# **PUPPIS the Stern (Pronounced PUP-iss)**

### Chart showing Puppis (/31-constellation/214-puppis#chart)

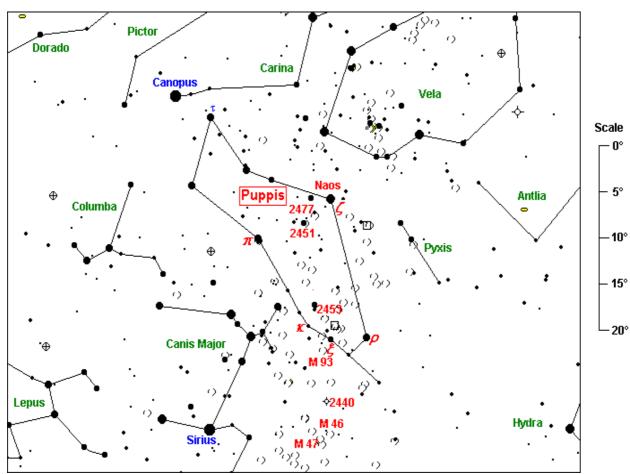
This is the largest of the four sections from the break up of the ancient and very large constellation of Argo Navis, the ship of the Argonauts. Puppis represents the Stern, while the other members of the original constellation are Carina the Keel, (to the south of Puppis); Pyxis the Compass and Vela the Sail, (to the east).

Puppis lies in the Milky Way, and contains rich star-fields for sweeping with binoculars.

Because of the dismembering process, the brightest star in Puppis - Naos, or  $\zeta$  Pup is the only one with a proper name.

To find Puppis look slightly north of overhead, and find Canopus and Sirius to orient yourself to the map. Naos passes almost overhead in New Zealand.

### Chart showing Puppis as seen high in the sky to the north mid evening in March.



# Details of some of the objects shown in the chart.

- $\zeta$  Puppis or Naos at magnitude 2.3 is a brilliant blue-white star about 1,500 light years away. It is one of the most intensely hot stars known, with a surface temperature of about 35,000°C and something like 20000 times more luminous than the Sun.
- $\xi$  Pup is a magnitude 3.3 yellow supergiant 750 light years away. Binoculars reveal a wide unrelated orange companion star.
- $\pi$  Pup is a magnitude 2.7 orange giant star 320 light years away.
- ρ Pup is a yellow giant of the d (delta) Scuti type, changing in brightness by 0.1 magnitude every 3 hours and 23 mins
- κ Pup is a striking double star with near identical blue-white components easily divisible in small telescopes.
- M 46 (NGC 2437) is a beautiful 8th magnitude open cluster of around 150 faint stars of fairly uniform brightness. It

is rich and broadly concentrated towards the centre. In the north east region of the cluster is a pale bluish planetary nebula (NGC 2438) that is closer than the cluster, and not really part of it.

M 47 (NGC 2422) is a wonderful field of bright white scattered stars in an open cluster, preceded by a fine orange star. This cluster is visible with the unaided eye from a dark sky site.

M 93 (NGC 2447) is a beautiful open cluster discovered by Messier in 1781. It merges into a rich field and contains many small pairs, triplets and elegant groups, including two orange stars. It is easily seen with binoculars and appears like a loose globular cluster.

NGC 2477 is a large very rich open cluster visible in binoculars. Many of the stars are grouped in curved lines and sprays with dark sky between, making a beautiful effect.

NGC 2451 is a large splashy cluster of bright stars in a fine field, centred on the bright orange super giant c Pup. It is a fine object for binoculars and small telescopes, needing a large field to be seen well.

NGC 2440 is a bright planetary nebula some 3.500 light years away. This planetary has a hot central star with a temperature of nearly 200,000° C, making it one of the hottest stars known. A small telescope shows a small oval disc. The central star is only visible in very large telescopes.

NGC 2453 is a small fan shaped open cluster lying in a fine field of stars. NGC 2452 (not shown on the map) is a round planetary nebula about half as far away and seen against the cluster. An O III filter on small aperture telescopes will help detect this.

#### Visibility

Puppis is highest and due north at about 9.30 pm to 10 pm (NZDT) in mid March. Being well south of the equator it will remain visible in the evening sky until July. By then it will be fairly low to the southwest early evening, to the right of Canopus.