

Spawn of Sun-fish (?).

DURING a cruise on the west coast of Ireland, from which I have recently returned, I captured a long ribbon of spawn about 40 feet long, 3 feet deep, and a quarter of an inch thick. The ova, about the size of No. 2 shot, were set in a firm gelatinous mass, which floated edgeways in a frilled form. I saw it floating about a foot below the surface, and succeeded in gaffing it and towing it behind the punt by getting some of it fixed over the gunwale. The embryos had developed so as to show eyes when first taken, and in the two days, during which some of it remained alive in a deep can, a further advance took place; but then, owing to the heat of the weather, the ova whitened, its buoyancy was lost, and decomposition set in.

As we saw several specimens of the sun-fish (*Orthogoriscus mola*) in the vicinity, and as the spawn must have belonged to some very large fish, I think it probable that what we found was the spawn of a sun-fish.

I should be glad if any of your readers could throw more light on the subject. W. S. GREEN.

Carrigaline, co. Cork, July 4.

After-Glows.

IN reply to the letter of Mr. L. P. Muirhead in NATURE of June 23 (p. 175), I would ask to be permitted to state that the after-glows are very rich and conspicuous here evening after evening, and occasionally discernible till 10 p.m.

Worcester, July 4, 1887. J. LLOYD BOZWARD.

The Cuckoo in India.

I HAVE been here for just one month, and during that time have constantly heard the cry of the cuckoo. Last Sunday I heard it at Lackwar, fifteen miles from here. This would apparently point to Jerdon's not being correct in saying the cuckoo is rare in India. F. C. CONSTABLE.

Mussoorie, June 15.

Mr. Mutzler, the owner of this hotel—the Charleville—tells me the cuckoo is constantly heard from spring to October.

Luminous Boreal Cloudlets.

IN NATURE, vol. xxxiv. p. 192, attention was invited by the writer to what appeared to him to constitute a special class of self-luminous cloudlets in the northern sky at night, for which, if so recognized, the name "nubeculæ boreales" was suggested.

A careful look-out was kept every night last autumn, winter, and spring for their reappearance here, but to no effect till the night of the 19th inst. Then, and subsequently on the 21st, 24th, and 26th inst., there was an increasing development of the phenomenon in a north polar horizontal arc of 50°, or 25° on each side the true north. At length on the 28th, and last night, the 29th inst., there was a magnificent and marked display.

One of your able correspondents of last year seemed to consider he had already drawn attention to the subject in a previous year in your columns. It appeared, however, he had only remarked upon sunlit clouds, as a phase of the cloud-forms attracting latterly special attention.

It is quite out of the question to attribute the luminosity now referred to in any respect to direct solar illumination at midnight; and fortunately the eminent Astronomer-Royal for Scotland was led to apply the spectroscope, confirming the writer's conjecture as to the sub-auroral and self-luminous character of these cloudlets. His letter of July 31 will be found in NATURE, vol. xxxiv. p. 311.

The recent works of Lemström and Koch, reviewed in NATURE, vol. xxxv. p. 433 *et seq.*, have followed up the subject in noting a sudden and wide-spread development of cirrus clouds and luminous mists in auroræ of Sweden and Labrador.

Dundrum, co. Dublin, June 30. D. J. ROWAN.

The Migrations of Pre-Glacial Man.

WILL Dr. Hicks kindly explain the statement cited in NATURE (vol. xxxvi. p. 185), that the migration of pre-glacial man to this country was "from northern and north-western directions." June 25. GLACIATOR.

On the Pliocene Deposit of Marine Shells near Lattakia, and a Similar Deposit in the Island of Zante.

ON p. 384, vol. xxx. of NATURE, Prof. Hull published an account, furnished him by myself, of the shell deposit in the marl of the Lattakia plain. Since that time I have submitted these specimens to Mr. Etheridge, F.R.S., of the British Museum, who has kindly furnished me with their specific names, as far as they are determinable. The subjoined list fixes the geological date or succession of the deposit, which belongs to, or is of the same age or period as, the Pliocene or Crag deposits of Essex, Norfolk, and Suffolk. The fossils from the raised beaches may be of post-Pliocene.

MOLLUSCA.

Class I.—GASTEROPODA.

Order I.—

PROSOBRANCHIATA.

Sec. A.—Siphonostomata.

I. Fam. STROMBIDÆ.

1. *Strombus*, sp.

2. " "

2. Fam. MURICIDÆ.

3. *Murex branderis*, Brocc.

4. " *erinaceus*, Linn.

5. " *conglobatus*, Micht.

6. *Fusus rostratus*, Defr.

7. " *corneus*, Sow. = *F. gracilis*.

8. " sp.

9. *Kanella marginata*, Sow. or Brocc.

3. Fam. BUCCINIDÆ.

10. *Buccinum flexuosum*, Brocc.

11. *Cassis crumona*, Lam.

12. *Cassidaria echinata*.

13. *Columbella nassoides*.

14. *Nassa clathrata*, Defr.

15. " *megastoma*, Brocc.

16. *Terebra imbricaria*.

17. " near *T. plicaria*.

18. " sp.

4. Fam. CONIDÆ.

19. *Comus Noë*, Brocc.

20. " *deperditus*, Brig.

21. " sp.

22. *Pleurostoma monile*, Brocc.

23. " *cataphracta*, Brocc.

24. " *turricola*, Brocc.

5. Fam. VOLUTIDÆ.

25. *Mitra scrobiculata*, Defr. (Brocc).

26. " sp.

27. " sp.

Sec. B.—Holostomata.

6. Fam. CERITHIIDÆ.

28. *Aporrhais (Chenopus) pes-pelecani*, L.

29. *Cerithium vulgatum*, Brug.

7. Fam. NATICIDÆ.

30. *Natica*, sp.

8. Fam. LITTORMIDÆ.

31. *Phorus agglutinans*, Lam.

9. Fam. TURBINIDÆ.

32. *Turbo rugosus*, Lam.

33. " sp.

34. *Trochus patulus*, Brocc.

Class II.—CONCHIFERA, Lam.

Sec. A.—Asiphonida.

10. Fam. OSTREIDÆ.

35. *Ostrea*, sp.

36. *Spondylus crassicostata*.

11. Fam. PECTENIDÆ.

37. *Pecten*, sp. near *P. altoplicatus*.

38. " *jacobæus*.

39. " *opercularis*, L.

40. " *dubius*, Brocc.

41. " *janira*, near *quinquecostatus*.

12. Fam. ARCIDÆ.

42. *Arca polii*.

43. *Pectunculus*, sp.

Sec. B.—Siphonida, Integro-pallialia.

13. Fam. CHAMIDÆ.

44. *Chama squamosa*, Brand.

14. Fam. CARDIIDÆ.

45. *Cardium rusticum*, L.

46. " *echinatum*, L.

47. " *edule*, L.

15. Fam. LUCINIDÆ.

48. *Lucina borealis*, L.

Sec. C.—Sinu-pallialia.

16. Fam. VENORIDÆ.

49. *Venus fasciata*, Da Costa.

50. " (*Cytheræa*) *casina*, L.

Class III.—BRACHIOPODA, Cuv.

51. *Waldheimia complanata*.

It will be seen by this list that three classes, seventeen families, twenty-nine genera, and fifty-one species are represented.

Beside the above marine species, which are found more or less embedded in the soil, as well as on its surface, *Helix pomatia* is found in great profusion all over the surface.

Another species of *Helix*, closely allied to *H. lapicida*, and a species of *Clausilia*. No other terrestrial shells were collected in this region.

In addition to the above Mollusca I found a species of *Toxas-*