

mens in the cabinet. As this last matter can be left till the 'collecting season is over, hints in regard to it will be reserved for a late number of the SCIENTIST. Those not able to name their specimens by means of the resources at hand, may send duplicates to the director of the department of zoology who will gladly render any possible assistance. The specimens should be carefully wrapped in cotton wool and packed in a strong paper or wooden box, a duplicate number being attached to each species. The prepayment of postage at the rate of one cent per quarter pound will usually carry the box to its destination.

[For the SCIENTIST.]

THE NORTH STAR AND THE DIPPER.

Situated nearly directly north from us, and, in the latitude of Nova Scotia, about 45° above the horizon, or half-way from the horizon to the zenith, is the noted star, called Polaris, Cyrosure, or North Polar Star. Polaris though only $2\frac{1}{2}$ in the scale of brightness is easily recognised, as the surrounding field is barren in stars of this magnitude. It can also be readily found from the "pointers" in the Dipper. Polaris is situated about a degree and a half from the true pole of the heavens on the side opposite the Dipper, and is hence *directly* north twice in 24 hours. This happens when the Dipper is directly below or directly above the North Star. Polaris is gradually approaching the north pole of the heavens and in A. D. 2095 will be within half a degree of it. The distance will then be increased for a period of 13000 years till it will become 49° . This is due to the revolution of the celestial pole about the pole of the ecliptic every 26000 years.

The most conspicuous group of stars in the northern heavens is that portion of the Constellation, Ursa Major, (The Great Bear), called the Wain, Plough or Dipper. These seven bright stars, five of them being of the 2nd magnitude and two of them of the 3rd, are easily recognized by their

outline giving the appearance of a dipper or ladle with three stars in the handle and four in the bowl. As these stars are often referred to it will be convenient to know them individually.

When the Dipper is near the horizon, the handle is on the left hand side. Beginning now with the bowl or on the right hand side we distinguish the different stars by the letters of the Greek alphabet followed by the genitive case of the Latin name of the Constellation. We have thus for our seven stars the names, Alpha Ursæ Majoris, Beta Ursæ Majoris, Gamma, Delta Epsilon, Zeta and Eta Ursæ Majoris. In addition, these stars have individual names that have been handed down from remote times. Taking them in the same order, they are called, Dubhe, Merak, Phad, Megrez, Aliotte, Mizar, and Benetnasch, the latter being in the end of the handle.

As this group of stars is visible every clear night, and can be advantageously used in discovering other stars, the names, positions and relative distances of the members of the cluster should be thoroughly mastered.

Dubhe and Merak are called "the pointers." They are 5° apart and a line running through them and continued $28\frac{1}{2}^\circ$ will reach the north pole. Merak and Phad are 8° apart, and $4\frac{1}{2}^\circ$ from Phad is Megrez at the junction of the handle with the bowl. $5\frac{1}{2}^\circ$ from Megrez is Aliotte and $4\frac{1}{2}^\circ$ from Aliotte is Mizar and 7° from Mizar is Benetnasch.

These distances are given that the student may accustom himself to judging celestial spaces.

To find *Arcturus* from the Dipper we must pass a line through Mizar and Benetnasch extending it about 30° . This line will pass just above a very bright star of the first magnitude which is *Arcturus*—the Bear watcher—so named from its nearness to the Great Bear.

Cupidella may be found by passing a line through Megrez and Dubhe and extending it about 45° and *Regulus* can be got by passing a line through Dubhe and Merak and another through Megrez and Phad. These two lines when extended will cut; and just beyond their section will be found *Regulus* in the handle of the sickle.

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