Mem. R. astr. Soc. (1976) **81**, 89–128

THE NEBULAR COMPLEXES OF THE LARGE AND SMALL MAGELLANIC CLOUDS

R. D. Davies

University of Manchester, Nuffield Radio Astronomy Laboratories, Jodrell Bank, Macclesfield, Cheshire SK11 9DL

K. H. Elliott and J. Meaburn

Department of Astronomy, University of Manchester, Manchester M13 9PL

(Received 1975 October 1; in original form 1975 September 3)

SUMMARY

Long exposures of the complexes of ionized hydrogen in both the LMC and SMC have been taken with the 48-in. SRC Schmidt camera through an Hα+[N II] interference filter of 100 Å bandwidth. These plates and identifying charts are presented here in a form in which little information is lost. A catalogue of many individual emission regions in both these galaxies is also compiled.

The relationships between the nebulosities and OB associations, 21-cm neutral hydrogen emission and continuum radio emission are discussed, and a number of supernova remnant candidates are listed for further study.

1. INTRODUCTION

This paper describes a photographic survey in Hα and [N II] of the Large (LMC) and Small (SMC) Magellanic Clouds using the 48-in. SRC Schmidt camera at Siding Spring Observatory combined with an interference filter of 100 Å bandwidth. The technical details of this filter, which consists of a mosaic of 4×4 individual filters each having a transmission of 90 ± 5 per cent at the band centre, have been described fully by Elliott & Meaburn (1975). Five-hour exposures on Kodak 098-04 emulsion are permitted by this combination before the photographic density due to the unwanted sky background in the dark of the Moon reaches a value of 0·6. Above this value (Millikan 1974) the signal-to-noise ratio for the detection of threshold signals above the background does not increase further even with increasing exposure time.

Previous surveys of the regions of the LMC and SMC emitting Hα and [N II] have been carried out by Henize (1956) and Mathewson & Clarke (1972, 1973a, b). Henize employed a camera of 10-in. aperture combined with a 400 Å red Plexiglas filter, while Mathewson & Clarke took photographs of small ($\sim 10'$) selected regions containing possible supernova remnants. They employed an ITT image intensifier on a 40-in. telescope and an Hα+[N II] filter 100 Å in bandwidth. The present photographs reveal many new small- and large-scale faint nebulous features and many of the well-known complexes of H II regions and supernova remnants are shown to better advantage.

2. THE OBSERVATIONS

Three Hα+[N II] long-exposure plates were taken, one centred on each of the Clouds and another on the northern end of the LMC. In addition a blue plate of the LMC on IIaO emulsion through a UGI filter has been included for comparison with the corresponding Hα plate. The relevant details of these plates are given in Table I. The plates cover a field $6^\circ{\cdot}3$ square, although the region beyond a central field $5^\circ{\cdot}37$ in diameter is vignetted in this Schmidt camera. The image size at the centre of these plates is typically 5 arcsec; in Plate I star trailing can be seen over 5″ arc. Brighter stars on all plates show halo patterns which can be easily distinguished from nebulosities. A more detailed discussion of the image properties is given by Elliott & Meaburn.

TABLE I

The 48-in. Schmidt plates used

Plate No.	Plate centre (1950) (h) (m)	(°) (′)	Emulsion	Filter	Exposure time (hr)	Description
1074	05 21	−69 10	098–04	Hα	5·0	LMC centre
1058	00 55	−73 00	098–04	Hα	5·0	SMC centre
1069	05 24	−65 00	098–04	Hα	2·8	LMC north
1156	05 21	−69 06	IIaO	UGI	1·5	LMC centre

The whole of the 5-hr Hα+[N II] exposure on the LMC is shown in Plate I and a chart for the identification of the nebulosities on this plate in Fig. 1. The coordinates marked on this figure have an accuracy of ± 10″ arc. An enormous amount of information is lost in this plate due to the reduction in scale, so enlargements of individual sections of the whole LMC field are presented in Plates II–XIII inclusive. A special enlargement, to cover in one unbroken print the Doradus complex, is shown in Plate XIV. Plates XV and XVI are enlargements on the same scale as Plates II–XIV from the northern LMC field; these are the only areas in this field which contain significant quantities of nebulosity.

The identification charts corresponding to Plates II–XVI inclusive are shown in Figs 2–16 inclusive on exactly the same scale. The numbers on these identification charts correspond to individual nebulosities in the LMC that are catalogued and identified in Table II, which contains information in seven columns:

Column 1: Numbers given to individual nebulosities in the present catalogue as shown in Figs 2–16 inclusive. When a nebulous feature is identifiable as a single object it has been given a number alone (e.g. 8) whereas if the feature has several components these are identified by a number with letters after it (e.g. 8a, 8b, 8c, etc.).

Column 2: The number from the Henize (1956) catalogue.

Column 3: The position of the centres of the areas covered by individual nebulosities, in 1950·0 coordinates. For small objects (~1′–2′) these positions are accurate to a few arcsec whereas for larger ones (>4′) they are accurate to a few arcmin. The positions have been obtained by reference to those of nearby stars taken from the *Smithsonian Astrophysical Observatory Star Catalogue.*

Column 4: The approximate dimensions of individual features. Sizes of the major and minor axes are given for smaller objects to the nearest 0′·1 but for the largest to the nearest 1′.

Column 5: A very rough indication of the brightness of the nebulosities to assist in their identification on the plates. The scale runs from very faint (vf), through faint (f), fairly bright (fb), bright (b) to very bright (vb). None of the sources that are indicated as vf and only 20 per cent of those as f are in the Henize catalogue. The rest are photographed with higher definition in the present survey.

Column 6: General descriptive comments on the nature of the particular nebulous feature.

Column 7: Comparisons between these nebulosities and sources on the radio surveys at 6 cm of McGee, Brooks & Batchelor (1972b) and at 11 cm of Broten (1972) are made. The radio spectral indices, defined by $S \propto \nu^{\alpha}$, are from McGee & Newton (1972).

Some mis-identifications with star clusters or background galaxies are possible. Most, however, have been eliminated by inspection of the corresponding blue plate shown as Plate XXI. Several ambiguous identifications are noted in the comments column of Table II.

An identical procedure to that used for the LMC has been adopted for the presentation of the nebulosities in the SMC. The 5-hr Hα+[N II] exposure of the whole of the SMC is shown in Plate XVII and the corresponding identification chart is shown in Fig. 17. Enlargements are presented in Plates XVIII, XIX and XX and the corresponding identifications, at the same scale, in Figs 18, 19 and 20. The small numbers on these charts now identify the nebulosities catalogued in Table III. The contents of the columns of this table have the same significance as those for Table II.

We recommend that reference to nebulosities in the catalogues presented in Tables II and III should be in the form DEM L1, DEM L2, . . . for the Large Cloud (Table II) and DEM S1, DEM S2, . . . for

the Small Cloud (Table III). For example the extended faint nebulosity in the NW of the LMC which is listed as No. 43 in Table II should be designated DEM L43.

3. DISCUSSION

3.1 *Comparison of H II regions in the LMC and SMC*

An inspection of the plates shows marked differences between the H II regions in the SMC and LMC. In particular, the large bright complexes with diameters greater than 30′ arc are found only in the LMC. The largest bright H II region in the SMC (No. 103) has a diameter of 14′ arc and the next largest (No. 32) is 6′ arc. The sizes of the largest complexes in the LMC are comparable with those in our Galaxy and external galaxies. For example the 30 Doradus complex with a diameter of 80′ arc (1·3 kpc) or Nos 34 and 221 with diameters of 25′ arc (400 pc) are similar to the giant complexes in external galaxies.

Another difference between the nebulosities in the two Clouds is in their morphological structures. The SMC objects are mostly diffuse, with relatively little fine structure on scales down to 10″ arc and only weak central concentrations. The LMC objects on the other hand have a large variety of morphologies from diffuse to complex. Indeed, the majority of the brighter objects show fine structure, dense concentrations and a wide range of surface brightness within a given object. The reasons for these differences are interesting to speculate upon. Both galaxies have similar neutral hydrogen densities in their densest parts where the H II regions are also found, and the linear scales of the major H I features are similar (see Section 3.3). Accordingly it is difficult to see how the formation of stars and H II regions would differ in the two systems. The reason may lie in the recent history of the Magellanic Clouds. It is now clearly established that a strong tidal interaction has taken place between our Galaxy and the Magellanic Clouds (Mathewson, Cleary & Murray 1973; Davies 1974). Such an interaction is more disruptive for objects with smaller mass and as a consequence the SMC would have been most strongly affected. The perigalaction passage of the Magellanic Clouds occurred at $2–3 \times 10^8$ yr ago and its effect could still be evident in terms of a lower rate of star formation and H II region production.

Our survey allows several interesting large-scale features to be identified in the Magellanic Clouds. The largest is a ring outlined by the H II regions in the north-east corner of the LMC. It has a diameter of 1°·8 (1·5 kpc) and is centred at $05^h\ 32^m$, $-66°{\cdot}9$. This is evidently more than a chance grouping of H II regions because the ring is also seen clearly in the H I distribution. The H I defining the edge of the ring has a mean line integral of 2×10^{21} atom cm^{-2} with peaks of 4×10^{21} atom cm^{-2}. At the centre of the ring, the line integral falls to 5×10^{20} atom cm^{-2} (McGee & Milton 1966). Such a low surface density within the boundary of the LMC is unique in the published data. Several possibilities suggest themselves as explanations—a super-supernova explosion which has swept the H I into this ring or a high rate of star formation in the past which has exhausted the H I in this region.

Apart from the huge 30 Doradus complex the next largest H II feature in the LMC is the faint loop (No. 43) in the NW corner, with a diameter of 50′ arc (700 pc). Again there is a suggestion of a minimum of H I surface density at its centre.

The largest single H II region in the SMC is No. 167 at the extremity of the eastern extension of this galaxy. It consists of a faint loop of emission 35′ arc in diameter, while No. 166 is a bright H II region on its southern edge. Fig. 22 shows that it lies in a fork in the H I distribution, suggesting there may be a slight deficiency of neutral hydrogen at its centre compared with its immediate surroundings.

3.2 *Comparison of the distribution of H II regions and OB associations in the LMC*

Concentrations of hot O and B stars can be seen in Plate XXI which is the SRC 48-in. Schmidt camera photograph taken in blue and centred on the same coordinates as the Hα photograph in Plate I. The main bar in the LMC is more easily distinguished in Plate XXI as are the bright cores of the dense H II regions. The bar is relatively poor in OB stars, H II regions and H I. The OB stars responsible for the ionization of the main H II complexes in the LMC are clearly seen as loose aggregates of blue stars associated with the H II regions. In some cases the OB stars lie within the boundaries of the H II regions and in other cases they are scattered over larger areas than those occupied by the H II regions.

Of particular interest are OB stars associated with the ring of H II regions centred at $05^h\,32^m$, $-66°{\cdot}9$. The brightest OB stars lie in a loose group slightly south of the centre of the ring at a position where there is very little Hα emission. The fainter H II regions in the ring are probably excited by these stars, although some of the brighter H II regions clearly contain their own exciting stars. There is evidently obscuring dust in many of the H II regions in the ring, as in other H II regions in the LMC.

3.3 *Comparison with the neutral hydrogen distribution*

The neutral hydrogen (H I) distribution over the LMC taken from McGee & Milton (1964) is shown in Fig. XXI superposed on a sketch of the H II regions. The H I contour unit is $1{\cdot}8 \times 10^{19}$ atom cm^{-2}, and the angular resolution is approximately 15′ arc. A major feature of the H I map is the sharp edge and high surface density on the eastern side and the more gradual decrease towards the west; the main H II concentration (the 30 Doradus complex) lies in this area of highest H I density.

With very few exceptions the H II regions lie in areas of H I emission with a surface density > 50 units (> 10^{21} atom cm^{-2}). The main exception is the area of faint nebulosity centred at $05^h\,04^m$, $-70°{\cdot}5$; this weak ionization could be produced by *UV* photons escaping from the OB stars lying within region No. 75. Another region of interest is the band of high H I surface density (> 250 units) at $05^h\,43^m$, $-70°$ to $-71°{\cdot}3$, which contains only a scattering of compact H II regions of small diameter; no H II regions with diameters greater than 5′ arc are found in this part of the band whereas the 30 Doradus complex lies at the northern end which has a similar H I surface density.

Fig. 22 shows the H II regions plotted on the distribution of neutral hydrogen in the SMC taken from Hindman (1967). The H I contour unit is $2{\cdot}25 \times 10^{19}$ atom cm^{-2}. In this galaxy the H II regions show a closer correlation with the areas of high H I surface density than in the LMC, and lie in areas where the H I surface density is greater than 100 units ($2{\cdot}2 \times 10^{21}$ atom cm^{-2}). It is worth noting that the tongue of H I and H II regions projecting to the east of the main body of the SMC is not so prominent optically; it is therefore composed of younger material than the main body.

Hindman (1967) has suggested that there are three explosive rings in the SMC with diameters in the range 1°·0–1°·8. We find no evidence in the present Hα material for optical counterparts to these neutral hydrogen features. Although one of his rings lies near the Hα shell (No. 167) at the eastern extremity of the H I and H II tongue, it does not coincide in position. It has been noted above that for both Clouds there seems to be a minimum H I surface density required for the formation of OB stars and H I regions. This critical surface density for both Clouds is 10^{21} atom cm^{-2} if the inclinations of the LMC and SMC are 27° and 60° respectively (de Vaucouleurs & Freeman 1973). Assuming the H I layer thickness to be 200 pc, the mean volume density required for star formation is accordingly 1·6 cm^{-3}.

3.4 *Comparison with the distribution of radio continuum emission in the LMC*

The most comprehensive radio maps suitable for comparison with the present H II region data are those at 11-cm wavelength by Broten (1972) and McGee, Brooks & Batchelor (1972a) and at 6-cm wavelength by McGee, Brooks & Batchelor (1972b). These have angular resolutions of 7′·4 and 4′·0 arc respectively. The 11-cm map is shown in Fig. 23; the contour unit is 0·1 K in brightness temperature and the area surveyed is shown within the dotted outline. The 6-cm map delineates the individual sources; their sizes and spectral indices taken from McGee & Newton (1972) are given in Table II.

The majority of the sources detected at 6 and 11 cm are thermal with spectral indices near zero and are clearly identified with H II regions. However, a number have non-thermal spectra ($\alpha < -0{\cdot}2$) and are probably supernova remnants in the LMC. Non-thermal sources are associated with the following nebulosities in the present survey, Nos 84, 134, 152, 181, 186, 189, 189b, 190, 199, 226, 229, 243, 284, 316, 322 and 326, and will be discussed in more detail in Section 3.5.

The 11-cm map in Fig. 23 shows some extended emission. If the emission is thermal and comes from gas at 10^4 K, one contour unit corresponds to an emission measure EM = 250 cm^{-6} pc. This is a level considerably above the detection limit of the present Hα survey and probably explains why no 11-cm emission was detected over much of the large ring of nebulosities centred at $05^h\,32^m$, $-66°{\cdot}9$, particularly in the areas of faint nebulosity which have EM ~ 10 cm^{-6} pc. The majority of the brighter H II regions

are detected at 11-cm wavelength, provided they are of sufficient angular size. Although the major part of the 11-cm emission shown in Fig. 23 is thermal emission associated with visible H II regions, there is an underlying non-thermal component which can only be identified in lower frequency surveys. This component has a brightness temperature spectral index of $-2{\cdot}6$ (Mathewson & Healey 1964) and contributes about 0·1 K at the centre of the LMC.

3.5 *Supernova remnants (SNRs) in the Magellanic Clouds*

Supernova remnants can be most readily identified by their non-thermal radio spectra. In many cases they can be distinguished optically from H II regions by certain spectral features (e.g. the high intensity of the [S II] line) and by fine filamentary structure. Unfortunately, no complete high-resolution radio survey of the LMC and SMC at a long wavelength (such as 75 cm), which would serve to identify SNRs, has yet been published. However, a limited number of sources has been investigated at 75 cm using the Molonglo Cross telescope and these have been identified by Mathewson & Clarke (1972, 1973a, b) with optical nebulosities most of which show an excess of [S II] line emission. They are listed in Table IV which also gives numbers from the present catalogue, the radio spectral indices and some additional comments. In many cases the supernova remnant lies within or near the edge of more extended nebulosity.

The SNRs in Table IV have small diameters in the range 0·3–3·0 arcmin (Mathewson & Clarke). They are all bright optically and are sufficiently intense to be detected comfortably at radio wavelengths (75 cm). Remnants of larger angular diameter are expected to be of lower surface brightness and may be undetectable at radio wavelengths although clearly visible optically. For example, older SNRs in our Galaxy like the Cygnus Loop or the Monoceros nebulosity would produce a flux density of only 0·02 Jy at the distance of the Magellanic Clouds. The present catalogue of objects has been searched for possible optical SNRs using the criteria that they should have shell structures and some evidence of filamentary features. A list of 46 such objects in the LMC is given in Table V. The optical objects have diameters in the range 1·1–25 arcmin (17–400 pc). Sixteen have linear diameters greater than 160 pc and are therefore bigger than SNRs found in the Galaxy (Milne 1971). These larger objects have dimensions similar to those of the galactic radio spurs.

Eight of the shell nebulae in Table V have already been identified as SNRs and their properties have been summarized in Table IV. Four others (Nos 199, 229, 284 and 328) are associated with non-thermal radio sources and are clearly SNRs. Nine others lie in regions of 11-cm emission; further studies at long wavelengths are required to determine the radio spectral indices in order to test whether they are really SNRs.

Two SNRs have been identified in the SMC (Table IV). Ten shell sources in the SMC which may possibly be SNRs are listed in Table VI. Of these, Nos 67, 132, 165 are the best examples of shell nebulosities with sharp filaments.

A feature of the distribution of the shell sources in the LMC is their avoidance of the central region. The largest shell objects are mainly found where the neutral hydrogen surface density is $< 2 \times 10^{21}$ atom cm^{-2}. On the basis of the snow-plough model of SNRs, this low density could account for their large sizes.

3.6 *Small-diameter objects in the Magellanic Clouds*

Tables II and III include many small-diameter objects ($< 1'$ arc) which can be easily distinguished from stellar images. The smallest objects listed here have diameters of 0′·2 arc which correspond to linear diameters of 3 pc. In the LMC there are 53 objects with diameters $< 1'{\cdot}0$ arc; of these 39 are classified as ‘ b ’ or ‘ vb ’ and are generally described as knots in the Tables. Eighteen are listed as having diameters $\leqslant 0'{\cdot}5$ arc. In the SMC the numbers of objects having diameters of $< 1'{\cdot}0$ and $\leqslant 0'{\cdot}5$ arc are 51 and 30, respectively. Although these objects are described here as being small, they have large linear diameters on the normal galactic scale and lie in size between those of the outer envelopes of the Orion nebula and the Rosette nebula. Within many of the LMC objects the blue plate shows structure on even smaller scales extending down to at least 0′·1 arc (1·6 pc).

Eight of the small objects in the SMC are listed as planetary nebulae by Henize & Westerlund (1963). These are Nos. 9, 11, 38, 48, 50, 62, 95 and 109, whose diameters lie in the range 0′·2–1′·5 arc. Such diameters (3–25 pc) are outside the range found in galactic planetary nebulae, namely 0·05–0·5 pc (Allen 1973). The dimensions for the same objects found with the 74-in. telescope used by Henize & Westerlund were in the range 3″·0–5″·7 arc and these presumably refer to the bright central cores of the objects. It is possible that the deep Hα photograph has shown more extensive faint nebulosity around the planetary nebulae or, less likely, adjacent H II regions which just happen to lie nearby. It is interesting to note that none of the 42 planetary nebulae listed by Westerlund & Smith (1964) for the LMC coincide with any of the nebulosities given in Table II. Further studies of the SMC planetary nebulae are clearly required.

4. CONCLUSIONS

The present Hα survey has revealed the existence of many new nebulosities of low surface brightness in the Magellanic Clouds. Some of these are faint extensions around well-known nebulae catalogued by Henize while others are entirely new objects, some of which are SNR candidates. The present study underlines the need for a systematic long-wavelength ($\lambda \gtrsim 1$ m) radio continuum study of the Magellanic Clouds in order to distinguish the thermal and non-thermal emission of H II regions and SNRs. Further optical studies are required of the various types of nebulosity in the Clouds.

Many of the nebulosities shown in Plates I–XXI are reminiscent of objects that have been investigated in detail in our Galaxy; a careful study of the properties of the Magellanic objects may lead to a better understanding of the processes responsible, since in these cases it is possible to see the spatial relationship of the observed features. The 30 Doradus complex with its extensive associated nebulosity is one such object. Plate XIV shows the outer nebulous filaments extending over 1 kpc. These would appear to be bright rims associated with ionization fronts moving into massive H I and dust clouds out of which the whole 30 Doradus H II region and OB star complex has formed. The ultraviolet radiation producing this ionization must be leaking from the dense central H II region which shows increasingly brighter filaments towards its centre where the gas and OB star densities are highest. In our Galaxy the Orion nebula reveals a similar range of linear scales. Elliott & Meaburn (1974) have shown that its centre is composed of a mass of bright rims ($\sim$0·1 pc long and 0·01 pc wide) associated with ionization fronts moving into a very much larger neutral mass. At the outermost extremity of the Orion complex is the much fainter Barnard's Arc which is 200 pc long and 10 pc wide. This wide range of surface brightness and of scale is found in many other complexes in the Magellanic Clouds, and in the Galaxy.

ACKNOWLEDGMENTS

We thank very sincerely Dr R. D. Cannon and members of the SRC 48-in. Schmidt Telescope Unit for their assistance and advice, and Mr W. V. Garner for his fine photographic efforts. We are grateful to the SRC for its support of this programme, and we register our appreciation for the efforts of Professor V. C. Reddish which have led to this 48-in. Schmidt camera working so quickly and well.

REFERENCES

Allen, C. W., 1973. *Astrophysical quantities*, Third Edition. Athlone Press, London.
Broten, N. W., 1972. *Aust. J. Phys.*, **25**, 599.
Davies, R. D., 1974. *Galactic radio astronomy*, eds F. J. Kerr & S. C. Simonson, p. 599, D. Reidel, Dordrecht, Holland.
de Vaucouleurs, G. & Freeman, K. C., 1973. *Vistas in Astronomy*, **14**, 163.
Elliott, K. H. & Meaburn, J., 1974. *Astrophys. Space Sci.*, **28**, 351.
Elliott, K. H. & Meaburn, J., 1975. *Mon. Not. R. astr. Soc.*, **172**, 427.
Henize, K. G., 1956. *Astrophys. J. Suppl.*, **2**, 315.
Henize, K. G. & Westerlund, B. E., 1963. *Astrophys. J.*, **137**, 747.
Hindman, J. V., 1967. *Aust. J. Phys.*, **20**, 147.

Hindman, J. V. & Balnaves, K. M., 1967. *Aust. J. Phys., Astrophys. Suppl. No.* **4.**
McGee, R. X., Brooks, J. W. & Batchelor, R. A., 1972a. *Aust. J. Phys.*, **25,** 581.
McGee, R. X., Brooks, J. W. & Batchelor, R. A., 1972b. *Aust. J. Phys.*, **25,** 613.
McGee, R. X. & Milton, J. A., 1964. *IAU Symposium No. 20*, p. 291, eds F. J. Kerr & A. W. Rodgers, Aust. Acad. Sci., Canberra.
McGee, R. X. & Milton, J. A., 1966. *Aust. J. Phys., Astrophys. Suppl. No.* **2.**
McGee, R. X. & Newton, L. M., 1972. *Aust. J. Phys.*, **25,** 619.
Mathewson, D. S. & Clarke, J. N., 1972. *Astrophys. J.*, **178,** L105.
Mathewson, D. S. & Clarke, J. N., 1973a. *Astrophys. J.*, **180,** 725.
Mathewson, D. S. & Clarke, J. N., 1973b. *Astrophys. J.*, **182,** 697.
Mathewson, D. S., Cleary, M. & Murray, J. D., 1973. *Astrophys. J.*, **190,** 291.
Mathewson, D. S. & Healey, J. R., 1964. IAU Symposium No. 20, eds F. J. Kerr & A. W. Rodgers, *The Galaxy and the Magellanic Clouds*, p. 245, Aust. Acad. Sci., Canberra.
Millikan, A. G., 1974. *ESO/SRC/CERN Conference on Research Programmes for New Large Telescopes*, ed. A. Reiz, p. 309.
Milne, D. K., 1971. *The Crab Nebula*, 248, eds R. D. Davies & F. G. Smith, D. Reidel, Dordrecht, Holland.
Westerlund, B. E. & Smith, L. F., 1964. *Mon. Not. R. astr. Soc.*, **127,** 449.

1976MmRAS..81...89D

TABLE II

H II regions in the Large Magellanic Cloud

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
1		04	47	32.5	-69	23	15	1.5 x 1.5	f		
2	N77D	04	49	05.5	-69	14	53	1.2 x 1.1	b	knot	
3	N76	04	49	12.8	-68	29	18	1.6 x 1.6	b	knot	
4	N77E	04	49	48	-69	17		8 x 6	b+f		MC10; 0!7 x 0!7
4a	N77C,B	04	50	03.4	-69	17	04	5 x 3.5	b		
4b		04	49	39.4	-69	18	13	3.5 x 2	b		
4c	N77A	04	49	37.8	-69	20	31	3 x 1.5	fb		
5		04	49	37.2	-69	12	53	2 x 1.5	f		
6	N79	04	50	06	-69	30		15 x 7	b	extended filaments	extension on MC12
7	N3	04	50	06	-67	45		11 x 6	f	diffuse	
8a	N4F	04	51	38.9	-66	59	,59	1.9 x 2.5	b	irregular shell	
b	N4A	04	52	02.9	-67	00	20	1.3 x 1.5	vb	knot	
c	N4B	04	52	07.5	-66	59	21	1.1 x 0.9	vb	knot with 0!4 x 0!4 knot to east	
9	N79A,B	04	52	06	-68	29	30	5 x 5	vf		
10	N79A,B,C,D,E	04	52	24	-69	25	40	10 x 6	vb	nuclear structure, outer envelope	MC13; 4!9 x 5!1; α= -0.01
a		04	52	03.5	-69	28	32	2.5 x 2.0	b	knot	
b		04	52	28.1	-69	25	35	3.5 x 3.0	b	nuclear structure	
11	N5	04	52	34.2	-67	22	27	4 x 3	b		

12	N4D,E	04	53	07.7	-66	59	19	5 x 4	fb	brighter structure adjacent to No. 27	
13	N8A	04	53	06.9	-68	07	59	10 x 8	b+f	bright nucleus, extended envelope	
14		04	52	48.1	-68	59	37	3.0 x 2.5	f		
15a		04	53	00.8	-69	17	53	1.5 x 1.5	vb	within 9' x 6' filamentary envelope	MC16 - part of
15b		04	53	20.2	-69	19	04	1.5 x 1.0	b		
16		04	53	50	-68	54		4 x 4	vf		
17		04	52	20	-70	51		5 x 5	vf		
18		04	53	25.7	-67	08	02	2 x 2	vf		MC14 & 15?
19		04	53	30	-67	05		6 x 6	vf		MC14 & 15?
20	N7	04	53	30.1	-67	28	12	0.9 x 0.9	vb	knot	
21		04	53	42.9	-70	41	02	2.8 x 1.5	f	diffuse, in outer envelope 9' x 8'	
22	N83	04	54	38	-69	16		6 x 5	b		
22a		04	54	10.6	-69	15	11	1.5 x 1.0	vb		MC16; 4!8 x 3!0; α= +0.19
22b	N83A	04	54	15.5	-69	16	34	1.5 x 1.5	vb		
22c	N83B	04	54	37.6	-69	15	47	0.6 x 0.6	vb		
22d		04	54	40.8	-69	14	24	3.5 x 3.0	vb		
23	N87	04	54	40.8	-69	34	25	0.4 x 0.3	vb	knot	
24	N90	04	55	40.3	-69	20	45	0.4 x 0.4	vb	knot	
25	N185	04	54	10	-70	04		6 x 6	b	circular shell	

TABLE II—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
26	N80	04	54	19.6	-68	26	32	5 x 4	f+b	contains bright knot on W side	
27		04	54	30	-66	55		18 x 12	vf	diffuse filaments - extension of No. 12	
28		04	55	44.0	-66	03	00	1.8 x 0.8	f		
29a	N6	04	54	08.4	-66	50	26	0.7 x 0.6	f		
29b		04	54	23.0	-66	49	19	0.6 x 0.4	f		
30		04	55	05.5	-67	20	21	3.5 x 3.0	f	circular shell	
31	N9	04	55	20.1	-67	13	40	11 x 7	b	filamentary partial shell	
32	N84	04	55	41.6	-68	30	22	2.1 x 2.0	b	diffuse shell	
33	N86	04	55	53.3	-68	44	00	5 x 4	b	irregular filamentary shell	MC19 - extension of
34	N10, N11, A-L	04	56	43.9	-66	29	23	25 x 20	vb	bright nucleus with filamentary structure	MC18; 5′.7 x 3′.5; α= +0.01
34a	N11L	04	54	42.7	-66	30	29	1.3 x 1.0	b	shell and jet; SNR	
35	N10, part of	04	55	39.2	-66	03	18	6 x 5	fb		
36	N94, A, B, C	04	56	20	-69	30		16 x 12	fb	contains irregular filaments	
37	N93	04	57	18.9	-69	16	42	2.1 x 1.8	fb	2 knots in faint nebulosity	
38	N92, A, B	04	57	18.5	-68	49	16	4 x 3	b	dust lanes in nucleus, faint envelope	MC19 - extension of

39	N91A,B	04	57	23.3	-68	29	52	8 x 7	vb	nucleus: filaments in an arc	MC19; 2'.1 x 5'.9; α = +0.09
40		04	57	44.3	-67	43	23	3 x 3	f		
41	N11E,K	04	58	06.2	-66	26	00	2.5 x 2.5	vb	knot; extension to NW	
42	N12,A	04	58	41.7	-66	15	59	5 x 4	b	shell nebulosity	
43		04	58	36	-65	42		50 x 35	f	extended loop	
44		04	59	05.1	-66	20	23	1.5 x 1.4	f	diffuse	
45	N16A	05	00	05.7	-68	02	36	8 x 7	b+f	circular shell	
46	N14	05	00	00.0	-66	20	13	4.5 x 3.3	b	diffuse shell	
47		05	00	04.7	-66	10	01	2.5 x 2.2	b	diffuse shell	
48	N13	05	01	22.8	-65	58	20	16 x 10	f	diffuse with filaments	
49	N15	05	00	44.4	-66	27	40	2 x 1	f+b	knot and envelope	
50	N186 C,D,E	05	00	11.8	-70	15	49	9 x 7	b	shell with filaments, extensive faint emission to SE. Second shell on NE edge.	
51	N186B	05	00	24.4	-70	07	45	0.7 x 0.5	vb	knot	
52		05	01	24	-68	17		6 x 5	f		
53		05	02	23.0	-70	08	34	3 x 3	f		
54		05	02	24.5	-69	38	16	4 x 2	f		
55		05	02	12	-70	43		12 x 8	f		
56		05	03	14.6	-66	46	29	10 x 7	f	contains 2 nuclei	
57		05	02	42	-67	04		6 x 4	f		

TABLE II—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
58		05	03	25.6	-68	31	33	5 x 2	f		
59	N17,A,B	05	03	47.3	-67	22	09	10 x 10	b+f	bright nucleus with extended envelope	
60		05	03	12	-69	08		3 x 3	f	diffuse	
61		05	03	36	-65	58		8 x 6	vf		
62		05	04	12	-69	07		8 x 10	f		11cm extended
63	N190	05	04	55.3	-70	48	21	4 x 4	b+f	bright nucleus (2:1 x 2:1) with faint envelope	
64a	N191B	05	05	05.7	-70	57	54	0.7 x 0.6	b	knot	
b	N191A	05	05	14.0	-70	58	39	0.8 x 0.5	b	knot	
65	N21	05	04	55.4	-67	37	56	4 x 3	b	arc	
66	N23A	05	04	59.8	-68	07	26	6 x 5	b	shell core and curved filaments	11cm extended
67	N189	05	05	20.5	-70	11	36	1.5 x 1.2	b	near centre of No. 68	
68		05	05	42	-70	11		18 x 15	f	diffuse	
69	N20	05	05	14.9	-66	59	20	2.9 x 2.1	b	diffuse core and envelope	MC21; 0:7 x 0:7
70		05	05	25.8	-68	09	44	2.2 x 2.7	fb	diffuse shell	11cm extended
71	in N23	05	05	48.0	-67	56	39	1.3 x 1.1	f	circular ring	
72		05	05	58.5	-65	45	15	5 x 5	fb	sharp filaments	
73	in N23	05	06	12	-68	11		10 x 6	f+b		

74	in N23	05	06	48.7	-68	13	29	3 x 25	f+b	core and diffuse envelope	11cm extended
75		05	06	36	-70	52		25 x 20	f	faint arcs	
76	N100	05	06	48	-68	30		12 x 11	fb	filaments in a shell	11cm extended
77		05	06	45.6	-67	01	08	4 x 3	f	diffuse arcs	
78		05	07	09.1	-68	00	41	2.0 x 1.5	f		
79		05	07	32.4	-68	35	55	3.5 x 2.2	f+b	shell outline	
80		05	07	48	-70	34		14 x 12	f	filaments	
81		05	08	07.0	-71	15	51	5 x 3	f	semicircular arc	
82		05	08	12	-71	20		7 x 7	f		
83		05	08	12	-71	05		4 x 3	vf		
84	N103B	05	09	02.3	-68	49	21	7 x 9	b	bright nucleus and filamentary shell; SNR	MC22; 2!1 x 4!5; α = -0.53
85	N103A	05	09	39.2	-68	49	25	1.4 x 1.4	b	knot	
86	N105A	05	10	11.6	-68	57	40	6 x 7	vb	bright core and outer filaments	MC23; 3!2 x 1!3; α = +0.10
87		05	10	53.3	-68	56	59	1.9 x 1.6	f+b	knot	
88	N104,A	05	09	39.4	-68	32	26	8 x 6	f+b		
89		05	10	14.8	-67	58	34	10 x 8	b	irregular shell, diffuse filaments	11cm extended
90		05	10	18	-67	13		2.7 x 2.5	f	shell	
91		05	10	18	-71	31		3 x 3	vf		
92	N108	05	10	45.8	-69	30	09	2.9 x 2.5	f	diffuse shell	

TABLE II—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
93	N26	05	10	44.2	-67	08	29	1.5 x 0.5	b	knot	
94	N27	05	11	00.5	-67	11	11	1.0 x 0.9	b	knot	
95		05	11	13.0	-69	06	28	0.7 x 0.7	f	knot	
96		05	11	41.6	-69	07	21	0.5 x 0.5	f	knot	
97		05	12	12	-67	11		4 x 4	vf	diffuse filaments	
98		05	12	36	-67	19		6 x 5	f	shell of diffuse filaments	
99		05	12	48	-67	05		4 x 3.5	f	shell	
100	N193B,E,D	05	12	46.8	-70	31	31	2.5 x 0.8	b	3 knots	
101a	N193C	05	12	58.7	-70	28	15	0.4 x 0.4	b	knot	
101b	N193A	05	13	00.9	-70	27	44	0.4 x 0.4	b	knot	
102		05	13	12.8	-70	25	25	2.8 x 1.8	f	diffuse	
103		05	13	21.3	-69	05	01	3 x 3	f	diffuse	11cm extension
104	N113 A-F	05	13	24	-69	27		6 x 4	vb		MC24; 2'.8 x 1'.6; α= +0.02 11cm; 16'.5 x 11'.5
105	N30,A	05	13	59.1	-67	23	34	10 x 7	b	elliptical shell	
106	N30,B,C,D	05	13	56.3	-67	30	27	7 x 5	b	cores and semi-circular shell	
107		05	13	53.2	-67	11	04	10 x 10	b+f		
108	N113 (north)	05	13	57.0	-69	20	31	6 x 5	b	core and envelope	part of MC24

109	N112	05	13	45.2	-69	14	15	0.6 x 0.6	b	knot	
110		05	13	54	-69	34		10 x 6	f	irregular filaments	11cm extended
111		05	14	10.0	-71	25	33	2 x 2	vf	diffuse	
112		05	14	30	-67	36		12 x 10	vf	diffuse filaments	MC25; 0!7 x 5!7
113	N114,A	05	14	53.8	-69	30	32	11 x 5	b	arc and irregular filaments	11cm extended
114	N115	05	14	35.2	-70	10	56	0.5 x 0.5	b	knot	
115		05	15	00	-67	06		4 x 2	vf	diffuse patch	
116	N31	05	15	03.0	-66	31	20	2.5 x 2.0	b+f	core and envelope	
117		05	15	38.5	-67	23	49	5 x 4	vf		
118	N34A,B,C	05	15	38.1	-66	45	23	2.2 x 2.0	f	diffuse	
119		05	15	32.0	-71	40	38	6 x 5	f	irregular filaments	
120		05	15	42	-69	46		2 x 1	f		
121	N33	05	16	55.8	-67	22	59	1.7 x 1.2	vb	knot	11cm extended
122		05	17	24.3	-68	55	34	0.5 x 0.5	f		
123		05	17	12	-69	06		17 x 8	f+b	filaments	11cm extended
124	N116	05	17	19.3	-69	56	12	1.1 x 0.9	b	knot	11cm extended
125	N35	05	17	45.8	-66	04	39	3.5 x 3.0	fb	circular outline	
126		05	17	42	-66	00		12 x 10	f	extended loop around No. 125	
127		05	17	54	-67	22		11 x 7	f	semicircular, diffuse	11cm extended
128		05	18	01.4	-68	50	12	2.4 x 1.9	f	diffuse	

TABLE II—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
129	N36	05	17	56.3	-67	57	12	3 x 3	b+f	central knot	11cm extended
130		05	18	12	-69	28		10 x 8	fb	diffuse ring	
131	N195,A,B	05	18	23.4	-71	18	21	3.9 x 3.3	b	contains several nuclei	
132a	N119 (part of)	05	18	42	-69	18		7 x 6	b	shell	MC30; 4!7 x 8!1; α = -0.04
132b	N119 (part of)	05	19	36	-69	13		8 x 3	b	apparently associated with No. 132a	
133	N121	05	19	24	-69	50		8 x 3	fb		11cm extended
134	N120A,B,C,D	05	19	30	-69	45		8 x 7	b	diffuse partial shell	MC31; 3!5 x 2!1; α = -0.54
135		05	20	00	-65	51		26 x 10	fb	contains filamentary structure	
136	N37	05	20	17.9	-66	56	23	3.5 x 3.0	fb		11cm extended
137		05	20	39.1	-65	31	06	17 x 13	b	circular arc, sharp filaments	
137a		05	21	26.6	-65	32	05	1.1 x 0.9	vb	knot in No. 137	
138	N38	05	20	32.6	-66	49	36	2.1 x 1.5	b	knot on SE side	11cm extended
139		05	20	24	-66	33		4 x 3	vf	diffuse	
140		05	20	59.7	-68	00	01	7 x 3	fb	shell-like filament	11cm extended
141	N41	05	20	39.7	-68	03	53	0.9 x 0.9	b		
142		05	21	31.4	-65	45	44	2.7 x 2.3	b	shell with sharp filaments	

143		05	21	44.9	-68	54	48	1.2 x 0.8	f		
144		05	21	42.1	-68	13	35	2.3 x 2.0	f		
145	N127B	05	21	44.3	-69	43	39	1.4 x 1.4	b	knot	11cm extended
146	N197	05	21	41.1	-71	46	00	0.4 x 0.3	vb	knot	
147		05	21	53.5	-69	59	44	1.2 x 0.8	f	2 knots (clusters?)	
148		05	22	05.2	-70	02	24	1.5 x 1.5	f		11cm extended
149	N127A	05	22	00.8	-69	43	26	1.2 x 1.2	b	knot	11cm extended
150	N44J	05	21	44.8	-67	49	22	0.6 x 0.6	vb	knot	
151		05	21	54	-67	53		10 x 8	fb	filamentary loop surrounding Nos. 151a, 152	11cm extended
151a	N44F	05	21	47.3	-67	57	48	0.8 x 0.8	vb	knot	11cm extended
152	N44B,C	05	22	12	-67	58		6 x 5	vb	elliptical ring	MC32; 3.'8 x 5.'0; α = -0.65
153		05	22	13.4	-69	43	54	0.8 x 0.6	fb	knot	
154		05	22	18	-66	03		24 x 20	fb	extended arcs and filaments	
155	N43	05	22	30	-65	48		15 x 10	fb		
155a		05	22	46.4	-65	45	50	2.5 x 2.5	b	diffuse circular region in No. 155	
156	N44I	05	22	37.8	-67	56	23	3.0 x 2.2	vb	knot	11cm extended
157	N128	05	22	32.7	-68	41	47	3 x 3	f	diffuse	
158	N44G,K	05	22	29.0	-68	07	13	1.8 x 0.6	b	2 knots	

TABLE II—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
159		05	22	47.2	-68	11	24	2.5 x 2.2	fb	diffuse shell	11cm extended
160	N44D,H	05	22	55.5	-68	06	57	5 x 4	vb	several dense nuclei	MC33; 3!8 x 5!0; α = -0.19
161	N45	05	22	45.4	-66	44	03	1.2 x 1.0	fb		
162	N46	05	23	04.2	-66	25	15	1.3 x 0.8	b	knot	MC36
163	N130	05	22	59.6	-70	11	29	1.6 x 1.3	b	knot	
164	N200	05	22	48	-71	24		17 x 17	fb	shell	
165	N198	05	23	12	-71	38		8 x 6	b		
166a	N44L	05	23	14.6	-68	02	55	0.5 x 0.5	b	knot	
166b	N44E	05	23	23.5	-68	02	56	1.3 x 0.9	b	knot	
167	N44N	05	23	24.4	-67	59	03	4 x 5	b	irregular filamentary shell and knot	11cm extended
168	N131	05	23	18.9	-69	53	38	1.2 x 0.7	fb	knot	
169	N44M	05	23	49.3	-68	03	27	0.8 x 0.7	b	knot	
170		05	23	48	-68	13		5 x 3	f		
171	N132J,G	05	23	59.2	-69	41	32	2.2 x 1.8	b		
172	N132A	05	24	05.2	-69	39	46	3.5 x 2.5	fb	diffuse arc	
173	N132B,C,E,I	05	24	29.2	-69	42	51	5 x 2	fb	4 knots	11cm extended
174	N138D,B	05	24	37.5	-68	34	23	4 x 4	b	diffuse shell	11cm extended
175		05	24	36	-66	16		12 x 10	fb		

175a	N48E	05	24	30	-66	27		7 x 4	fb	elliptical shell	11cm extended
176a	N137A	05	24	20.6	-68	58	56	0.3 x 0.3	b	knot	
176b	N137	05	24	27.1	-68	58	30	0.4 x 0.4	fb	knot	
177	N140	05	24	36	-69	07		30 x 20	fb	extended filaments	11cm extended
178		05	24	52.8	-69	30	33	6 x 4	fb		
179	N138C	05	24	53.5	-68	31	26	0.7 x 0.7	b	knot	11cm extended
180	N138A	05	25	12.3	-68	31	20	2.2 x 2.0	vb	knot and arc	11cm extended
181		05	25	12	-66	03		8 x 6	fb	loop of fine filaments	SNR 0525-66.0
182		05	25	18	-66	58		33 x 25	f	extended filaments	
183	N48D	05	25	24.6	-66	24	18	0.9 x 0.9	b	knot	
184		05	25	36	-67	03		8 x 7	f	shell of fine filaments	
185		05	25	47.6	-65	58	15	2 x 2	vf	diffuse shell	
186	N132D,H	05	25	42	-69	42		7 x 4	f	knots in envelope	MC39; 2!1 x 0!7; α = -0.57
187	N142	05	25	46.7	-69	28	52	8 x 4	fb	diffuse	
188	N202	05	25	47.9	-71	30	18	0.7 x 0.7	vb	knot	
189	N48A,B,C	05	25	48	-66	19		8 x 5	f+b	complex	MC40; 3!0 X 4!1; α = -0.75
189a	N48B	05	25	37.4	-66	20	05	1.2 x 1.0	b		
189b	N48C	05	25	58.8	-66	17	21	1.8 x 1.5	b		MC41; 5!0 x 4!6; α =-0.75
190	N49	05	25	57.3	-66	07	28	1.2 x 1.2	vb	knots	MC43; 0!7 x 0!7; α = -0.46

TABLE II—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
191		05	26	03.3	-66	11	54	2.5 x 2.0	fb		
192	N51D	05	25	58.0	-67	32	19	12 x 10	b	shell with bright filaments	MC46; 7!2 x 3!9; α= -0.13
193	N50	05	25	59.8	-67	12	25	3 x 3	fb	diffuse	
194		05	25	15.8	-71	41	08	3.5 x 3.0	f		
195		05	26	36	-66	24		35 x 10	vf	extended diffuse filaments	
196	N51B,E	05	26	40.0	-67	41	18	9 x 6	b		11cm extended
197	N143	05	26	48.2	-69	21	32	5 x 5	vb	core and envelope	11cm extended
198		05	27	13.5	-69	09	31	5 x 4	fb	irregular filaments	
199	N144,A,B	05	26	55.1	-68	52	20	13 x 12	vb	shell of filaments	MC47; 3!0 x 4!7; α= -0.46
200		05	26	54	-67	21		10 x 10	f	diffuse	
201	N51A,C	05	27	40.3	-67	30	18	15 x 6	vb	irregular nebulosity	MC50; 3!5 x 4!1; α= -0.13
202	N205C	05	26	48	-71	38		5 x 4	b		
203		05	26	48	-68	34		25 x 20	fb	filamentary shell	11cm extended
204		05	27	49.5	-65	52	29	4 x 4	b	shell	
205		05	28	12.8	-67	29	14	6 x 5	b	shell	11cm extended
206	N205A	05	28	13.8	-71	25	48	1.6 x 1.1	fb	diffuse	
207	N205A	05	28	24.4	-71	27	10	1.7 x 1.4	fb	diffuse	

208	N204	05	28	24	-70	39		14 x 13	b	filamentary and diffuse shell	
209		05	28	24	-69	22		12 x 5	f+b	diffuse and filamentary	11cm extended
210		05	28	42	-69	06		17 x 8	f+b	scattered nebulosity	11cm extended
211		05	28	42	-67	45		20 x 14	vf	diffuse filaments	
212		05	29	06	-67	19		13 x 10	vf		
213		05	29	15.0	-70	22	37	2.5 x 2.0	vf		
214		05	29	30	-67	00		12 x 10	f+b	diffuse filaments	
215		05	30	00	-69	51		3 x 3	f	diffuse ring	
216		05	30	35.5	-69	47	18	0.7 x 0.7	f+b	diffuse	
217		05	30	12	-67	33		12 x 8	vf	diffuse	
218		05	31	00.2	-70	09	59	10 x 9	fb	diffuse filaments	
219		05	30	42	-67	43		8 x 8	f	diffuse	11cm extended
220		05	30	42	-66	09		20 x 15	f		
221	N206A,B	05	31	18	-71	06		25 x 18	f+b	complex; loops and filaments (contains SNR)	MC54; 6'.6 x 4'.9; α= +0.02
222a		05	31	03.2	-67	22	33	0.8 x 0.8	f		
222b		05	31	17.1	-67	24	52	1.2 x 1.0	f		
223		05	31	33.9	-67	28	57	3.5 x 3.0	f	semicircular arc	
224		05	31	30	-69	25		25 x 20	f	network of filaments	11cm extended
225		05	31	54.1	-67	23	37	0.7 x 0.7	b	knot	

TABLE II—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
226	N148I,G	05	32	06	-68	43		8 x 5	b	filaments with diffuse circle	MC55; α = -0.46
227	N148A,B,C,D, E,F,H	05	32	22.4	-66	30	16	16 x 10	b	complex structure	M56
228	N55A	05	32	12	-66	25		7 x 5	vb	complex structure	MC58; 4!2 x 5!3; α = -0.10
228a		05	32	02.3	-66	26	57	3.2 x 2.5	vb	knot	
228b		05	32	12.7	-66	25	38	2.8 x 2.3	vb	knot	
229	N57A,D,E	05	32	20.8	-67	43	35	12 x 7	vb	network of filaments	MC57; 6!8 x 4!6; α = -0.46
230		05	33	01.8	-67	51	19	1.5 x 1.5	vf		
231	N57C	05	33	16.1	-67	44	49	4 x 3	b	diffuse ring	11cm extended
232		05	33	00	-69	00		30 x 15	b	network of fine filaments	11cm extended
233	N150	05	33	59.7	-68	47	51	0.8 x 0.7	b	2 knots	
234	N57,N58	05	33	36	-67	30		17 x 12	f+b	diffuse filaments	11cm extended
235	N62B	05	34	11.8	-66	09	48	12 x 5	b	arc of fine filaments with extension	
236		05	34	24	-67	07		4 x 3	f	diffuse	
237		05	34	36	-65	53		12 x 6	vf	diffuse	
238		05	34	50.8	-70	35	08	2.6 x 2.2	f	circular shell	11cm extended
239	N61, part of N62A	05	34	37.4	-66	15	50	13 x 8	f+b	complex of filaments	MC62; 0!7 x 1!3
240		05	34	58.9	-67	23	08	2.0 x 1.5	b	knot and envelope	

241	N59,A,B,C	05	35	25.8	-67	35	54	8 x 8	vb	contains knots	MC64; 1:8 x 2:1; α = +0.08
242		05	35	11.8	-69	33	07	2.0 x 1.5	b	knot	MC65
243	N63A	05	35	27.0	-66	04	26	9 x 6	vb		MC63; 3:3 x 1:8; α = -0.42
244	N61, part of	05	35	30	-66	37		12 x 10	f	diffuse	MC66; 3:8 x 4:5
245		05	35	36	-67	47		15 x 5	fb	extended filaments	11cm extended
246	N154A,B	05	35	36	-69	48		18 x 12	vb	complex	M61; 4:1 x 4:4: MC67; 1:8 x 2:3 MC71; 0:7 x 3:0; α = +0.02
247		05	36	12	-66	00		6 x 4	f	diffuse loop	
248		05	36	12	-69	33		7 x 5	vb	several knots	MC70: MC72
249		05	36	50.0	-70	40	37	3 x 2	vf	diffuse	
250		05	36	40.0	-67	28	40	6 x 6	fb	diffuse shell	11cm extended
251	N64A,B	05	36	39.8	-66	28	01	5 x 4	f	diffuse	
252	N64C	05	37	01.7	-66	23	26	5 x 5	vb	complex	11cm extended
253		05	37	12.0	-66	19	28	3 x 3	vb	knot	
254		05	37	54	-66	19		7 x 7	vf	diffuse shell	
255	N65	05	37	00	-66	39		12 x 9	fb	elliptical shell	11cm source
256		05	37	26.7	-66	29	33	3.5 x 3.5	f	shell	
257		05	37	48	-67	02		45 x 25	vf	diffuse	
258	N68	05	37	15.5	-68	16	01	0.3 x 0.3	vb	knot	
259		05	36	57.1	-69	50	36	2.5 x 2.5	f	diffuse circular patch	11cm extended

TABLE II—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
260	N155	05	37	42.5	-69	47	37	1.2 x 0.8	b	knot	
261		05	37	48	-69	23		12 x 12	vb	part of 30 Dor nebulosity	
262		05	37	54	-69	42		8 x 8	vb	part of 30 Dor nebulosity	
263	N157A,B	05	37	48	-69	02		40 x 25	vb	centre of 30 Dor nebulosity	MC74; 3!0 x 3!0; α = -0.2: MC78; 0!7 x 0!9; α = -0.05
264		05	38	24	-66	37		7 x 3	f	diffuse	
265	N213	05	38	52.4	-70	42	46	4 x 4	vb	nucleus and envelope	11cm extended
266		05	39	17.3	-70	06	00	0.7 x 0.7	f	diffuse	
267	N171A,B	05	39	48.6	-70	14	21	2.5 x 2.2	f		11cm extended
268		05	38	00	-68	25		65 x 40	f	filamentary structure	
269	N158A,B,C	05	40	00	-69	28		16 x 10	vb	complex structure	MC75; 2!1 x 0!7; α = +0.21
270		05	40	00	-66	08		10 x 8	vf	diffuse	
271	N159A....K	05	40	23.6	-69	46	29	5 x 5	vb	several knots	MC77; 2!1 x 0!7; α = +0.1
272	N159L	05	40	29.9	-69	50	37	1.3 x 1.1	b	shell	
273	N161	05	40	31.8	-69	00	51	0.9 x 0.9	b	knot	
274	N214A,B	05	40	35.6	-71	11	10	1.8 x 0.7	b	several knots	
275	N172	05	40	40.0	-69	56	25	0.8 x 0.8	vb	knot	

276	N214D	05	40	47.8	-71	12	29	2.3 x 2.0	b	diffuse arc	
277	N173	05	40	49.5	-69	54	33	0.6 x 0.6	b	knot	
278	N214E	05	40	51.4	-71	13	48	0.6 x 0.6	b	knot	
279		05	40	54.3	-69	51	47	1.1 x 1.1	b	knot	
280	N176	05	41	19.2	-70	11	24	0.5 x 0.5	vb	knot	
281	N175	05	41	13.0	-70	03	51	2.5 x 2.5	b	diffuse ring	11cm extended
282		05	41	38.9	-69	56	22	2.8 x 2.5	b	2 knots	11cm extended
283	N160F	05	41	17.3	-69	47	28	6 x 4	b	several diffuse knots	11cm extended
284	N160A.....E	05	40	48	-69	39		15 x 11	vb	part of 30Dor nebulosity	MC76; 3'.4 x 3'.8; α = -0.43
285		05	41	51.7	-69	47	49	4 x 3	b	complex	
286		05	41	38.4	-67	00	26	3 x 3	f	diffuse	
287	N214, part of	05	41	32.0	-71	13	23	4 x 2	vf	diffuse	
288		05	41	48.2	-71	15	06	0.8 x 0.8	f	diffuse	
289	N214G,F	05	42	08.8	-71	17	02	0.6 x 0.6	b	2 knots	
290	N216	05	41	36.4	-70	55	57	0.7 x 0.7	b	knot	
291		05	41	48.4	-70	30	58	1.5 x 1.4	f		
292	N214H	05	42	07.8	-71	18	21	0.7 x 0.7	f	ring nebulosity	
293	N214C	05	42	23.9	-71	21	06	4 x 3.5	vb	complex	MC80; 4'.7 x 3'.2; α = +0.06
294		05	42	05.5	-70	36	50	4 x 2	f	diffuse	11cm extended
295	N177	05	42	10.3	-70	02	21	2.2 x 1.5	f		
296		05	42	23.5	-66	41	05	3.5 x 3.5	f	diffuse	

TABLE II—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments	Radio
297		05	42	30.4	-68	59	17	2.1 x 1.9	b	2 arcs	
298	N164	05	42	55.0	-69	06	01	6 x 5	vb	complex	MC79: MC82; α = +0.20
299	N165	05	43	13.0	-68	58	10	6 x 5	f+b	shell with second shell on NW	MC85; 1!8 x 4!3
300	N163	05	43	35.7	-69	47	06	6 x 6	vb	core and envelope	MC84; 3!8 x 4!1
301	N70	05	43	35.6	-67	52	25	7 x 8	b	shell with fine filaments	11cm source
302		05	43	34.0	-66	19	25	0.6 x 0.5	vb	knot	
303	N71	05	43	53.7	-67	28	23	0.7 x 0.7	vb	knot	
304	N72	05	44	00	-69	19		10 x 6	b+f	group of filaments	MC86
305	N73	05	44	28.2	-67	28	35	0.5 x 0.5	f	knot	
306		05	44	30	-66	23		17 x 15	fb	irregular shell	
307	N167	05	44	49.4	-69	23	20	1.7 x 1.7	b	diffuse shell	
308		05	45	00	-67	22		18 x 18	f	diffuse filaments	
309	N74A,B	05	45	18.9	-67	10	27	10 x 5	b	irregular filaments and shell in SE	
310		05	45	12	-69	24		60 x 40	fb	network of filaments E of 30Dor	11cm extended
311	N168	05	45	47.7	-69	47	26	1.7 x 1.5	vb	diffuse shell	
312	N169C	05	46	31.6	-69	34	28	1.5 x 1.4	b	diffuse	
313	N169B	05	46	53.7	-69	36	14	0.7 x 0.7	vb	knot	

314	N169A	05	46	58.1	-69	35	19	0.4 x 0.4	b	knot	
315	N74, part of	05	46	46.6	-67	12	01	7 x 6	f	shell	
316		05	47	34.6	-69	43	13	5 x 3	fb	2 diffuse shells	MC89; 6'.7 x 4'.2; α = -0.67
317		05	47	48	-70	11		3 x 3	vf	diffuse	
318	N179C	05	48	24.5	-69	53	01	0.3 x 0.3	b	knot	
319	N179B	05	48	30.8	-69	53	50	0.4 x 0.4	b	knot	
320	N179A,D	05	48	30.7	-69	54	42	0.7 x 0.7	vb	knot	
321		05	48	40.0	-69	53	33	0.4 x 0.4	f		
322	N180C	05	48	44.2	-70	02	50	2.5 x 2.0	vb	diffuse	MC90; 0'.7 x 3'.3; α = -0.28
323	N180A,B	05	49	22.8	-70	04	39	6 x 5	vb	circular filaments	MC91; 2'.7 x 4'.5; α = -0.19
324		05	49	11.9	-69	51	26	1.0 x 0.8	f	diffuse	
325		05	49	28.0	-70	00	28	1.3 x 1.3	b	diffuse shell	
326	N180	05	49	48	-70	08		12 x 8	fb	shell surrounding No. 323	
327		05	49	50.2	-69	19	55	5 x 4	vf	diffuse	
328		05	52	00	-68	20		25 x 8	vf	arc	MC92; 5.0 x 15.6; = -0.33
329		05	52	11.5	-69	56	20	0.8 x 0.5	f	galaxy?	

TABLE III

H II regions in the Small Magellanic Cloud

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments
1	N3	00	29	38.0	-74	04	17	0.7 x 0.4	b	nucleus and envelope
2		00	35	13.5	-73	16	38	1.8 x 1.2	f	diffuse
3		00	38	35.2	-73	40	38	0.5 x 0.5	b	knot
4		00	39	04.5	-72	50	47	0.4 x 0.4	b	nucleus and envelope
5		00	39	06.6	-73	52	49	3 x 2	vf	diffuse
6		00	40	19.7	-73	15	52	1.0 x 1.0	f+b	diffuse
7		00	40	29.0	-74	00	32	0.6 x 0.4	b	
8		00	41	05.2	-72	51	43	0.2 x 0.2	b	knot
9	N9	00	41	43.9	-73	18	51	0.4 x 0.3	b	knot
10		00	42	24	-73	42		6 x 1	f	filament
11	N10	00	43	09.4	-73	30	10	0.4 x 0.4	b	knot
12		00	43	05.9	-74	15	25	3 x 3	vf	irregular loop
13		00	43	12	-74	28		6 x 3	f+b	diffuse
14		00	43	28.9	-73	31	56	1.6 x 1.6	b	structure
15	N12 (part of)	00	43	28.9	-73	21	23	1.8 x 1.0	b	
16	N13A,B	00	43	33.4	-73	39	05	1.4 x 1.1	vb	2 knots
17		00	43	44.9	-73	28	58	1.8 x 1.8	f+b	circular disk
18	N12B	00	43	42.1	-73	21	10	3 x 2	b	nucleus and envelope
19		00	44	00	-73	31		6 x 3	vf	diffuse

20	N12 (part of)	00	44	04.4	-73	23	15	3.0 x 1.6	b	nucleus and outer structure
21	N16	00	44	28.7	-73	39	56	3 x 2	f+b	knot and loop
22		00	44	27.8	-73	29	05	1.8 x 1.2	fb	partial loop
23	N12A	00	44	39.6	-73	22	42	2.6 x 2.2	vb	disk and filament
24		00	44	52.5	-73	38	13	1.9 x 1.8	b	diffuse
25	N17	00	44	50.4	-73	47	58	3.5 x 3.0	b	diffuse
26		00	44	52.9	-72	20	09	0.2 x 0.2	b	knot
27		00	45	07.1	-73	21	15	1.2 x 0.6	fb	diffuse
28	N15	00	44	22.8	-73	41	57	0.3 x 0.3	b	knot
29		00	45	00	-73	41		11 x 4	f	diffuse
30		00	45	39.4	-73	38	47	2.2 x 1.8	b	diffuse
31	N19	00	45	41.0	-73	21	30	1.9 x 1.7	b	diffuse
32		00	45	50.5	-73	24	37	6 x 5	vb	nucleus and envelope
33		00	46	16.7	-73	51	33	3.0 x 2.5	f	diffuse
34		00	45	59.0	-73	34	36	0.2 x 0.2	fb	knot
35		00	45	58.9	-73	33	54	0.8 x 0.6	fb	knot
36		00	46	11.6	-73	34	02	0.8 x 0.6	b	knot
37	N22	00	46	16.2	-73	32	47	2.4 x 1.7	b	
38	N25,N26	00	46	21.4	-73	30	38	1.2 x 1.0	vb	knot
39		00	46	30.4	-73	26	36	0.5 x 0.5	b	knot
40	N27	00	46	35.8	-73	22	16	0.8 x 0.8	b	knot

TABLE III—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments
41		00	46	34.6	-73	48	08	0.5 x 0.5	b	
42	N24	00	46	23.3	-73	36	09	1.2 x 1.2	vb	knot and filament
43		00	46	43.5	-73	31	52	3.0 x 2.7	b	structure
44		00	47	12	-73	42		7 x 5	f	structure
45	N30	00	47	13.2	-73	24	41	3.2 x 2.5	vb	
46		00	47	12	-73	01		8 x 3	f	diffuse filaments
47		00	47	28.2	-73	09	09	3 x 3	f	diffuse
48	N32	00	47	53.2	-73	05	02	0.5 x 0.5	b	knot
49		00	47	30	-73	32		4 x 4	f+b	irregular shell
50		00	47	58.9	-73	26	51	0.3 x 0.3	b	2 knots
51		00	48	18	-73	18		6 x 4	vf	irregular
52		00	48	49.6	-73	36	38	1.0 x 1.0	b	diffuse
53		00	49	04.3	-73	40	42	3 x 2	f	partial loop
54	N36, N41	00	48	39.1	-73	09	29	5 x 4	vb	structure and loop
55	N37	00	48	52.2	-73	04	20	6 x 5	vb	structure and filaments
56		00	48	10.8	-72	51	53	6 x 3	b	filament
57	N35	00	48	27.1	-72	48	45	1.1 x 0.2	b	arc
58		00	48	24	-72	43		6 x 5	vf	
59		00	49	35.7	-73	46	42	1.2 x 1.2	fb	diffuse
60	N45	00	49	57.2	-73	29	56	0.7 x 0.5	b	knot

61		00	50	08.9	-73	13	26	0.6 x 0.6	b	
62	N46	00	50	03.1	-73	07	05	0.2 x 0.2	b	knot
63		00	50	06	-72	54		13 x 6	fb	diffuse
64		00	50	00	-72	44		15 x 6	vf	irregular arc
65		00	50	10.5	-72	33	01	2.0 x 1.8	fb	diffuse
66		00	50	12	-72	25		16 x 15	fb	diffuse
67		00	50	16.5	-72	07	46	4 x 3	fb	partial loop
68	N50	00	51	12	-72	53		6 x 2	b	thin filaments
69		00	50	54	-73	08		8 x 4	fb	diffuse patches
70		00	50	30	-73	37		18 x 8	fb	diffuse
71	N48	00	50	35.7	-73	43	25	0.5 x 0.5	b	knot
72	N51	00	50	55.5	-73	42	33	0.9 x 0.9	b	knot
73		00	51	05.5	-73	40	57	0.6 x 0.2	fb	diffuse
74		00	52	00	-73	30		8 x 5	vf	diffuse
75		00	51	39.3	-71	40	12	0.3 x 0.4	vb	knot, galaxy (?)
76		00	52	23.3	-72	39	07	3.0 x 2.5	fb	
77	N52A,B	00	51	57.3	-72	55	44	0.6 x 0.3	b	2 knots
78		00	52	34.3	-73	33	23	1.0 x 1.0	b	knot
79		00	52	22.8	-72	39	07	2 x 2	vf	diffuse
80		00	53	12	-72	58		8 x 8	fb	irregular diffuse ring
81		00	53	57.8	-73	37	32	3.0 x 0.8	f	diffuse bar

TABLE III—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments
82		00	53	51.4	-73	06	11	0.5 x 0.5	b	knot, cluster (?)
83	N57	00	53	51.4	-72	33	23	2.2 x 1.0	b	2 knots
84		00	54	01.0	-72	32	26	0.4 x 0.4	fb	
85	N58	00	54	34.0	-72	33	43	1.2 x 1.2	b	diffuse
86		00	54	19.2	-72	35	50	5 x 4	fb	diffuse
87		00	54	36	-72	43		7 x 3	f	diffuse
88		00	54	36.1	-73	03	22.1	1.5 x 1.2	f	
89		00	55	06.9	-73	03	58	3 x 2	vf	arc
90		00	55	18	-72	19		5 x 5	f	irregular shell
91	N59	00	55	25.2	-73	50	04	1.1 x 1.1	b	
92		00	54	24.6	-74	46	51	0.2 x 0.2	b	knot, galaxy (?)
93	N62	00	56	16.5	-72	55	38	0.7 x 0.7	vb	knot and extension
94	N63	00	56	36.2	-72	55	01	0.6 x 0.6	vb	knot
95	N64A	00	56	45.7	-72	56	06	0.7 x 0.7	vb	knot and extenstion
96		00	56	49.7	-72	01	08	1.4 x 0.9	f	diffuse arc
97		00	57	00	-71	45		4 x 4	f	diffuse
98		00	56	54.0	-72	30	15	1.8 x 1.5	fb	diffuse
99		00	57	14.6	-72	30	51	1.0 x 0.8	fb	diffuse
100	N69	00	57	34.0	-72	40	29	0.9 x 0.9	b	diffuse
101		00	57	29.0	-72	42	48	1.2 x 1.0	f	diffuse

102		00	57	36.4	-72	33	41	4 x 3	b	diffuse and structure
103	N66A,B,C,D	00	57	30.7	-72	26	24	14 x 11	vb	structure
104		00	58	00	-72	09		17 x 10	vf	structure
105		00	57	56.4	-72	00	28	3 x 3	f	
106	N69	00	58	07.9	-72	36	11	0.5 x 0.5	b	
107		00	58	26.5	-72	04	13	1.2 x 1.2	b	
108		00	59	12	-71	47		11 x 9	f	circular diffuse region
109	N71	00	59	16.8	-71	51	35	0.3 x 0.3	vb	knot
110		00	59	28.7	-71	44	20	0.2 x 0.2	b	knot
111		00	59	55.2	-72	12	53	2.2 x 1.8	fb	structure
112	N72	00	59	53.6	-72	07	16	1.2 x 1.2	b	diffuse
113		00	59	48.5	-72	03	55	0.9 x 0.9	fb	diffuse
114		00	59	12	-72	46		20 x 18	f	shell
115	N74	01	00	37.3	-72	07	33	1.0 x 0.6	b	arc
116	N75	01	00	49.4	-72	12	48	0.3 x 0.3	b	knot
117a	N77B	01	01	05.3	-72	09	38	0.3 x 0.3	b	knot
117b	N77A	01	01	10.2	-72	09	25	0.5 x 0.4	vb	knot
118		01	01	15.0	-72	40	53	3 x 3	b	arc
119		01	01	24.0	-72	21	23	0.4 x 0.4	b	knot
120	N76B	01	01	29.3	-72	22	32	0.4 x 0.4	vb	knot
121		01	01	25.0	-72	09	39	0.9 x 0.9	b	

TABLE III—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments
122		01	02	22.1	-72	57	14	1.2 x 0.6	f	
123	N76A	01	01	53.0	-72	19	29	4 x 4	vb	
124		01	02	48	-72	19		25 x 15	fb	shell around No. 123
125		01	03	00	-72	38		12 x 10	f	diffuse shell
126	N78A,B	01	03	40.6	-72	16	10	3.5 x 2.5	vb	
127	N78D	01	03	35.3	-72	14	31	0.7 x 0.7	vb	knot
128		01	03	45.8	-72	24	47	1.5 x 1.2	f	diffuse
129		01	03	56.3	-73	06	03	0.5 x 0.5	fb	
130	N78C	01	04	05.8	-72	19	47	0.6 x 0.6	vb	knot
131		01	04	42.7	-72	21	42	1.5 x 1.3	b	sharp filaments
132		01	05	12	-72	13		6 x 6	fb	diffuse ring
133		01	05	25.8	-73	06	51	0.8 x 0.8	f	diffuse
134		01	05	12	-72	47		14 x 6	fb	diffuse
135	N80	01	06	41.6	-72	15	37.8	5 x 4	b	circular diffuse region
136		01	07	42	-72	10		8 x 6	f	contains filamentary loop
137		01	07	53.8	-72	36	50	0.6 x 0.4	fb	diffuse with region 1'.2 south
138	N81	01	07	40.5	-73	28	05	6 x 5	f+b	nucleus and diffuse envelope
139		01	08	12	-72	44		6 x 6	vf	diffuse
140		01	09	36	-72	57		13 x 9	fb	diffuse shell
141		01	09	45.6	-72	38	19	4 x 4	b	diffuse and structure

142		01	09	55.0	-72	25	43	2.2 x 2.0	b	diffuse and structure
143		01	10	41.6	-72	31	24	1.5 x 1.5	vf	diffuse
144		01	10	23.8	-73	00	14	2.1 x 1.9	fb	shell within No. 140
145		01	10	22.4	-73	29	25	3 x 3	vf	diffuse shell
146		01	11	56.3	-73	05	31	0.3 x 0.3	f+b	diffuse
147	N83A,C	01	12	20.5	-73	33	23	4 x 3	vb	nucleus and filaments
148	N83B	01	12	26.8	-73	31	40	0.4 x 0.3	vb	knot
149	N84C	01	12	52.6	-73	31	42	0.6 x 0.6	vb	knot
150	N84 (part of)	01	12	59.1	-73	29	55	5 x 4	b	diffuse arcs
151	N84A	01	13	15.1	-73	33	50	2.6 x 1.8	vb	nucleus and structure
152	N84B,D	01	13	31.9	-73	35	35	3.0 x 1.6	vb	includes knots
153		01	13	44.0	-73	11	46	1.2 x 0.8	f	diffuse
154		01	13	47.8	-72	36	07	0.4 x 0.3	fb	diffuse
155		01	14	09.8	-73	27	36	2.1 x 1.9	b	diffuse
156		01	14	42.9	-73	26	47	2.6 x 2.3	b	diffuse
157		01	15	00	-73	36		22 x 20	f	diffuse filaments
158		01	15	23.5	-73	25	08	2.0 x 1.6	fb	diffuse
159		01	15	35.5	-73	27	41	1.8 x 1.8	b	diffuse
160		01	22	08.3	-73	37	37	4 x 3	fb	diffuse
161	N88	01	22	54.8	-73	24	53	2.8 x 1.5	vb	knot and filament
162		01	23	29.3	-73	42	21	4 x 3	f	diffuse

TABLE III—*continued*

Number	Henize Number	RA (1950) h	m	s	Dec (1950) °	′	″	Diam (arc min)	Intensity	Comments
163		01	24	08.7	-73	32	14	10 x 8	f	diffuse filaments
164	N89	01	24	24.5	-73	38	36	6 x 5	b	shell and filamentary network
165		01	25	48	-73	24		8 x 7	vf	shell with sharp boundary
166	N90	01	28	12	-73	49		4 x 4	vb	structure
167		01	29	12	-73	36		35 x 30	f	ring of diffuse filaments

TABLE IV

Identified supernova remnants in the Large and Small Magellanic Clouds

Radio Source Number	Number	Henize Number	RA (1950)	Dec (1950)	Radio (M & C)	Spectral index (M & N)	Diameter (M & C)	('arc) (MBB)	Comments
(a) Identified SNRs in the LMC									
0454 −66.5	34a	N11L	$04^h54^m43^s$	$-66^\circ30'06''$	–	–	1.1		Includes a 1'.0 x 1'.0 shell and jet
0456 −68.7	33	N86	04 56 00	−68 43 08	−0.49	–	1.9		Lies in an extension of MC19
0500 −70.2	50	N186D	05 00 09	−70 14 15	–	–	2.2		On edge of a shell 9' x 7'
0506 −68.0	73	N23	05 06 01	−68 05 52	−0.46	–	1.2		On edge of extended nebulosity
0509 −68.7	84	N103B	05 09 12	−68 47 17	−0.55	−0.53	0.3	2.1x4.5	MC22; emission over 9' x 7' region
0519 −69.0	134	N120	05 19 08	−60 41 43	–	−0.54	1.7	3.5x2.1	MC31; in a diffuse shell 8' x 7'
0525 −66.0	181	(N49)	05 25 20	−66 01 40	−0.65	−0.54	0.6		In emission region 8' x 6'
0525 −69.6	186	N132D	05 25 27	−69 41 01	−0.65	−0.57	0.4	2.1x<0.7	MC39; emission over 7' x 4' region
0525 −66.1	190	N49	05 25 55	−66 07 47	−0.49	−0.46	1.0	<0.7x2.7	MC43
0532 −71.0	221	N206	05 32 39	−71 02 36	–	+0.02	3.0	6.6x4.9	MC54; in a complex region 25' x 18'
0535 −66.0	243	N63A	05 35 39	−66 03 54	−0.55	−0.42	0.4	3.3x0.8	MC63; emission over 9' x 6' region
0547 −69.7A	316	N135	05 47 37	−69 43 19	−0.60	−0.67	2.0	(6.7x4.2	MC89; 2 adjacent shells
0547 −69.7B	316	N135					3.0		
0538 −69.1	263	N157B	05 38 09	−69 11 36	−0.5	–	0.4		In 30 Doradus nebulosity
0540 −69.3	269	N158A	05 40 35	−69 21 15	−0.55	–	0.8		In 30 Doradus nebulosity
(b) Identified SNRs in the SMC									
0045 −73.4	32	N19	00 45 29	−73 24 00	−0.5	–	1.4	–	In emission region 6' x 5'
0046 −73.5	42	N24	00 46 21	−73 34 50	–	–	2.5	–	Bright region 1'.5 diameter; faint loop to NE.

M & C = Mathewson & Clarke (1972, 1973 a,b) ; M & N = McGee & Newton (1972) ; MBB = McGee, Brooks & Batchelor (1972a)

TABLE V

Shell nebulae in the LMC which are possibly SNRs

Number	Henize Number	RA (1950) Dec (1950)	Diam (′ arc × ′ arc)	Radio
6	N79	$04^h50^m06^s$ $-69^\circ30'$	15 x 7	Extension on MC12
25	N185	04 54 10 −70 04	6 x 6	
30		04 55 05 −67 20 21	3.5 x 3.0	11cm extended emission
31	N9	04 55 20 −67 13 40	11 x 7	11cm extended emission
33	N86	04 55 53 −68 44 00	5 x 4	SNR 0456−68.7
34a	N11L	04 54 42 −66 30 29	1.3 x 1.0	SNR 0454 −66.5
47		05 00 05 −66 10 01	2.5 x 2.2	
50	N186	05 00 12 −70 15 49	9 x 7	SNR 0500 − 70.2
55		05 02 12 −70 43	12 x 8	
66	N23A	05 05 00 −68 07 26	6 x 5	11cm extended emission
71		05 05 48 −67 56 39	1.3 x 1.1	
72		05 05 58 −65 45 15	5 x 5	
76	N100	05 06 48 −68 30	12 x 11	11cm extended
80		05 07 48 −70 34	14 x 12	
81		05 08 07 −71 15 51	5 x 3	
84	N103B	05 09 02 −68 49 21	7 x 9	SNR 0509 − 68.7
90		05 10 18 −67 13	2.7 x 2.5	
99		05 12 48 −67 05	4.0 x 3.5	
137		05 20 39 −65 31 06	17 x 13	
140		05 21 00 −68 00 01	7 x 3	
142		05 21 31 −65 45 44	2.7 x 2.3	

164	N200	05 22 48 -71 24	17 x 17	
165	N198	05 23 12 -71 38	8 x 6	
175a	N48E	05 24 30 -66 27	7 x 4	
181		05 25 12 -66 03	8 x 6	SNR 0525 - 66.0
184		05 25 36 -67 03	8 x 7	
199	N144A,B	05 26 55 -68 52 20	13 x 12	MC47, α = -0.46 , 4'.7 x 3'.0
204		05 27 49 -65 52 29	4 x 4	MC48
205		05 28 13 -67 29 14	6 x 5	
208	N204	05 28 24 -70 39	14 x 13	
221	N206A,B	05 31 18 -71 06	25 x 18	SNR 0532 - 71.0
228b		05 32 13 -66 25 38	2.8 x 2.3	
229	N57A,D,E	05 32 21 -67 43 35	12 x 7	MC57, α = -0.46, 6'.8 x 4'.6
235	N62B	05 34 12 -66 09 49	12 x 5	
238		05 34 51 -70 35 08	2.6 x 2.2	
243		05 35 27 -66 04 26	9 x 6	SNR 0535 - 66.0
249		05 36 50 -70 40 37	3 x 2	
255	N65	05 37 00 -66 39	12 x 9	11cm source
256		05 37 27 -66 29 33	3.5 x 3.5	
272	N159L	05 40 30 -69 50 37	1.3 x 1.1	
284		05 40 48 -69 39	15 x 11	MC76, α = -0.43, 3'.8 x 3'.4
299	N165	05 43 13 -68 58 10	6 x 5	MC85
301	N70	05 43 36 -67 52 25	7 x 8	11cm source
306		05 44 30 -66 23	17 x 15	
316		05 47 35 -69 43 13	5 x 3	SNR 0547 - 69.7A, B
328		05 52 00 -68 20	25 x 8	MC92, α = -0.33, 15'.6 x 5'.0

TABLE VI

Shell nebulae in the SMC which are possibly SNRs

Number	Henize Number	RA (1950)	Dec (1950)	Diam (′ arc × ′ arc)	Radio
54	N36	$00^h48^m39^s$	$-73^\circ09'29''$	5 x 4	11cm source
57	N35	00 48 27	−72 48 45	1.1 x 0.2	
67	–	00 50 16	−72 07 46	4 x 3	
68	N50	00 51 12	−72 53	6 x 2	11cm source
103	N66 A,B,C,D.	00 57 31	−72 26 24	14 x 11	11cm source ; shell to NW
132	–	01 05 12	−72 13	6 x 6	
140	–	01 09 36	−72 57	13 x 9	
144	–	01 10 24	−73 00	2.1 x 1.9	
163	–	01 24 09	−73 32	10 x 8	
165	–	01 25 48	−73 24	8 x 7	

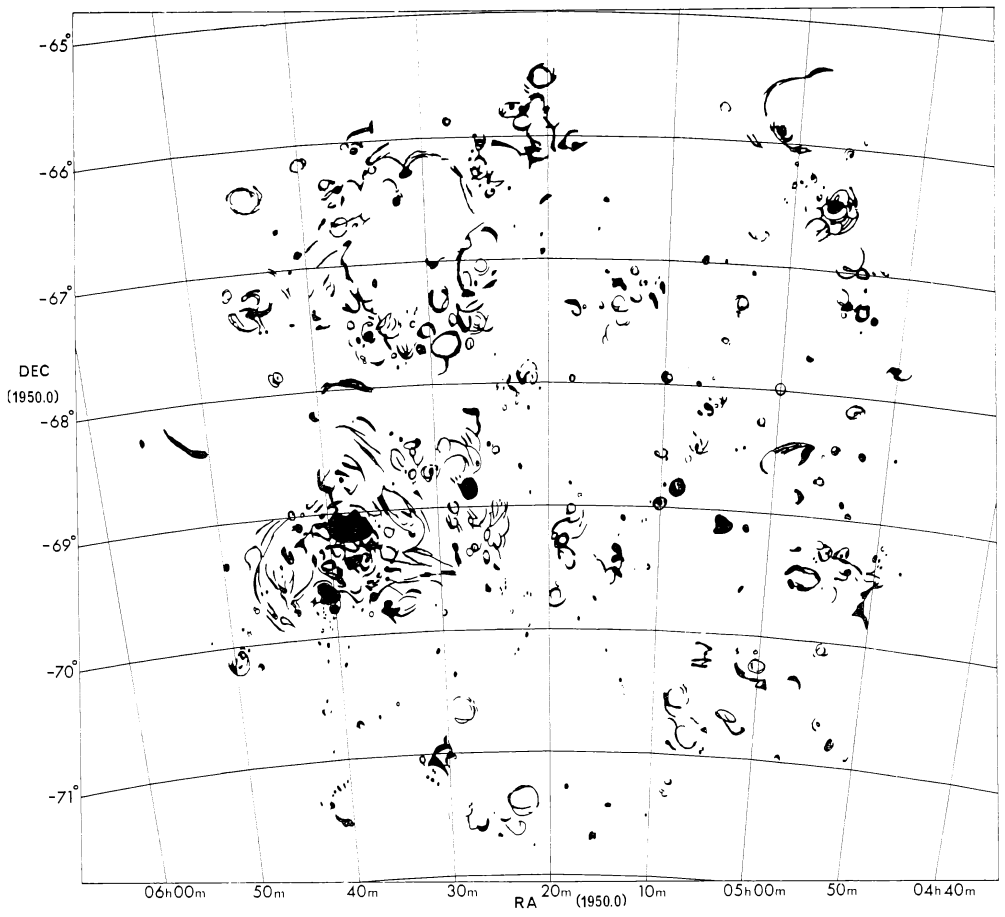

FIG. 1. *An identification chart for the nebulosities of the LMC shown in Plate I at the same scale.*

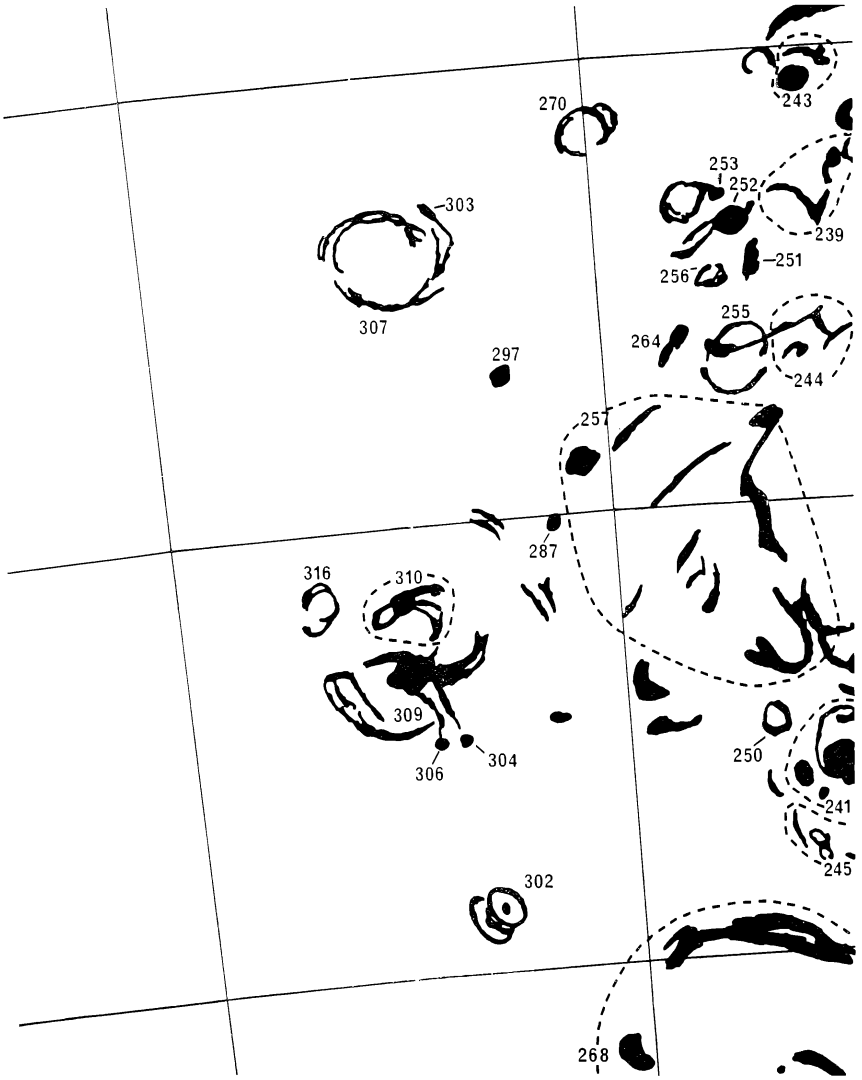

FIG. 2

FIGS 2–16. *The identification charts for the nebulosities shown in the corresponding Plates II–XVI are presented. The numbers are for nebulosities listed in Table II.*

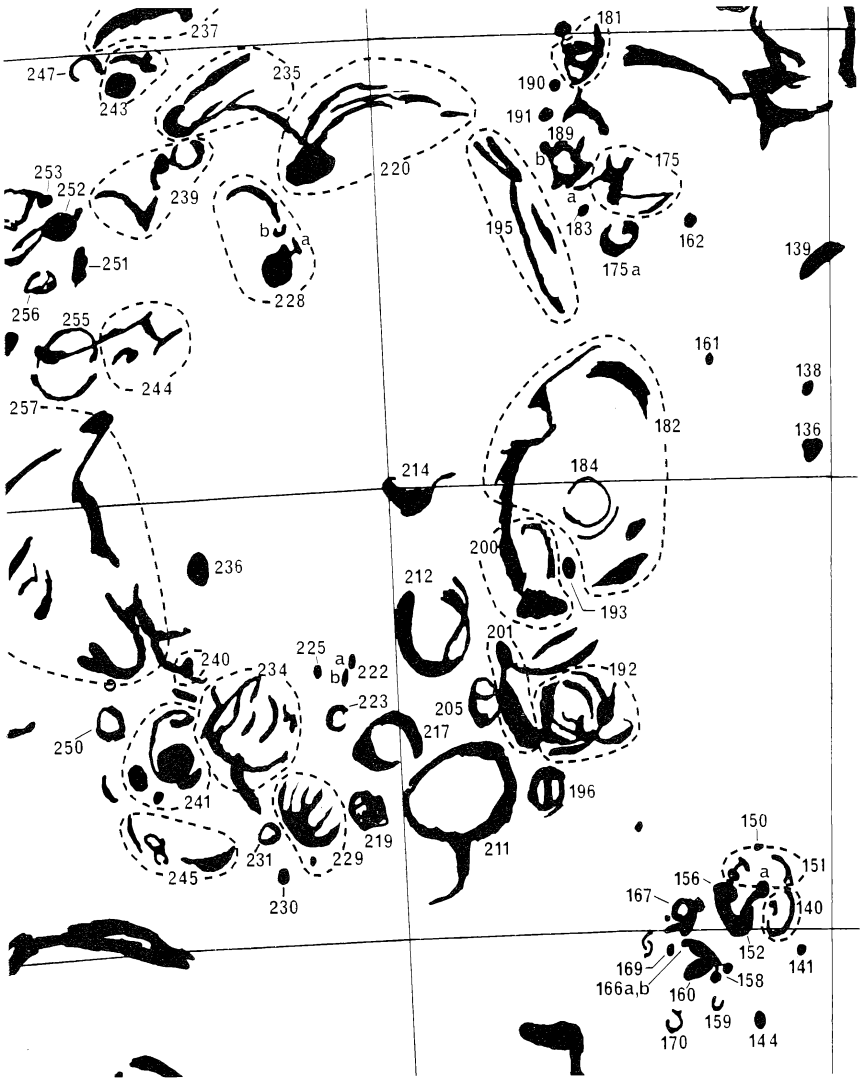

FIG. 3

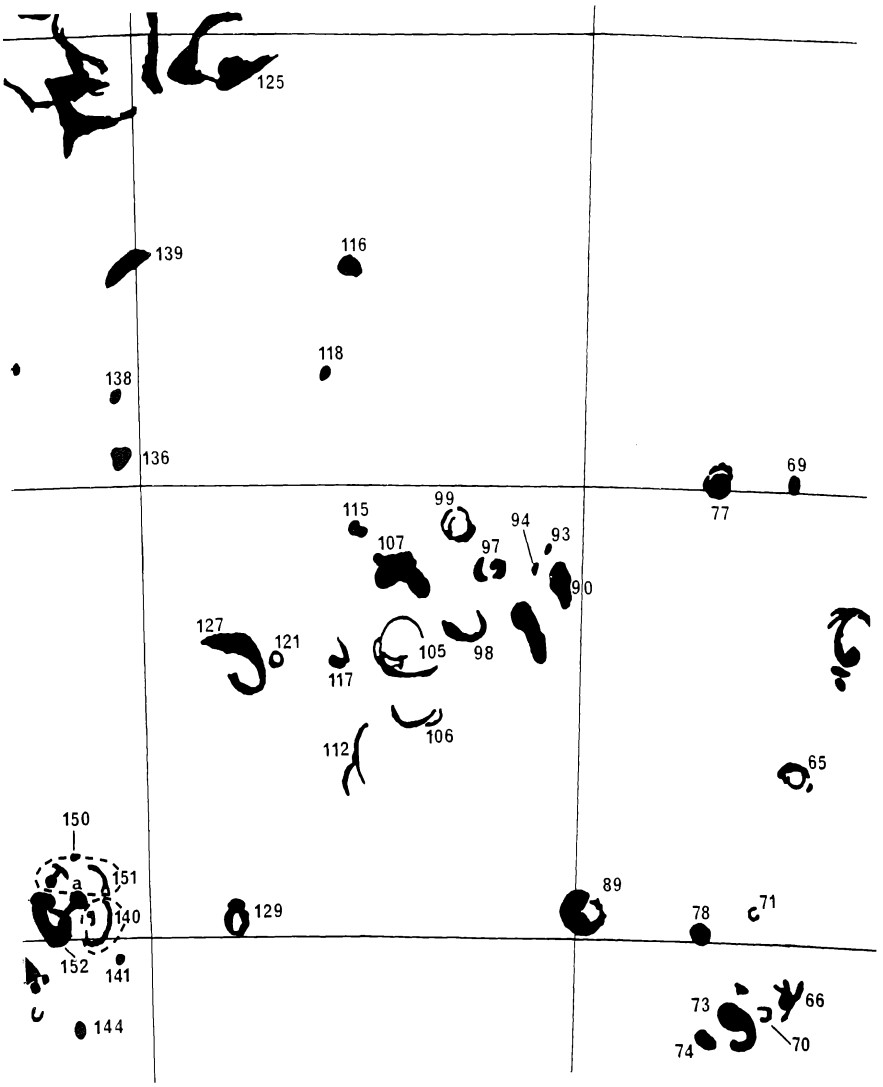

FIG. 4

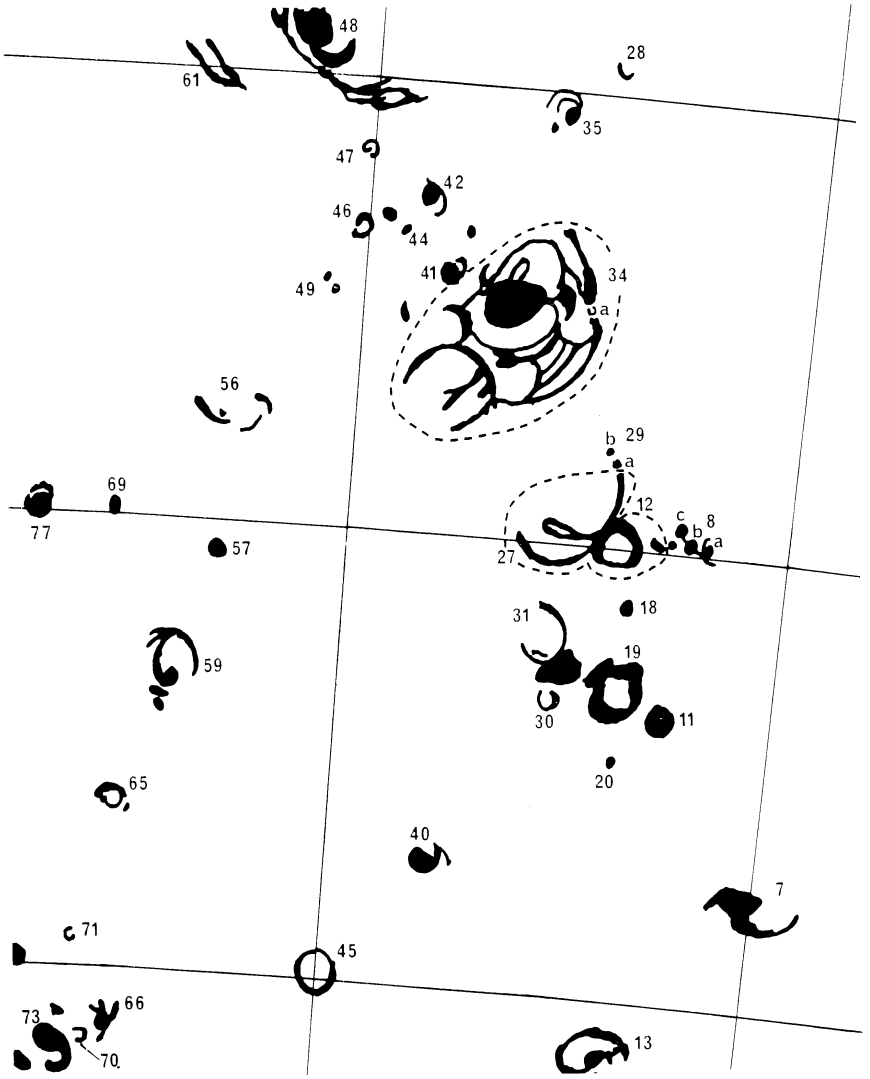

FIG. 5

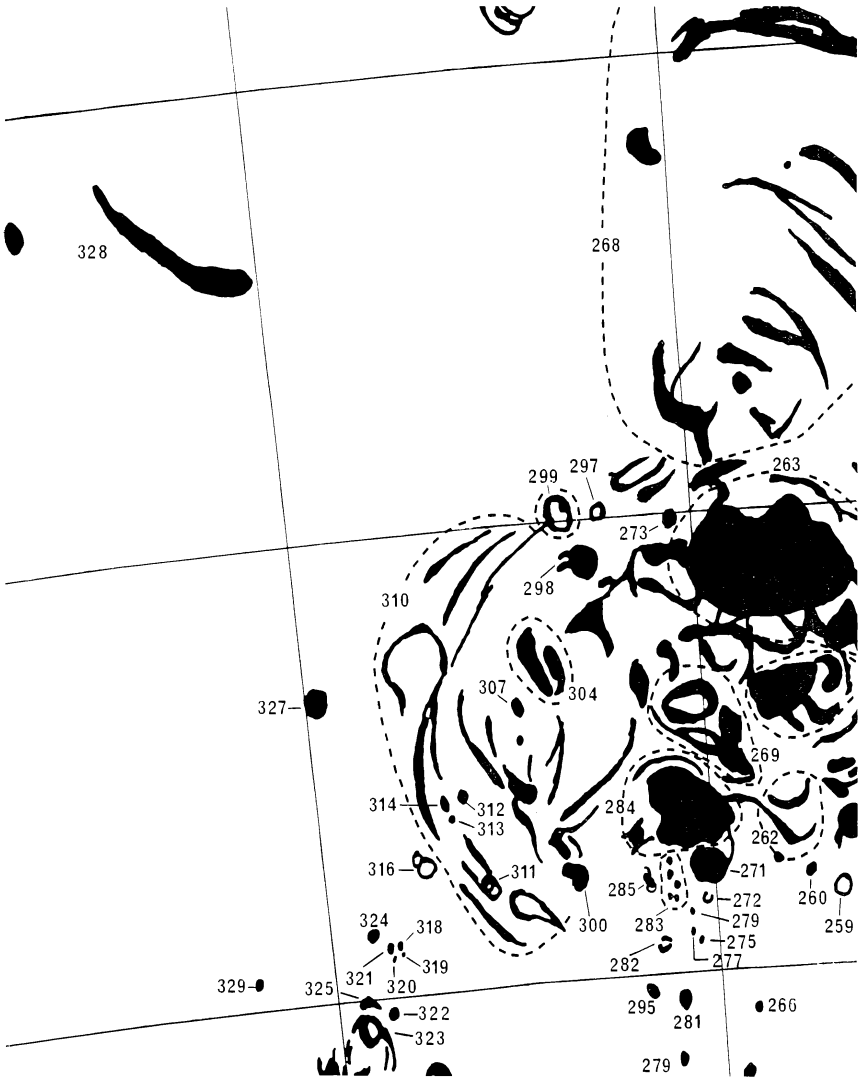

FIG. 6

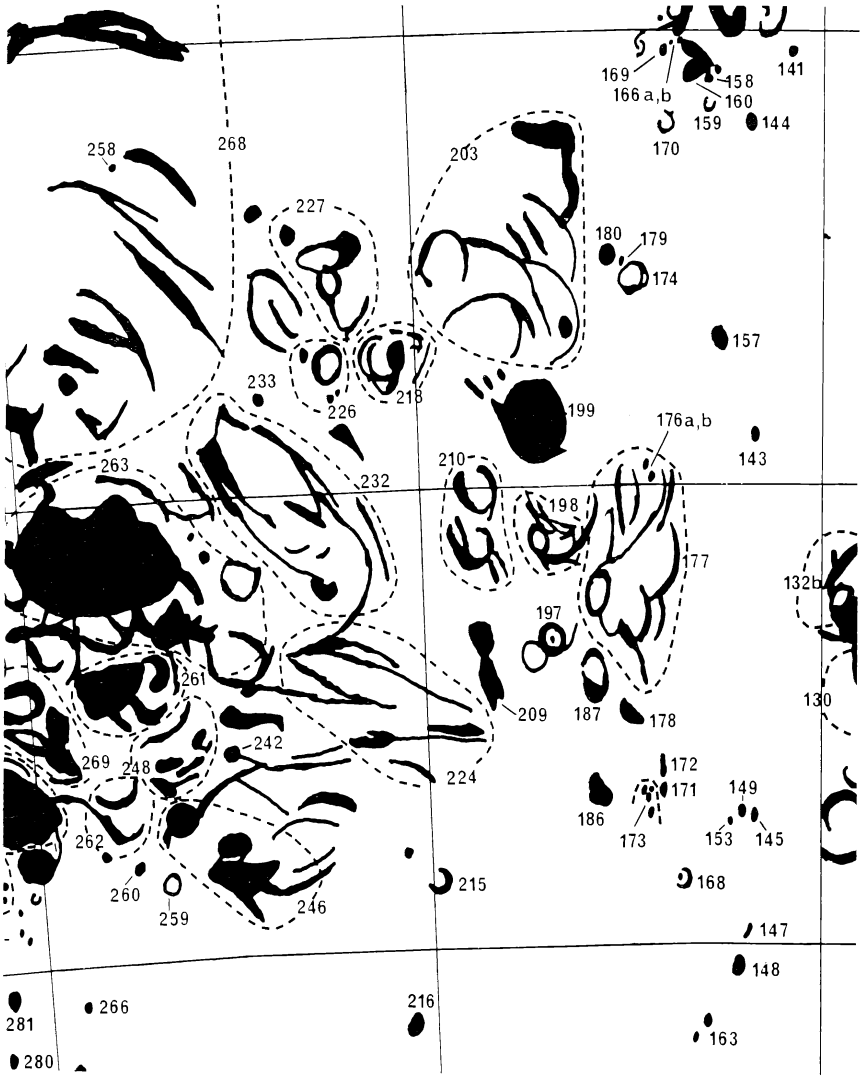

FIG. 7

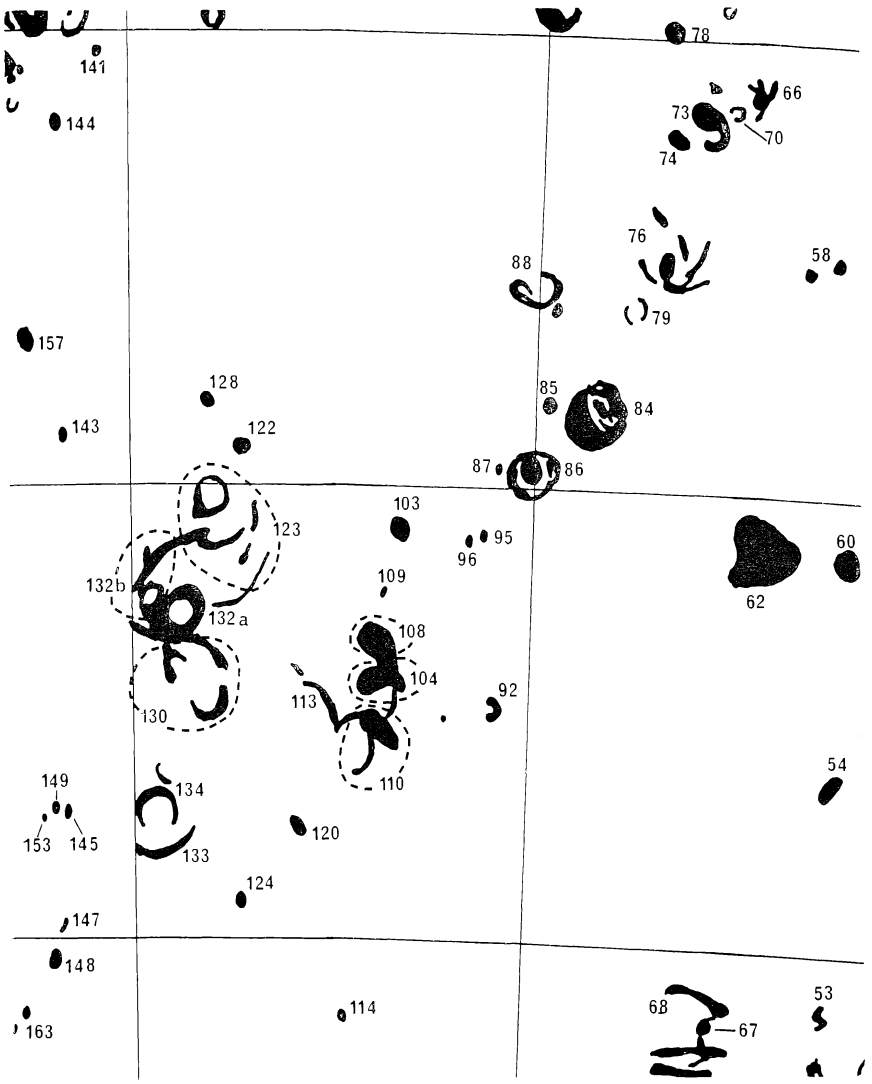

FIG. 8

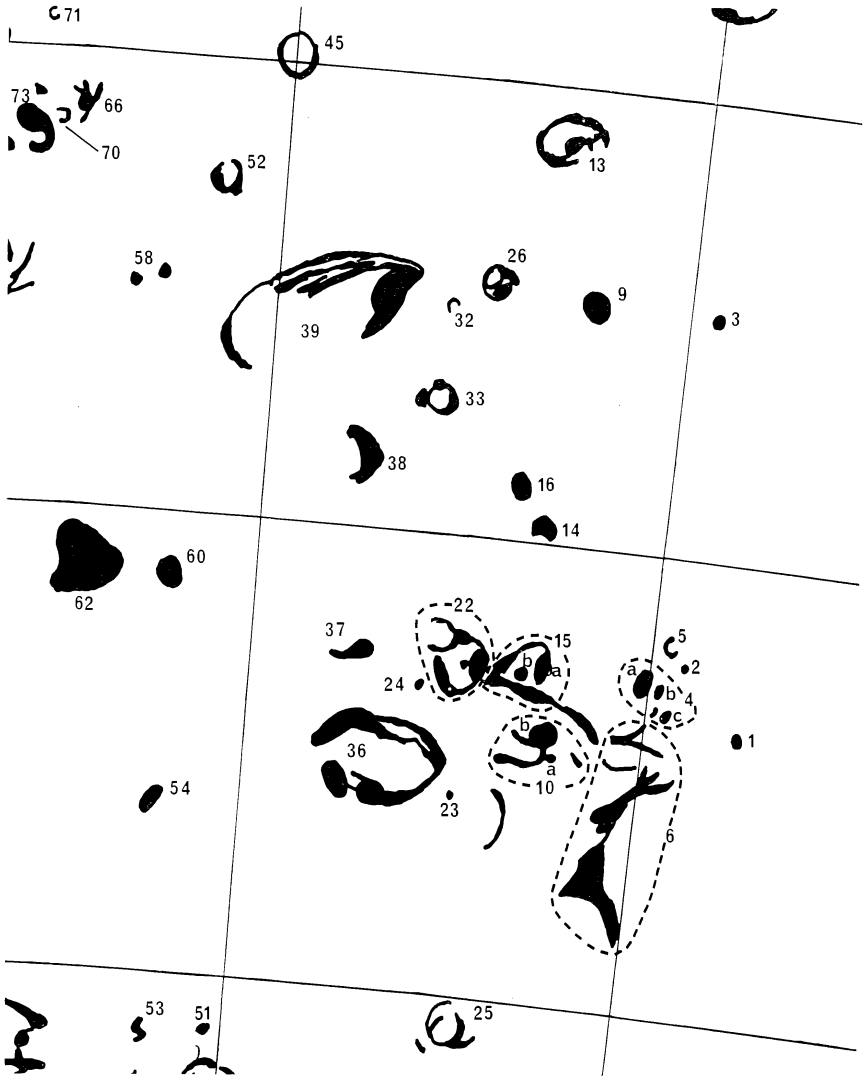

FIG. 9

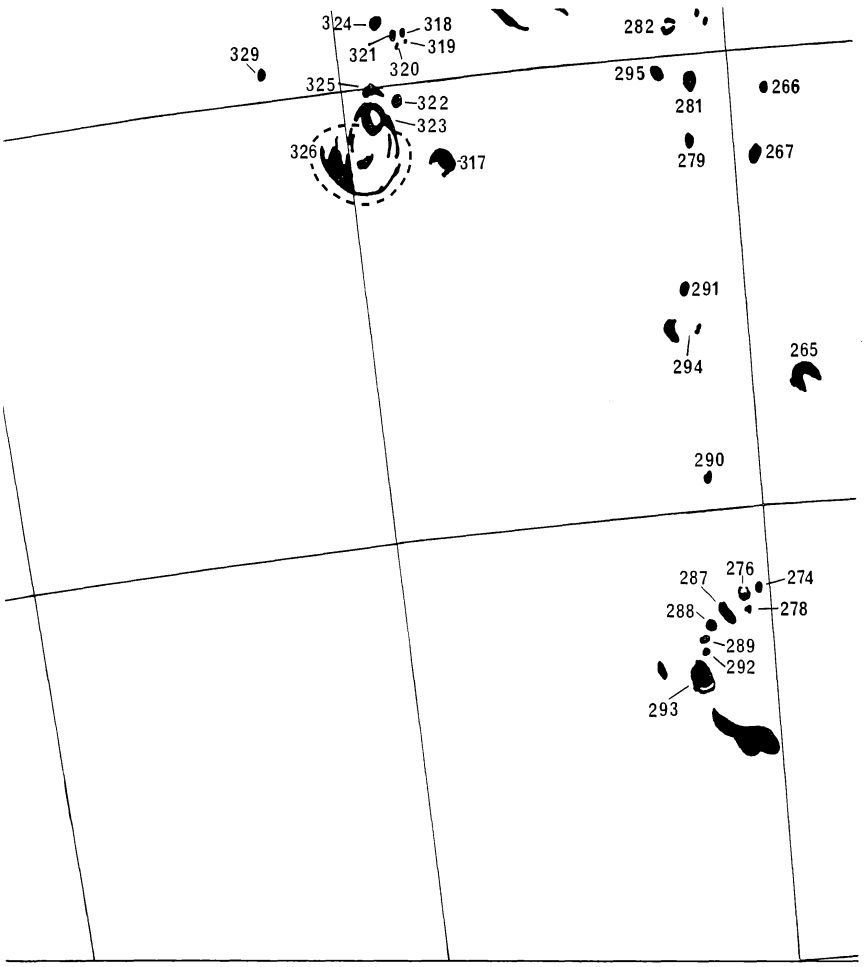

FIG. 10

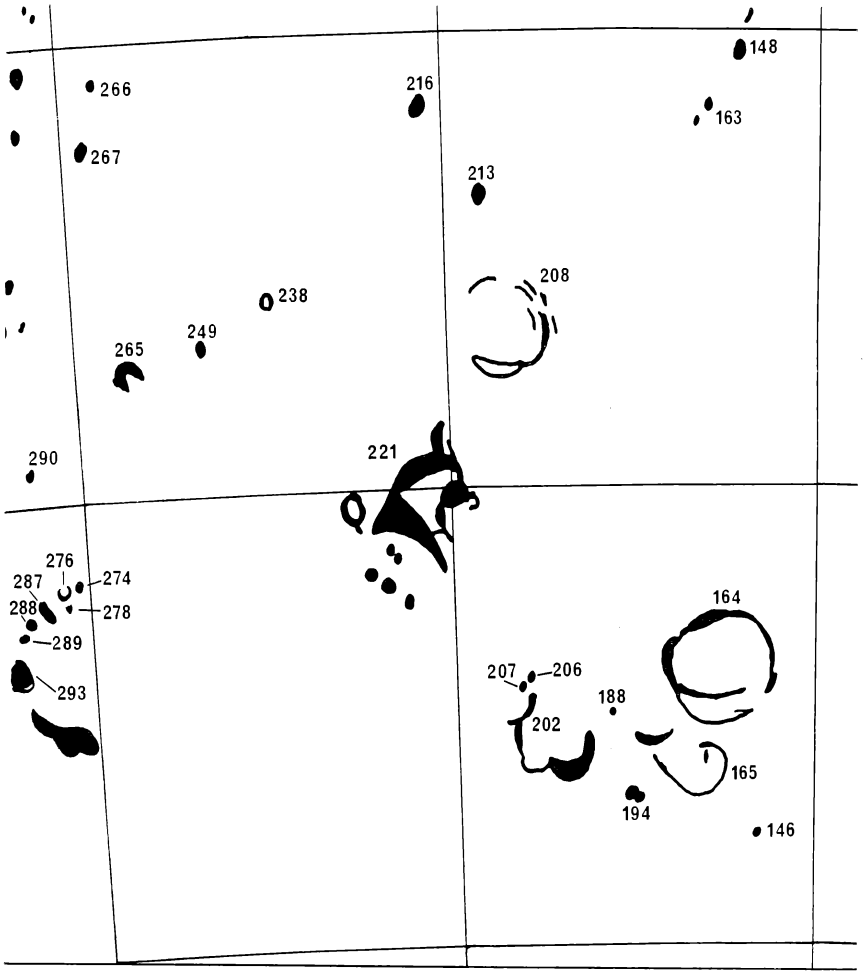

FIG. 11

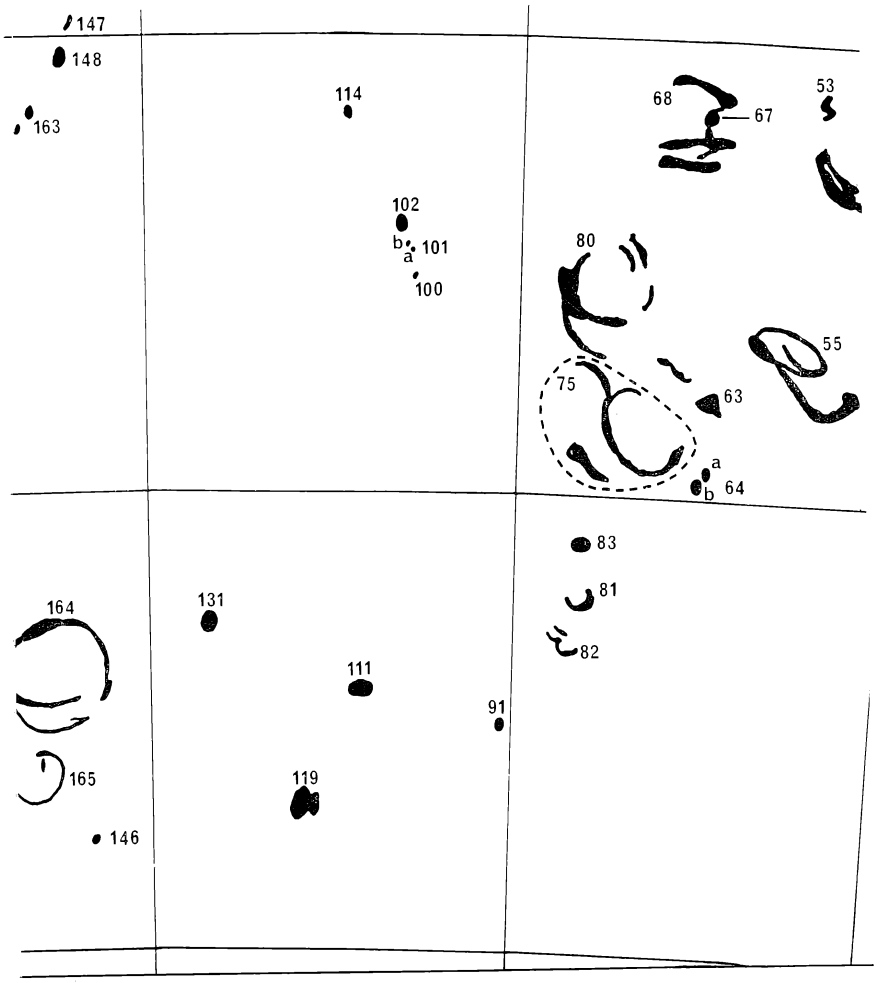

FIG. 12

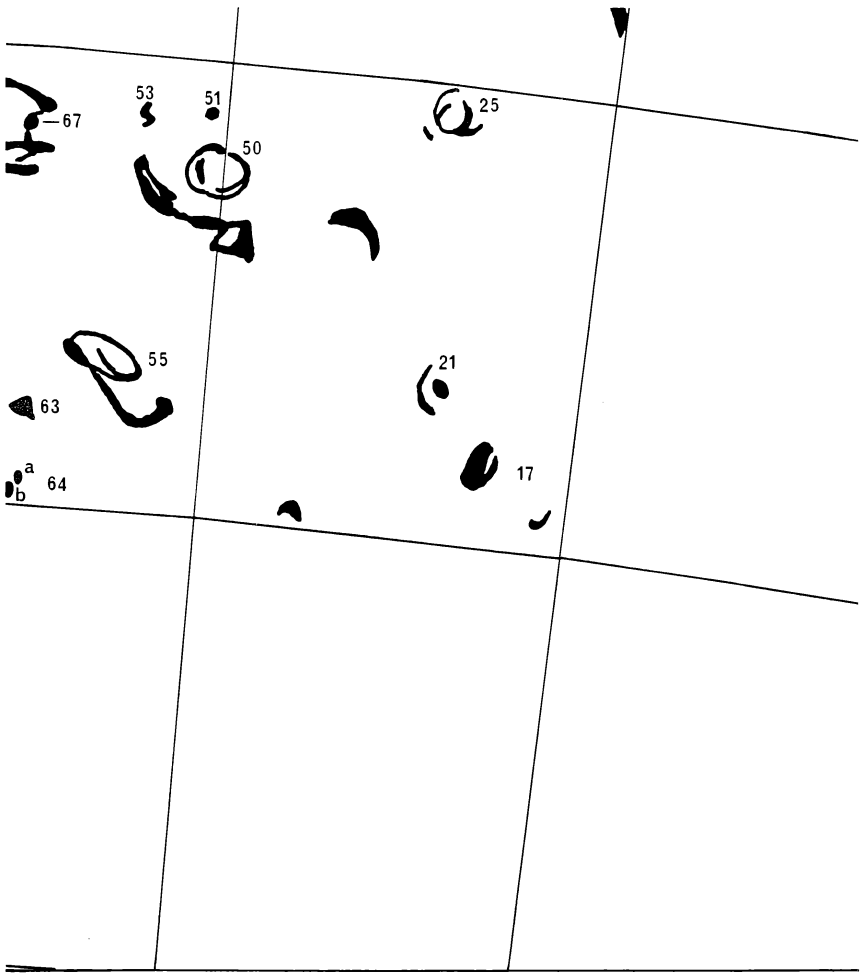

FIG. 13

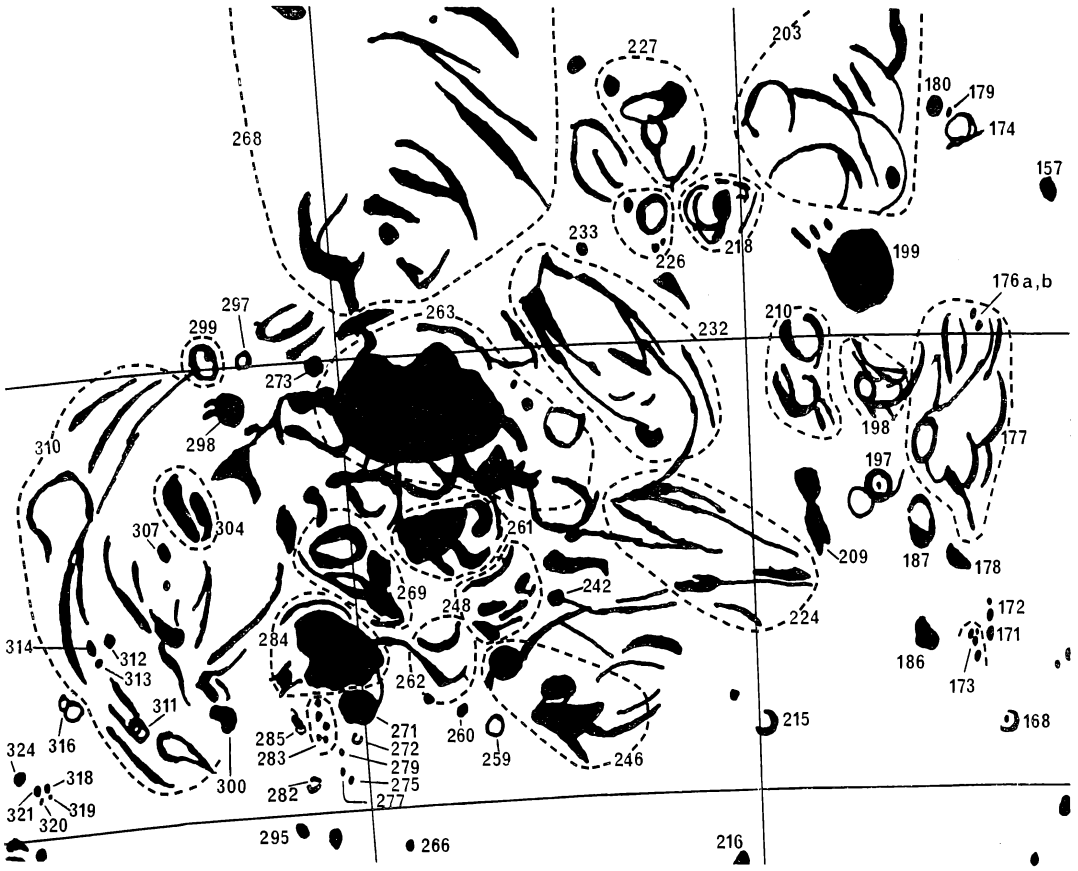

FIG. 14

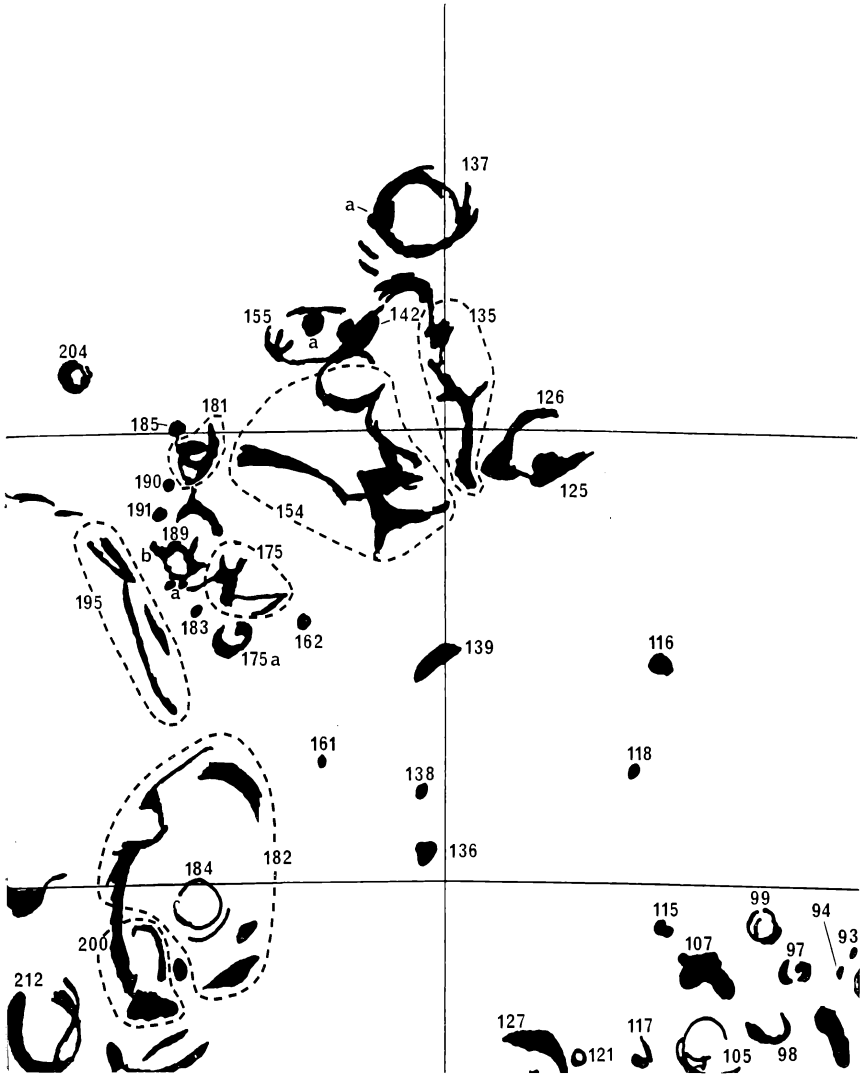

FIG. 15

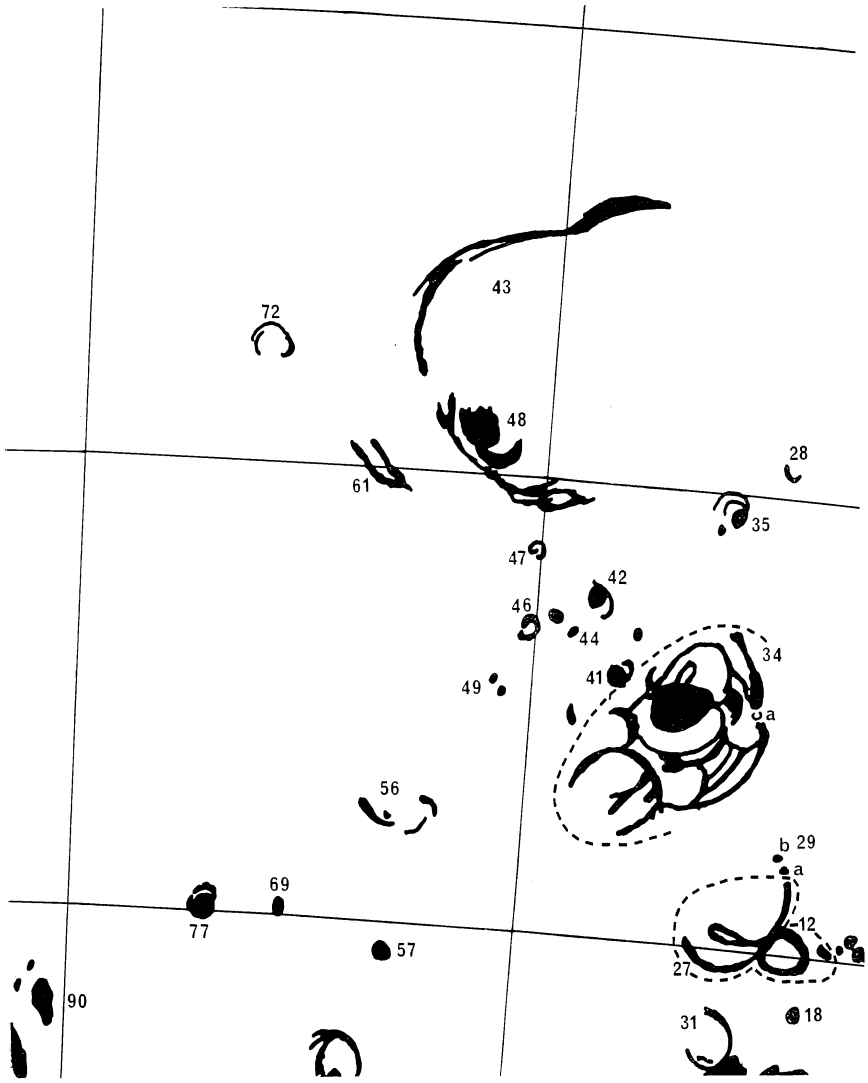

FIG. 16

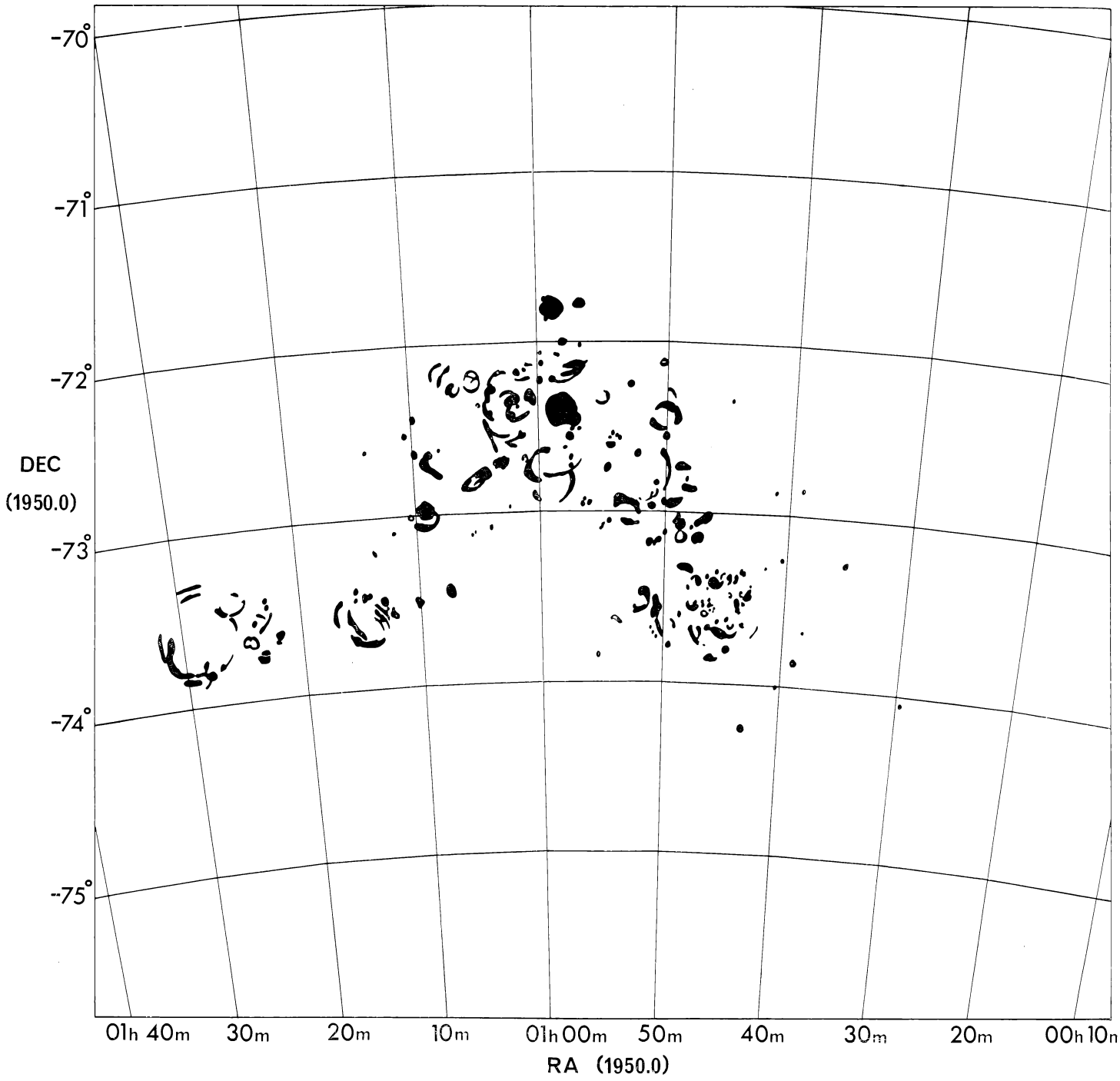

FIG. 17. *An identification chart for the nebulosities in the SMC shown in Plate XVII.*

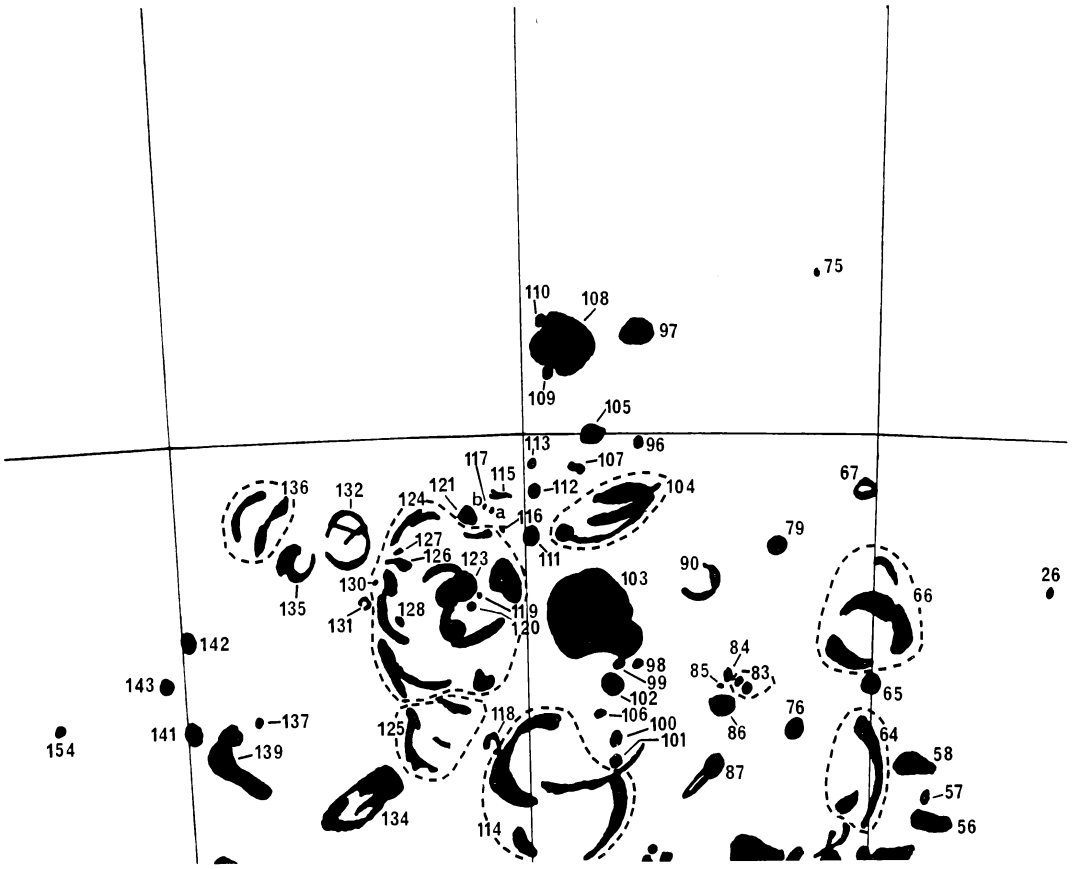

FIG. 18

FIGS 18–20. *The identification charts for the nebulosities shown in the corresponding Plates XVIII, XIX and XX are presented. The numbers are for nebulosities listed in Table III.*

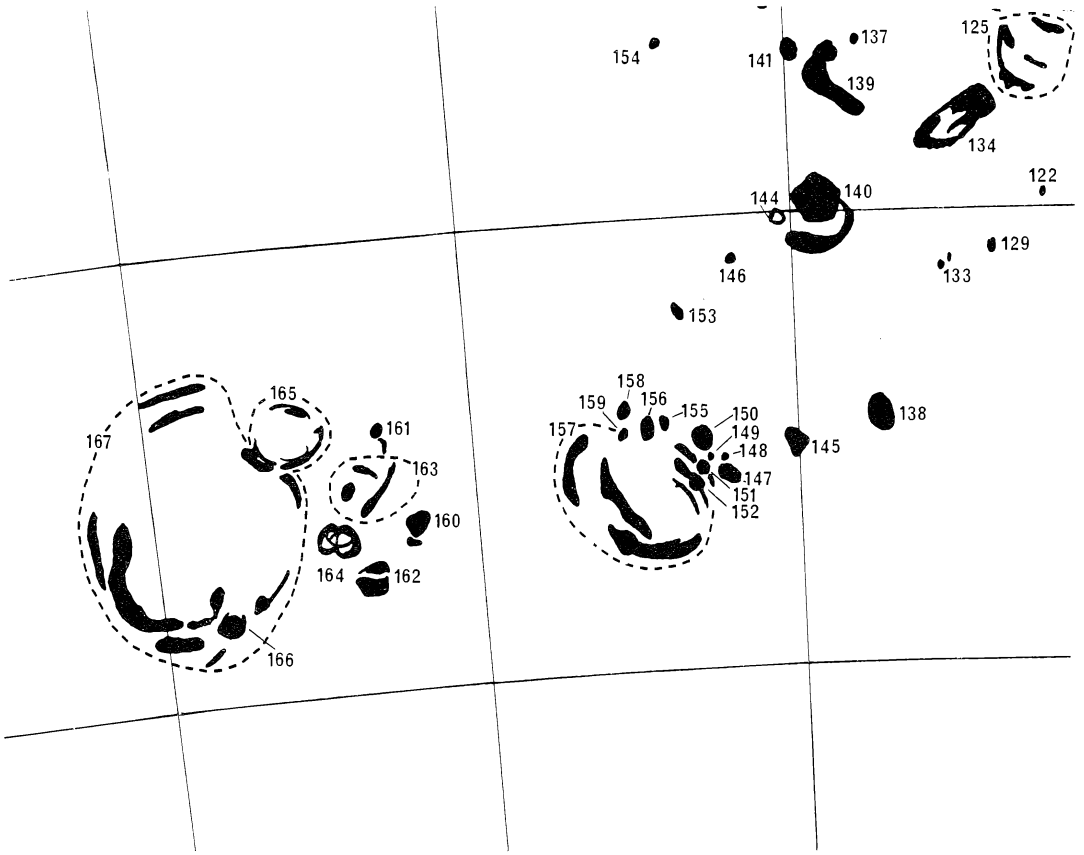

FIG. 19

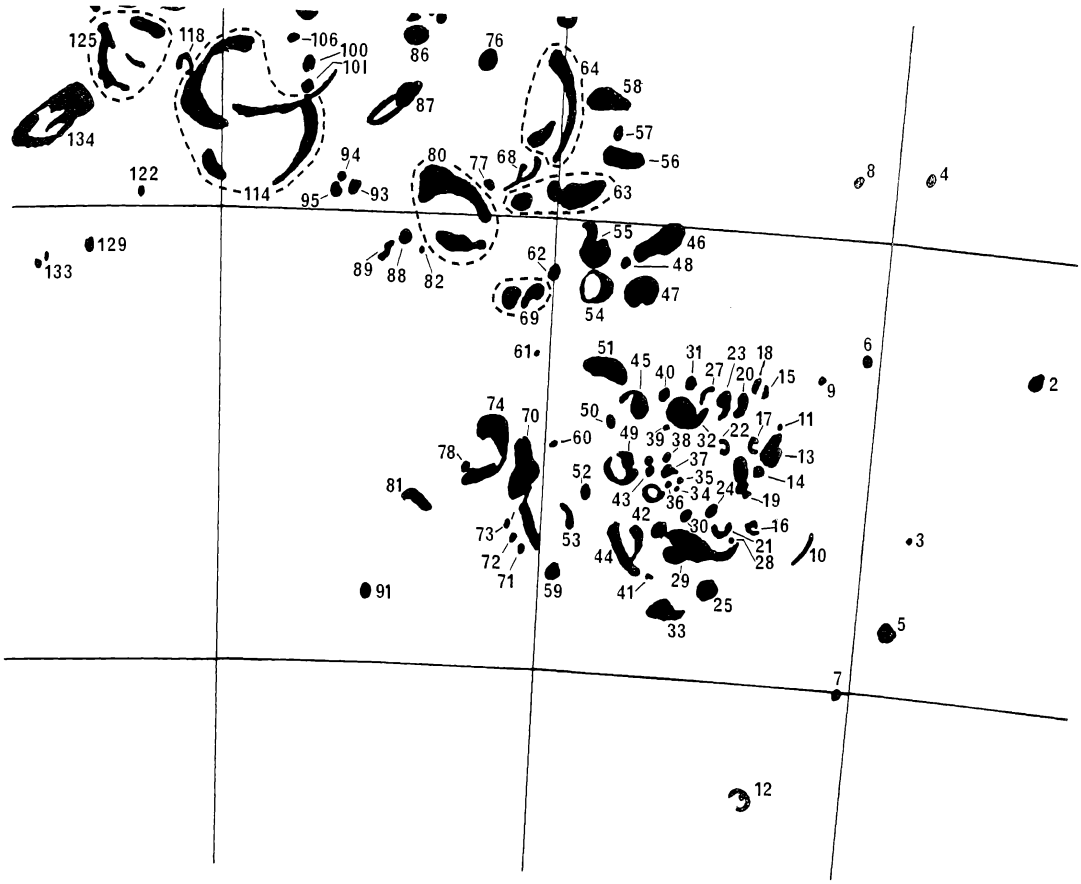

FIG. 20

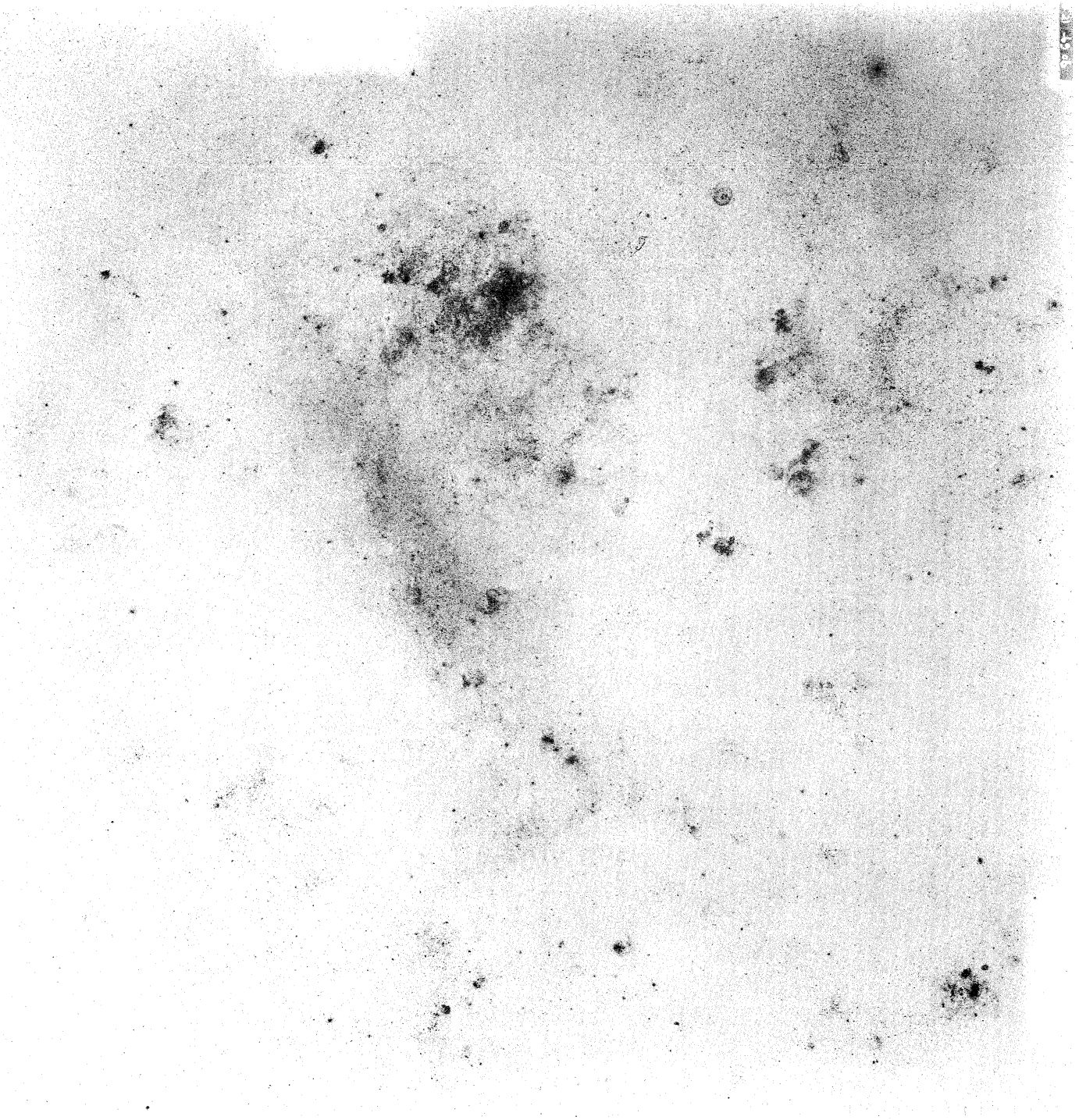

PLATE XXI. *A 1·5-hr blue (U plate) exposure of the LMC (Plate No. 1156).*

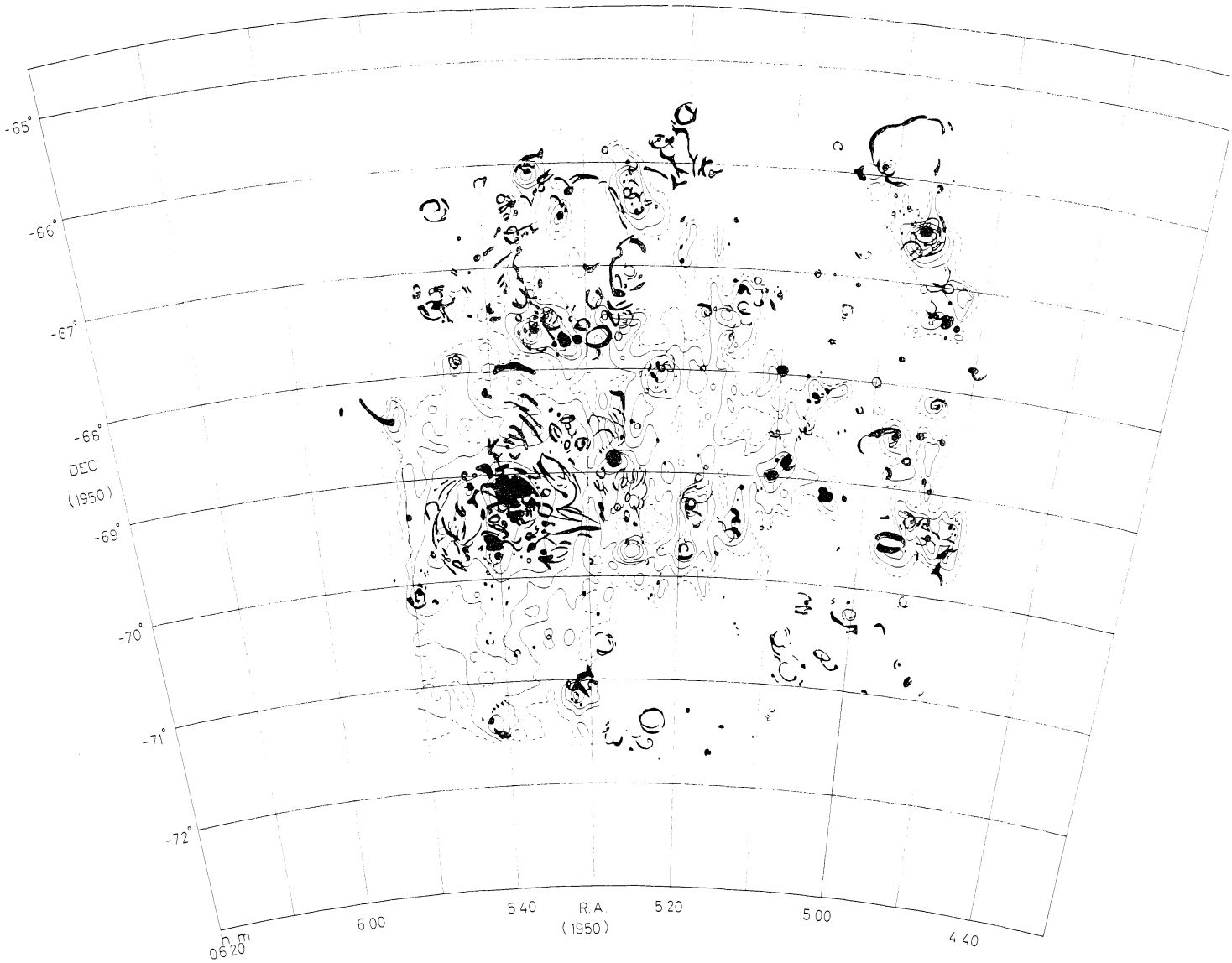

FIG. 22. *A sketch of the nebulosities found in the present survey of the SMC superposed on the map of surface brightness of neutral hydrogen by Hindman* (1967). *The H* I *contour unit is* $2{\cdot}25 \times 10^{19}$ *atom cm*$^{-2}$*; the contours given for* 25 (*broken line*), 50, 100, 150, 200, 250, . . . *units. The angular resolution of the H* I *map is* 14′·5 *arc.*

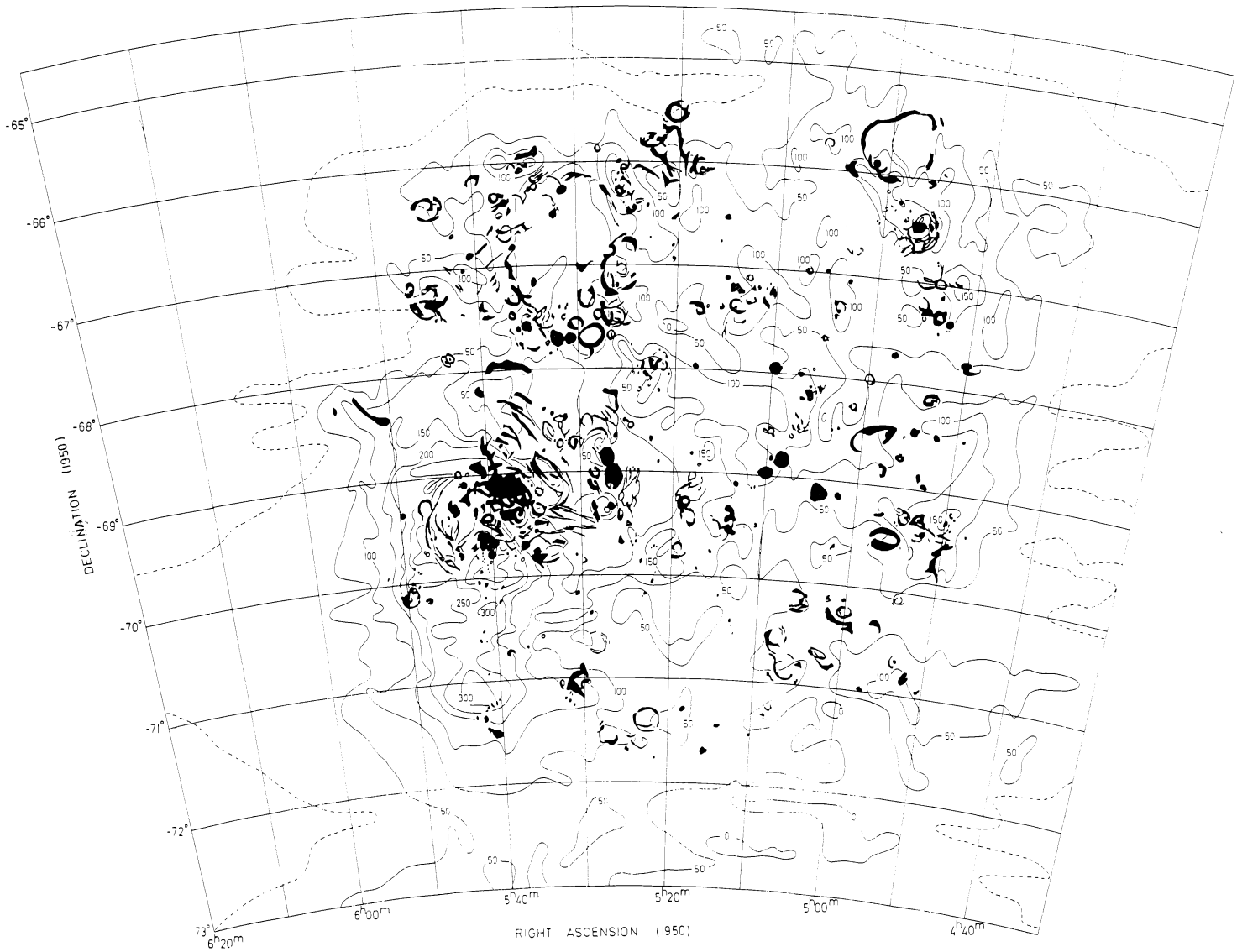

FIG. 23. *A sketch of the nebulosities found in the present survey of the LMC superposed on the* 11-*cm continuum radio map of Broten* (1962). *The contour unit is* 0·1 *K in brightness temperature; contours are plotted for* 0·5 (*broken line*), 1, 2, 4 *and* 10 *units. The angular resolution of the* 11 *cm map is* 7′·4 *arc.*