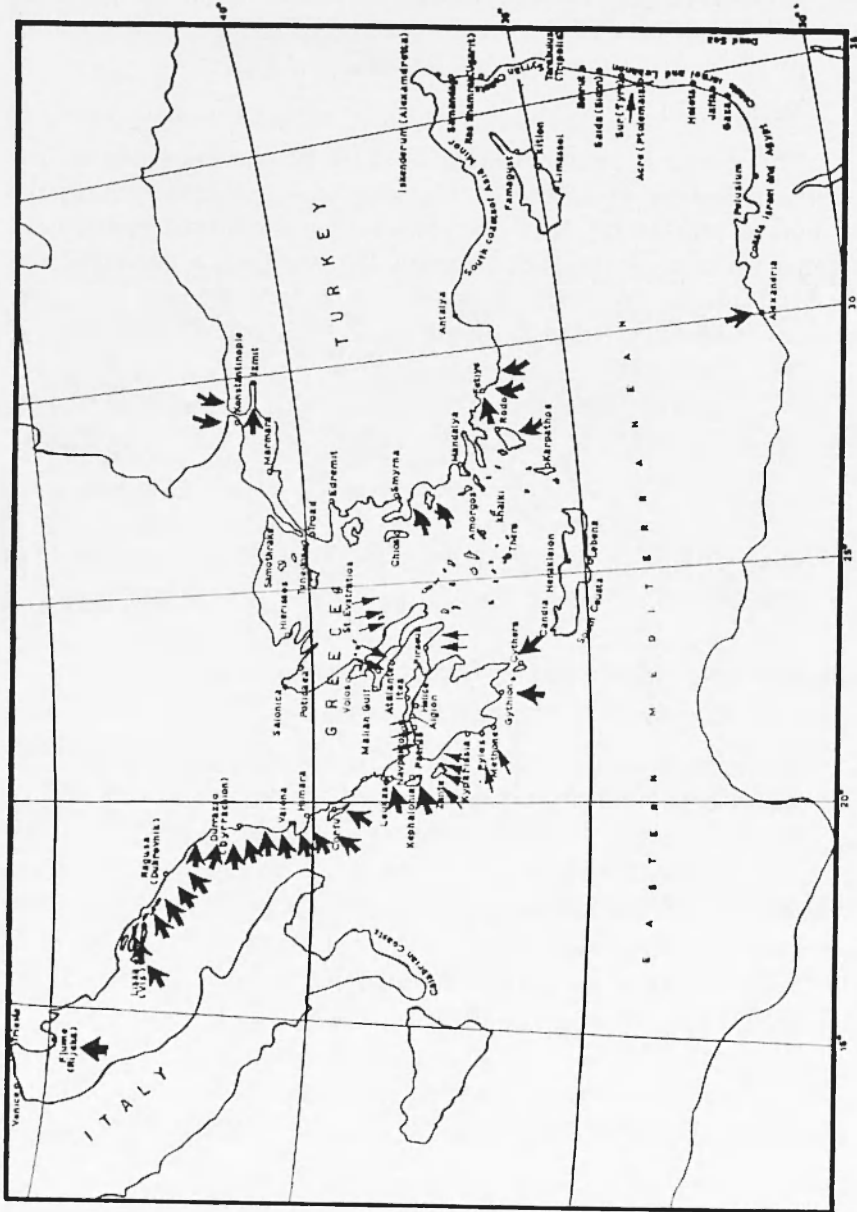
H. Tsitselis in his « Chephalinian Melanges » states that the earthquake on that date was followed by tsunami:

« In December, powerful and frightening earthquakes took place, and also in January, attended by receding sea water from the shore, a phenomenon which is rare... » (Vol. 2, 1960 p. 464).

47. 1898 December 3. *Ionian Islands. Zante* ( $m=ii+$ ).  
(G C:  $37\frac{3}{4}$  N —  $21$  E,  $I=VII$ ,  $M=?$ ,  $d=n$ ).  
Ref: 25.

48. 1899 January 22. *Messenia, Kyparissia, Marathos* ( $m=iii$ ).  
(G C:  $37\frac{1}{4}$  N —  $21\frac{3}{4}$  E,  $I=IX$ ,  $M=?$ ,  $d=n$ ).

The earthquake data have been obtained from A. Galanopoulos (1960, p. 25), but he makes no reference to tsunami.



Seismic Sea waves in Eastern Mediterranean from 1800 to 1900 A.D.

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