

Carolina, Ohio, Virginia, Wisconsin, Michigan, Georgia, Nebraska and Minnesota; 4th, Dakota, Iowa, Kansas, Missouri, Nebraska, New Hampshire, New York, Michigan and Minnesota; 5th, Alabama, Kansas, Nebraska, New Hampshire, New York, North Carolina, Ohio, Virginia, West Virginia and Louisiana; 6th, Iowa, Maine, New Hampshire, Ohio and Wisconsin; 7th, Iowa, Nebraska, New York, Ohio, Louisiana and Wisconsin; 8th, Virginia, Louisiana, Maine and Mississippi; 9th, Iowa and Wisconsin; 10th, Kansas, Virginia and Wisconsin; 11th, Canada, Indiana, Mississippi, New York, Ohio and Georgia; 12th, Alabama, Dakota, Delaware, Iowa, Massachusetts, Mississippi, Nebraska, New York, Wisconsin, New Jersey, Connecticut, Louisiana and Michigan; 13th, Indiana, Mississippi, Ohio, New Jersey, Connecticut, Michigan, Georgia and Florida; 14th, California, Illinois, Indiana, Iowa, Maine and Ohio; 15th, Iowa, Missouri, Tennessee and Wisconsin; 16th, Alabama, Illinois, Indiana, Tennessee, Wisconsin and Georgia; 17th, Iowa, Michigan, Missouri, New York, Ohio, Wisconsin and Louisiana; 18th, California, Iowa, Kansas, Maine, New Mexico and Ohio; 19th, Nebraska, Alabama, Colorado, Dakota, New York, Ohio, Wisconsin, Georgia, Maine and Illinois; 20th, California, Mississippi, New Hampshire and New York; 22d, New York and Maine; 24th, Maryland, Massachusetts, New York and New Jersey; 25th, Alabama and Illinois; 26th, Mississippi and New York; 27th, Indiana and Kentucky; 29th, Mississippi, Nevada, New Hampshire, Massachusetts and Louisiana; 30th, Canada, Iowa, New York, Ohio, Wisconsin, Louisiana and Michigan; 31st, Illinois, Indiana, Ohio, Virginia, Louisiana and Wisconsin.

(2) *Lunar Halos*.—The principal Lunar Halos were observed as follows: on the 8th, Colorado, Kentucky, Ohio, Tennessee, Virginia; 9th, Georgia, Maryland, Ohio, Pennsylvania, Virginia, Wisconsin, Massachusetts and Iowa; 10th, New Hampshire, Wisconsin and Florida; 11th, Massachusetts, New Jersey, New York, Texas, Connecticut, Wisconsin and Indian Territory; 12th, Alabama, Illinois, Iowa, Kansas, Louisiana, Mississippi, Wisconsin, Florida, Minnesota and Indian Territory; 13th, Georgia, Kentucky, Maryland, Massachusetts, New Jersey, New York, Ohio, Pennsylvania, Texas, Utah, Virginia, West Virginia, Louisiana, Colorado and Indian Territory; 14th, Iowa, New York, Texas, Massachusetts, North Carolina, Florida and Indian Territory; 15th, Kentucky, Louisiana, Mississippi, Tennessee, Virginia, Texas, Illinois, and Florida; 16th, Kansas, Maine, Massachusetts, North Carolina, Texas, Florida and Georgia; 17th, Alabama, Iowa, Michigan, Minnesota, New York, Ohio, South Carolina, Colorado, Kansas and Indian Territory; 18th, Nebraska, Texas, South Carolina, Georgia, Utah, Iowa, Tennessee and Indian Territory; 19th, Canada, Ohio, Virginia, Massachusetts, Michigan and Georgia; 20th, Indiana, Maine, Massachusetts, New York, Utah, and Florida; 21st, Utah and Georgia.

(3) *Mirage*.—The phenomena of Mirage was observed on the 9th at Alpena; 10th in Iowa and Kansas; 14th in Kansas; 17th, Milwaukee; 25th, Kansas.

## MISCELLANEOUS PHENOMENA.

(1) *Natural History*.—The following items relating to natural history have been reported—

*Grasshoppers* were reported in Kansas throughout the month, and in Nebraska thick during the latter part of the month, especially from the 22d to the 26th, during which time they were moving north and north-westward. They were especially reported on the 23d at Cheyenne and on the 21st at Denver.

*Locusts*.—Kansas, 8th to 12th and 25th.

*The Colorado Potato Bug* was reported from Delaware, Indiana, New Jersey, West Virginia and Ohio.

*The first appearance of—Frogs*, Vermont and Massachusetts, 7th; Duluth, 20th. *Cat Birds*,—Nebraska, 4th. *Yellow Birds*, New York, 23d. *Cuckoo*, New York, 28th. *Blue Birds*, Ohio, 3d. *Bobolinks*, Kansas, Massachusetts and New York, 10th; Vermont, 24th. *Doves*, Colorado, 12th. *Night Hawks*, Connecticut, 20th. *Swallows*, Connecticut 1st; Utah, 6th; Wisconsin, 7th; Vermont and New Hampshire, 9th; Minnesota and New York, 11th; Nebraska, 15th; North Carolina, 17th. *Thrushes*, Kansas, 3d; New York, 11th. *Orioles*, Michigan, 4th; New York, 9th; Ohio, 8th. *Blackbirds*, Utah, 1st. *Robins*, Utah, 1st. *Whippoorwills*, Nebraska and Iowa, 6th; Kansas, 7th; Wisconsin, 8th; New York, 11th; Michigan, 16th; Indiana, 19th. *Martins*, Vermont, 1st. *Eagles*, Pike's Peak, 14th. *Bluefish*, Squan Beach, 18th.

*Migration of Birds, &c.—Gulls*.—Hudson, Michigan, 9th, flying west. *Eagles*.—Corsicana, Texas, 20th, flying southeast. *Pigeons*.—La Crosse, Wisconsin, 14th and 15th, flying east. *Geese*.—Grand Haven, Michigan, 3d, flying north; Atlantic City, New Jersey, 6th, flying north; Nashville, Tennessee, 7th, flying north. *Ducks*.—Atlantic City, New Jersey, 6th, flying north.

(2) *Forest Fires*.—Important forest fires were reported during the month from New Hampshire, Pennsylvania, Massachusetts, New Jersey, New York, Virginia, West Virginia, Michigan, Wisconsin and Nebraska.

(3) *Polar Bands*.—These were observed on the 3d in Virginia; 5th, Virginia and West Virginia; 11th, Virginia; 13th, Virginia; 14th, Iowa; 15th, Iowa; 16th, Ohio and Wisconsin; 18th, Michigan and Ohio; 19th, Virginia; 20th, South Carolina; 31st, Virginia and South Carolina.

(4) *Meteors*.—Bright meteors were reported on the 2d at Newfoundland and Maryland; 4th, Texas; 6th, Maryland; 9th, Newfoundland; 13th, Massachusetts; 17th, Ohio; 23d, New York; 26th, Indiana; 27th, Indiana; 28th, Indiana; 31st, Maryland.

(5) *Zodiacal Light* was observed at Galesburg, Illinois, on the 15th, 29th, 30th and 31st.

(6) *Earthquakes*.—Slight shocks or rumbles were reported from El Monte, California, on the 15th, 30th and 31st. Milton, Massachusetts, 15th.

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