

COMET HALE-BOPP — 1997's BIG EVENT?

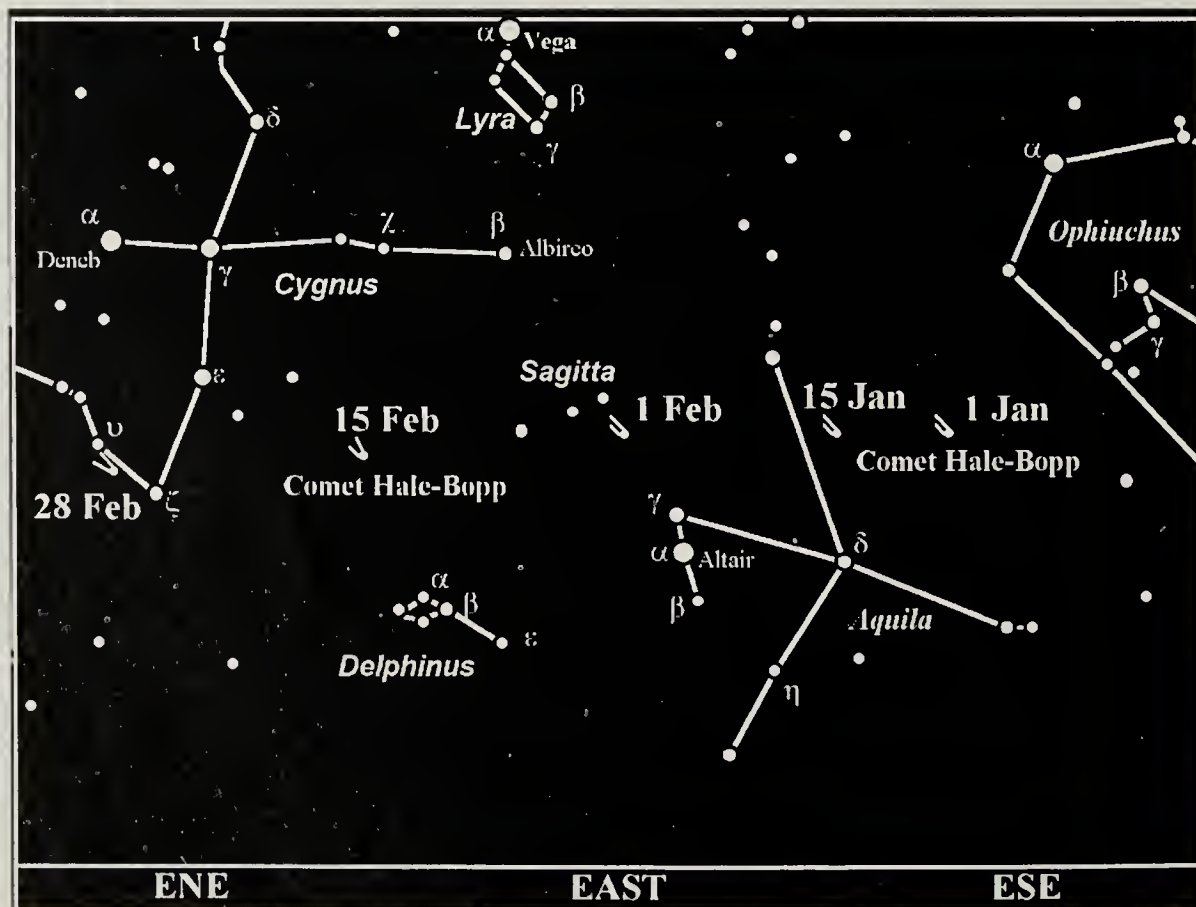
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The following article is adapted from a selection in the 1997 Canadian Skywatcher's Trivia Calendar, written by Stan Shadick and published by Fifth House Publishers (1-800-360-8826).

Way out beyond Pluto's orbit, a vast swarm of icy comets slowly orbit our Sun. These dirty snowballs represent debris left over from the disk of gas and dust that formed the planets, 4.5 billion years ago. Occasionally, tides, generated in this swarm by the collective gravity of numerous distant stars, divert a few of these

frosty missiles into the inner region of our solar system. The gravitational tug of an occasional passing star may also divert a few.

As they approach on long, elliptical orbits, the warmth of the sun vaporizes cometary gases that have laid dormant in a frozen state for billions of years. The released gases and dust particles form long, arched tails that may extend as far as the Sun's distance from Earth. The early Greeks described such phenomena as "kometes," meaning long-haired,



Position of Comet Hale-Bopp during January and February.

from which our word comet is derived.

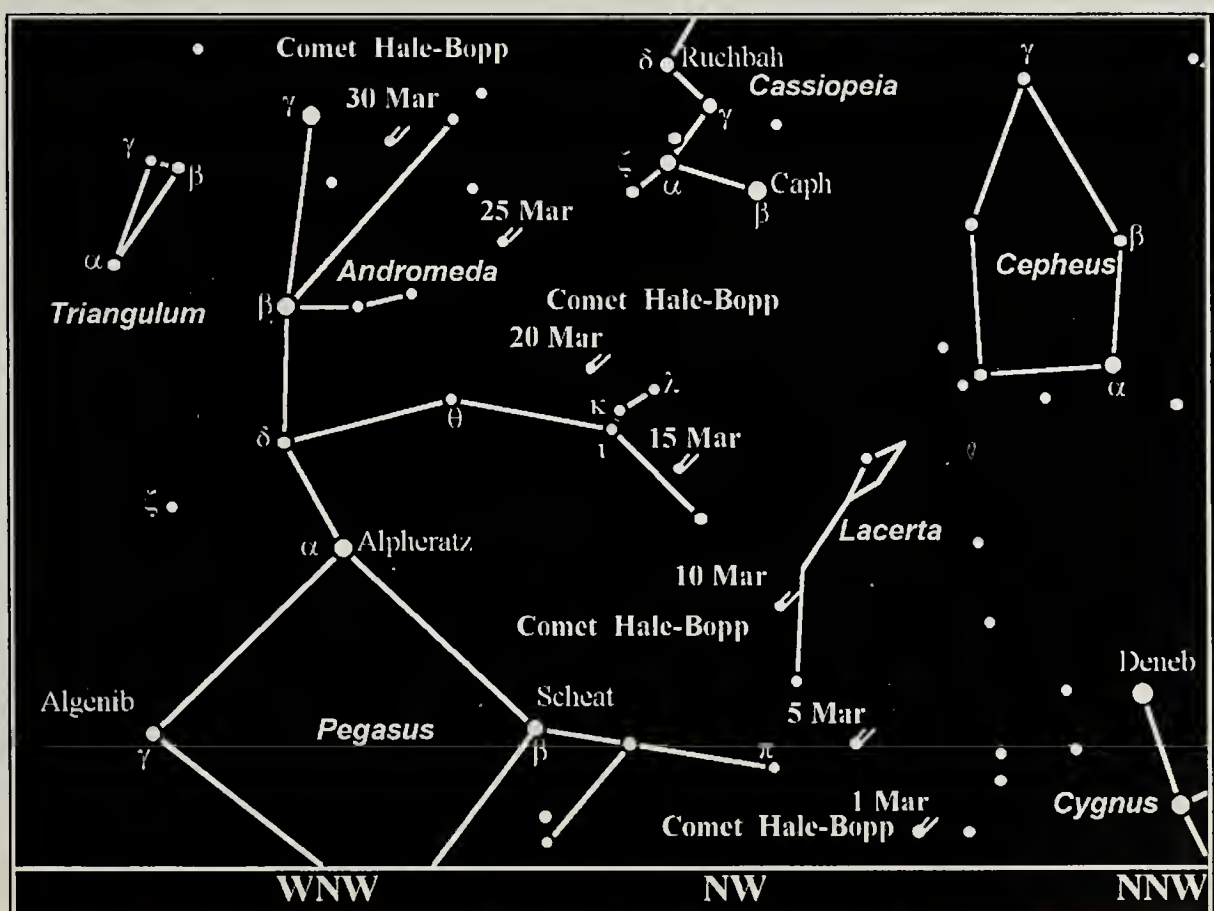
Prior to its 1910 return, astronomers predicted Earth would pass through the low density tail of Halley's comet. Newspaper writers created a sensation after reporting that poisonous cyanogen gas could be present in the comet's tail. Even though the density would be too low to have any adverse effects, some people panicked. Charlatans made a killing selling comet pills (made of sugar) to protect the frightened public from such cometary gases.

Ancient superstitions held comets to be evil omens. The death of the Roman Emperor Macrinus was blamed on the sighting of Halley's comet in 218 AD. While dismissing such alarmist propaganda, some scientists suspect that a collision of a comet with our planet may have killed off the dinosaurs, 65 million years ago. In July 1994, the world watched Comet Shoemaker-Levy 9 crash into Jupiter. Perhaps the

ancient fear of comets was not too far off the mark.

The close approach of a comet to Earth creates the greatest spectacle of the nocturnal skies. Only a few such displays occur in a lifetime of observation. The 1910 appearance of Halley's comet was preceded by an even more spectacular comet, a few months earlier. Halley's return in 1986 was a disappointment by comparison, as it passed on the far side of the Sun. The last dazzling comets to grace our skies were Comet West in 1976 and last spring's magnificent Comet Hyakutake, which passed within 15 million km of Earth.

On the night of 23 July 1995, two amateur astronomers, Alan Hale and Thomas Bopp discovered a comet to rival Hyakutake. If it lives up to expectations, Comet Hale-Bopp may dominate the dark evening skies of March and April as it passes within 200 million km of Earth. The following charts will help you follow its approach.



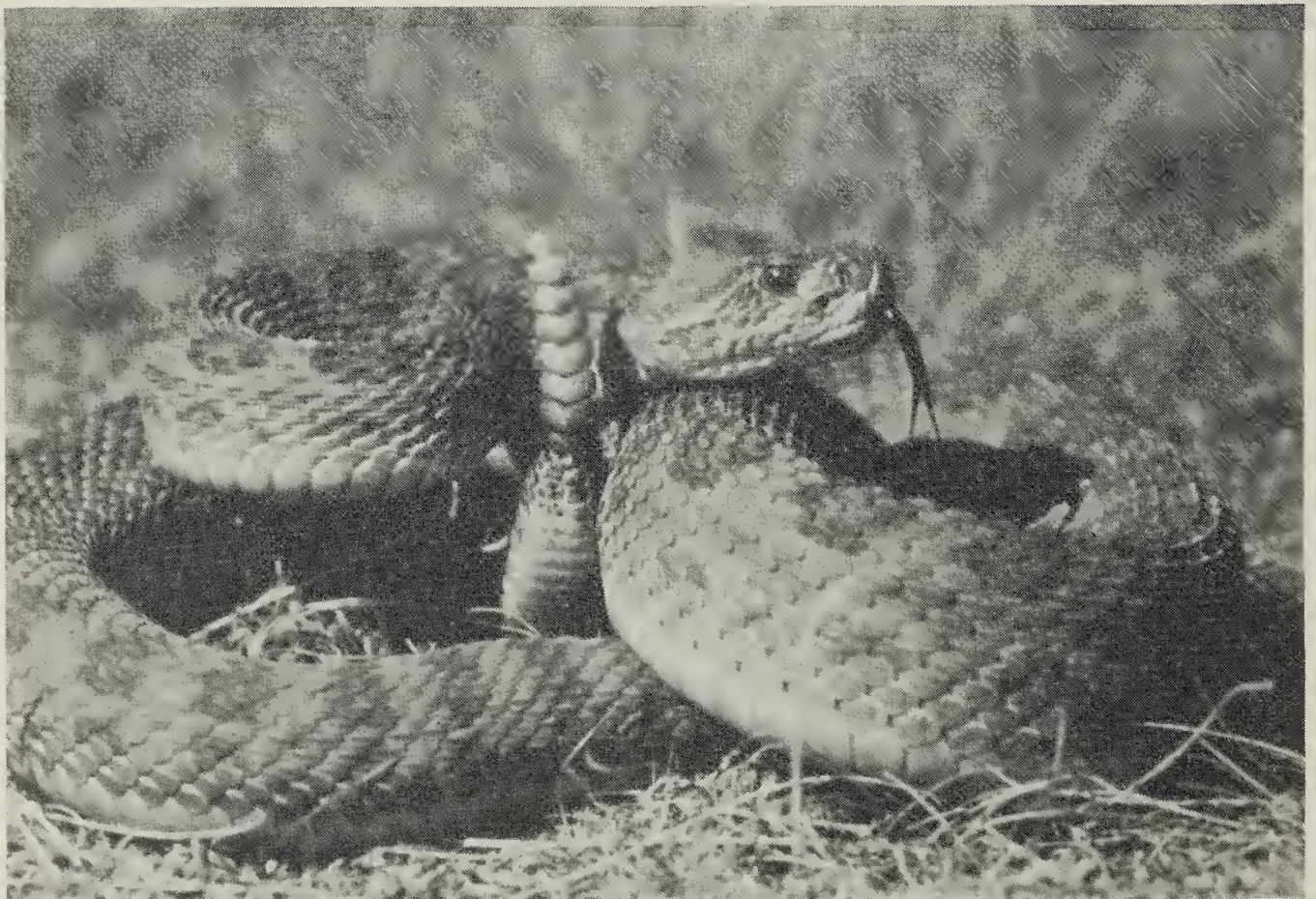
Position of Comet Hale-Bopp during March.

The first chart shows the position of Comet Hale-Bopp during January and February as it traverses the eastern sky, 90 minutes before sunrise. As the year begins, the comet is still 380 million km from Earth. The view will improve through February as the comet's distance decreases.

The second chart follows the comet's path through March as it moves into the northwestern evening sky, 90 minutes after sunset. Hale-

Bopp makes its closest approach to Earth on 22 March, when its distance is only 197 million km. The comet should be at its best during the last week of March, since moonshine will no longer interfere with observations.

After passing the Sun on 31 March, Comet Hale-Bopp will remain visible throughout April. Its position in April is illustrated in a full colour map, found in the Canadian Skywatcher's Trivia Calendar.



Prairie Rattlesnake

Wayne Lynch