
Leo Minor

This small group is situated just north of its larger namesake. Though its stars are faint, a score of galaxies mark it for the observer. The center of the constellation culminates at midnight about 23 February.

eg 2859 *dimen.* 4'.8 × 4'.2 *V*=10.7 *sfc. br.* 13.9

A fairly bright object for 25 cm, this galaxy is elongated nearly N-S with a sharply defined 30" core and strongly concentrated nonstellar nucleus. The overall size is 2' × 1'. 30 cm shows a faint halo extending to 2' × 1'.5 in pa 165°, with strong concentration to a 30" core and a substellar nucleus.

eg 2942 *dimen.* 2'.2 × 1'.8 *B*=12.8 *sfc. br.* 14.2

This galaxy is visible faintly in 30 cm, lying in the northern side of a long triangle of mag. 11–12 stars pointing WNW. The galaxy is about 50" across with indefinite edges. A faint star is visible 1'.3 W of center.

eg 2955 *dimen.* 1'.8 × 1'.0 *V*=12.7 *sfc. br.* 13.1

This galaxy is just visible with 15 cm. 25 cm shows it 1' × 0'.5 in pa 160°. A mag. 12 star lies 2'.2 S, and a threshold magnitude star is visible 35" W. In 30 cm the galaxy is an unconcentrated and featureless spot about 50" diameter.

eg 3003 *dimen.* 5'.9 × 1'.7 *V*=11.7 *sfc. br.* 14.0

Visible at 100× in 25 cm, this faint streak extends to 3' × 0'.6 in an E-W direction. The center is slightly brighter, and some brightenings are faintly visible along the major axis. It is 4' × 1' in pa 80° in 30 cm, with a bulging middle and pointed ends. A thin line of brightenings is clearly visible extending along the entire major axis.

eg 3021 *dimen.* 1'.7 × 1'.0 *B*=13.1 *sfc. br.* 13.5

In 25 cm this galaxy is situated about 1' NW of a mag. 10.5 star. The moderately bright object is 1' × 0'.6, elon-

gated SE-NW, with well-defined edges. A faint stellar nucleus is occasionally visible at the center; otherwise it is without detail. The halo is 1'.2 × 0'.8 in 30 cm, elongated in pa 105°. The core has a bright bar running through it along the major axis. A star is visible on the edge of the galaxy, 20" NE of center.

eg 3158 *dimen.* 2'.3 × 2'.1 *V*=11.8 *sfc. br.* 13.6

eg 3163 *dimen.* 1'.4 × 1'.4 *V*=13.1 *sfc. br.* 13.7

eg 3158 is a very small, moderately faint object for 25 cm, appearing no more than 30" diameter with a faint stellar nucleus. 30 cm shows the galaxy contained within a 4' triangle of mag. 13 stars. It is elongated in pa 145°, 1'.2 × 0'.75, the core showing the elongation best. While the nucleus is stellar at 150×, it is not so at 225×. *eg 3163* lies 7'.5 SE. In 30 cm it is a small, well-concentrated spot about 45" diameter with a bright middle. *eg 3158* is the brightest of a group of galaxies.

eg 3245 *dimen.* 3'.2 × 1'.9 *V*=10.8 *sfc. br.* 12.6

This is a bright galaxy for 25 cm. The lenticular halo is 1'.5 × 0'.75 in pa 175°, with a bright core and stellar nucleus. The galaxy is 2' × 1' with 30 cm. The distinct circular core is about 40" across and holds a substellar nucleus that occasionally seems multiple. With averted vision the tips of the halo are sharply tapered.

eg 3254 *dimen.* 5'.1 × 1'.9 *V*=11.5 *sfc. br.* 13.8

Lying about 6' W of a mag. 10 pair of stars, 25 cm will show this galaxy as a diffuse 2' × 0'.75 glow with a stellar nucleus. The halo extends to 2'.25 × 0'.8 in pa 45° with 30 cm, showing little concentration except for a nonstellar nucleus. In the area immediately surrounding the nucleus are a few slightly brighter spots. A mag. 14 star lies 2'.8 W.

eg 3277 *dimen.* 2'.0 × 1'.9 *V*=11.7 *sfc. br.* 13.0

This is a small, moderately faint galaxy in 25 cm, but it shows an exceptionally strong concentration toward the center. Overall the halo is about 1' diameter. In 30 cm the halo extends to 1'.25 diameter around a 45" core and a stellar nucleus. At high power the nucleus occasionally seems multiple.

eg 3294 *dimen.* 3'.3 × 1'.8 *V*=11.7 *sfc. br.* 13.5

Visible at 50× in 25 cm, this galaxy appears 2'.5 × 1', elongated SE-NW, with little concentration toward the center. A mag. 11 star is visible about 5' S. In 30 cm the broad mottled core seems inclined to the halo, with a position angle of 110°; the halo is 3' × 1' in pa 120°. A faint star is visible 2'.5 W.

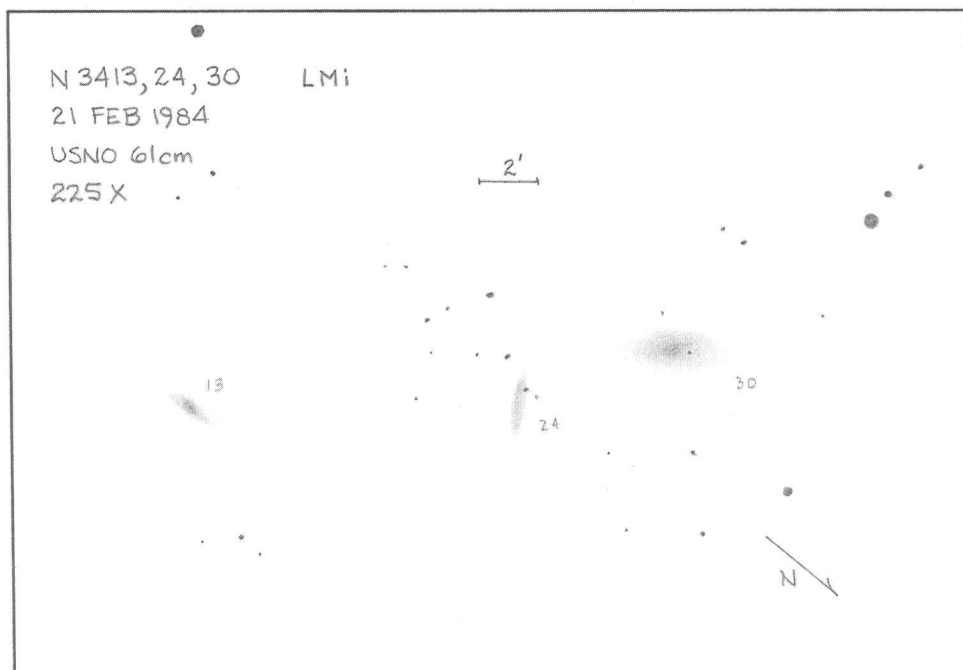
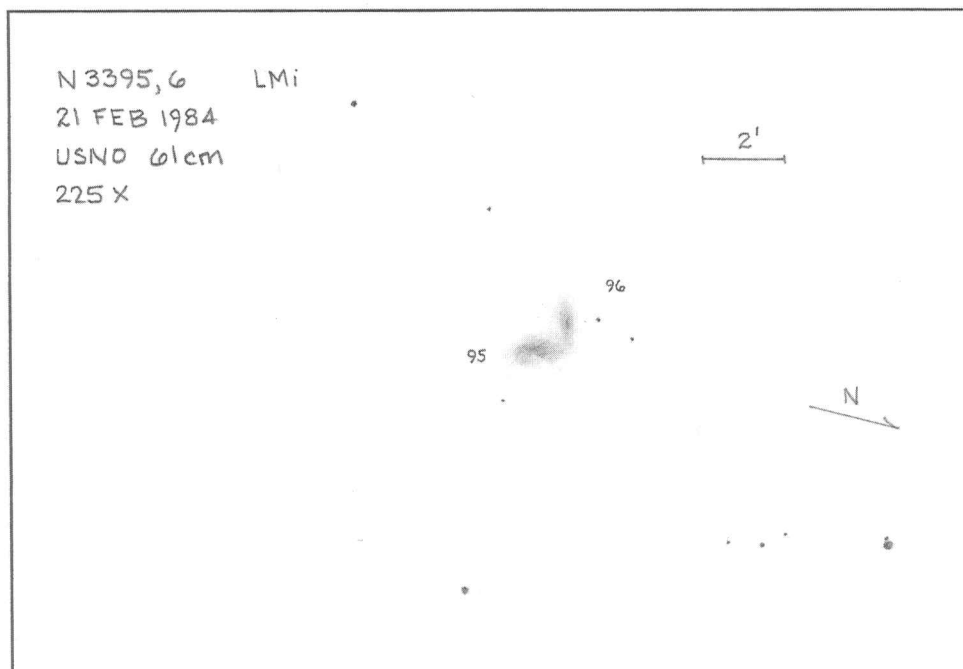
eg 3344 *dimen.* 6'.9 × 6'.5 *V*=10.0 *sfc. br.* 14.0
 This bright object is visible in 6 cm. Two stars are involved on the E side: the brighter one (mag. 10.5) is farther from the center and lies near the edge of the 5' diameter halo. There is a small sudden central brightening, but otherwise the nebula is weakly concentrated. In 25 cm the halo seems much smaller, reaching only to the closer, fainter star of the two E. On the SSE is a mag. 14 star with a brightness comparable to that of the stellar nucleus. 30 cm shows the pair E to be entirely within the halo. Overall the halo extends to about 5' diameter, showing a distinctly

spotty texture. At the center is a small 20" core with a distinct but nonstellar nucleus. The star to the SE lies about 30" from the center, forming a triangle with the nucleus and the fainter member of the pair in the E side of the halo. At times the inner parts of the nebula seem elongated E-W, but the involved stars make this questionable.

eg 3395 *dimen.* 1'.9 × 1'.2 *V*=12.1 *sfc. br.* 12.9

eg 3396 *dimen.* 2'.8 × 1'.2 *V*=12.2 *sfc. br.* 13.4

This interacting pair of galaxies is moderately bright in 25 cm, appearing nearly in contact, with a separation of



1.2 in pa 60°. eg 3395 is somewhat larger, elongated in pa 30°, 1' × 0.75; -96 has a prominent stellar nucleus in a circular halo less than 1' diameter. At first glance in 30 cm the galaxies appear quite similar. However, eg 3395 shows a stronger, even concentration to a nonstellar nucleus and a more extensive halo than -96, with an overall size of 1' × 0.7. eg 3396 is 50" × 35", elongated approximately E-W, and has little concentration except for the bright stellar nucleus.

eg 3414 dimen. 3.6 × 2.7 V=10.8 sfc. br. 13.1

Plainly visible at 50× in 25 cm, this object has a small very prominent core with a barely distinguishable stellar nucleus. The light fades rapidly outward to a 1.25 circular halo. In 30 cm the halo extends to 2.25 × 1.5 in pa 20°. There is a strong, even concentration to a bright 1' core and a stellar nucleus that occasionally seems multiple. eg 3418 (mag._z14.5) lies 8.2 N.

eg 3430 dimen. 3.9 × 2.3 V=11.5 sfc. br. 13.8

In 25 cm this galaxy has a fat oval form, extending to 2.5 × 1.5 in pa 35°. At 200× the galaxy seems to have a thin, slightly brighter streak along the major axis. A threshold magnitude star is visible on the NE tip, 1/3 from the center. In 30 cm the nebula has fairly low surface brightness. The halo is about 2' × 1.2, showing some concentration to the center, but no nucleus. Two mag. 12.5 stars lie 3.7 ESE. Photographs show eg 3413 (mag._z13.1) 15' SW, and eg 3424 (mag._z13.2) 6.2 SW.

eg 3432 dimen. 6.2 × 1.5 V=11.3 sfc. br. 13.5

This is a fairly bright spindle-shaped object in 25 cm. The halo extends to 4.5 × 0.75 in pa 40°, growing slightly brighter to a thin 2' × 0.1 core. Three stars are involved with the object: on the SW tip is a pair, including the brightest and faintest of the three; the third star lies close

to the SE flank. 30 cm shows a blotchy 3' × 0.75 bar, the NW flank of which seems more sharply defined. The star E is 30" off the bar; directly N of this star is the brightest patch in the halo, another is visible W of the star.

eg 3486 dimen. 6.9 × 5.4 V=10.3 sfc. br. 14.1

This galaxy is pretty bright with 25 cm. The halo is 3' × 1', elongated in pa 80°, with a patchy 40" × 30" core; the halo is diffuse by comparison. 30 cm shows a broadly oval 3.5 × 2' halo with a 2' × 1.5 core. The core is distinctly mottled, and several bright spots surround the stellar nucleus.

eg 3504 dimen. 2.7 × 2.2 V=11.1 sfc. br. 12.9

This galaxy is 1.5 × 1' in 25 cm, elongated in pa 150°. The halo has a high surface brightness and shows a bright, nearly stellar nucleus in the center. 30 cm shows the halo to 1.75 × 1.25 with little concentration except for the bright nearly stellar nucleus. With averted vision a few spots are visible surrounding the nucleus. Two mag. 14 stars lie 2.6 SSW and 1.8 NNW. eg 3512, *q.v.*, lies 12' ENE.

eg 3510 dimen. 3.8 × 0.9 V=12.9 sfc. br. 14.1

This object can barely be detected in 25 cm; it is faint and difficult in 30 cm. The halo is elongated in pa 165°, 2' × 0.4, with a granular texture and a very slight central brightening.

eg 3512 dimen. 1.7 × 1.5 V=12.4 sfc. br. 13.3

In 25 cm this galaxy appears much fainter than eg 3504, *cf.* 12' WSW. The circular 1' halo grows little brighter toward the center. It is elongated in pa 100° with 30 cm, 1.5 × 1.2 in extent. The halo is poorly concentrated, but a few stellarings are visible along the S side of the major axis. Several stars are visible within 4' radius. Photographs show eg 3515 (mag._z14.8) 14' NE.