

GROUPS OF GALAXIES. III. THE CfA SURVEY

M. J. GELLER AND J. P. HUCHRA

Harvard-Smithsonian Center for Astrophysics

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ABSTRACT

We present a statistically homogeneous group catalog (CfA) based on the CfA redshift survey (Huchra *et al.*). Groups in the catalog are all density enhancements in redshift space of a factor greater than 20. Group members are identified according to the procedure described in our previous study (Huchra and Geller) of a shallower whole-sky sample. All groups contain at least three members.

Of the 176 groups in the CfA catalog, 102 have been identified in one or more previous studies. Because our algorithm searches for volume rather than surface density enhancements, the groups in a given region generally change only through the addition of fainter members when the magnitude limit of the galaxy catalog increases. In the region of overlap, agreement between our shallow catalog and the CfA catalog is excellent.

Subject headings: galaxies: clusters of — galaxies: redshifts

I. INTRODUCTION

The identification of systems of galaxies—from rich clusters to groups to binaries—has been a useful basis for dynamical studies (Gott and Turner 1977; Rood, Rothman, and Turnrose 1970; see Faber and Gallagher 1979 for additional references) and for studies of the relationship between individual galaxies and their environment (Dressler 1980; Gisler 1978; McGlynn and Ostriker 1980). Several catalogs of galaxy groups have been published (de Vaucouleurs 1975; Turner and Gott 1976; Huchra and Geller 1982, hereafter HG; Hickson 1982; Materne 1978, 1979; Tully 1980), but only a few of these are derived from catalogs for which complete redshift information is available (HG; Materne 1979; Tully 1980).

In the first paper in this series (HG) we describe an algorithm for group selection which is well-defined, objective, and easy to apply. The technique is designed to minimize biases which occur because galaxy catalogs are magnitude limited. HG includes a catalog of nearby groups of galaxies derived from a shallow, whole-sky redshift catalog.

Here, we use the techniques of HG to identify groups in the CfA redshift survey sample (Huchra *et al.* 1982, hereafter HDLT). We adopt the conventional definition of a group of galaxies: a collection of galaxies which are likely to be physically (dynamically) associated. More precisely, we identify density enhancements in “redshift space.”

Section II is a review of the group selection algorithm. Section III describes the galaxy catalog. The group catalog is in § IV. Comparison of our catalog with

previous ones shows that our selection algorithm yields reasonable results. Statistical and dynamical analyses of the group catalog are discussed in Paper II (Geller and Huchra 1983, hereafter GH) of this series.

II. REVIEW OF THE GROUP SELECTION ALGORITHM

The group selection algorithm is outlined in Figure 1 (reproduced from HG). We first choose a galaxy in the redshift catalog which has not been previously assigned to a group. We search around it for companions with projected separation from the first galaxy:

$$D_{12} = 2 \sin(\Theta/2) V / H_0 \leq D_L(v_1, v_2, m_1, m_2),$$

where

$$V = (v_1 + v_2)/2,$$

and velocity difference:

$$V_{12} = |v_1 - v_2| \leq V_L(v_1, v_2, m_1, m_2),$$

where v_1 and v_2 refer to the redshifts of the galaxy and its companion, m_1 and m_2 are their magnitudes, and Θ is their angular separation. We use a Hubble constant $H_0 = 100 \text{ km s}^{-1} \text{ Mpc}^{-1}$, but actual identification of the groups does not depend on the value of H_0 used. If no companions are found, the galaxy is entered in a list of “isolated” galaxies. All companions found are added to the list of group members. The surroundings of each companion are then searched. This loop is repeated until no further members can be found.

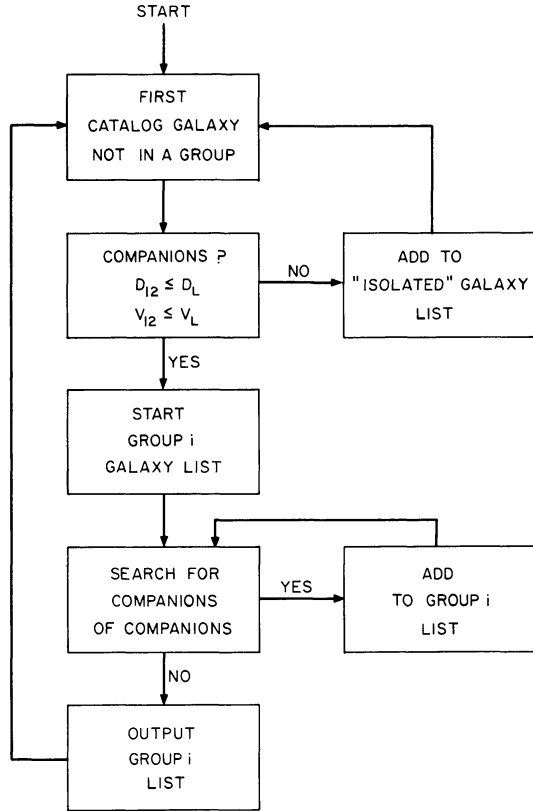


FIG. 1.—Flow chart for group selection algorithm

The prescription for D_L and V_L compensates for variation in the sampling of the galaxy luminosity function as a function of the distance of the group. We assume that the luminosity function is independent of distance and position. Thus, at larger distances, only the fainter galaxies are missing. For each pair we take

$$D_L = D_0 R \quad \text{and} \quad V_L = V_0 R,$$

where

$$R = \left[\int_{-\infty}^{M_{12}} \Phi(M) dM / \int_{-\infty}^{M_{\text{lim}}} \Phi(M) dM \right]^{-1/3},$$

where

$$M_{\text{lim}} = m_{\text{lim}} - 25 - 5 \log(V_F/H_0),$$

and

$$M_{12} = m_{12} - 25 - 5 \log(V/H_0).$$

Note that this prescription keeps the ratio D_L/V_L constant. The number density contour surrounding each group corresponds to an enhancement relative to the mean of

$$\frac{\delta \rho_N}{\rho_N} = \frac{3}{4\pi D_0^3} \left[\int_{-\infty}^{M_{\text{lim}}} \Phi(M) dM \right]^{-1} - 1.$$

The probable number of interlopers can be calculated according to the procedures given in § IV of HG. This number is a function of the mean group velocity.

III. GALAXY CATALOG AND LUMINOSITY FUNCTION

The sample analyzed here is the CfA redshift survey (Huchra *et al.* 1982). This sample contains all galaxies in the Zwicky (1961–1968, 1971) or Nilson (1973) catalogs which satisfy

$$m_{\text{pg}} \leq 14.5,$$

and

$$b_{\text{II}} \geq 40^\circ, \quad \delta \geq 0^\circ,$$

or

$$b_{\text{II}} \leq -30^\circ, \quad \delta \geq -2^\circ.5.$$

The magnitudes are on the $B(0)$ –Zwicky system (Huchra 1976). Every galaxy in the catalog has a measured redshift.

We correct the velocity of each galaxy (coordinates α_i and δ_i) in the sample for a dipole Virgocentric flow:

$$V_{\text{LSC}} = V_{\text{in}} [\sin \delta_i \sin \delta_V + \cos \delta_i \cos \delta_V \cos(\alpha_i - \alpha_V)],$$

where V_{LSC} is the correction, α_V and δ_V are the right ascension and declination of the Virgo cluster (Huchra and Davis 1983), and V_{in} is the assumed infall velocity of 300 km s^{-1} . To avoid the singularity at 0 km s^{-1} , we give all galaxies with velocities less than 300 km s^{-1} an “indicative” velocity of 300 km s^{-1} . This procedure allows us to keep the negative velocity members of Virgo and other nearby groups.

The mean velocities of all groups are limited to less than 8000 km s^{-1} , while the search for group members was made out to a velocity limit of $12,000 \text{ km s}^{-1}$. These procedures avoid throwing out either low or high velocity members for nearby groups or for groups near the 8000 km s^{-1} limit and thus biasing the group velocity dispersions. At velocities larger than 8000 km s^{-1} , uncertainties in the galaxian luminosity function (we are on the exponential portion at the bright end) produce large uncertainties in the scaling of D_L and V_L .

The luminosity function we use to calculate the group luminosity and the scaling of D_L and V_L is derived directly from the redshift catalog (Huchra 1983). For simplicity we parameterize it in the Schechter (1974) form with

$$\alpha = -1.30, \quad M^* = -19.40, \quad \phi^* = 0.0143 \text{ Mpc}^{-3}.$$

Note that these parameters differ from those in HG for the shallow catalog. The differences are due in part to

the domination of the shallow sample by the Local Supercluster. We include no absorption correction in either the luminosity function or the group selection. Because the catalog covers only regions at high galactic latitude, the effect of such a correction on group selection is negligible.

IV. THE GROUP CATALOG

Table 1 is the catalog of groups we obtain with $D_0 = 0.52$ Mpc (corresponding to a volume number density enhancement of 20 for this catalog) and $V_0 = 600$ km s⁻¹. The fiducial velocity V_F is taken as 1000 km s⁻¹ as in HG. Only groups with more than two members are shown. Column (1) is the group number, column (2) is the number of galaxies in the group, columns (3) and (4) are the 1950 right ascension and declination, columns (5) and (6) are the mean flow-corrected galactocentric velocity and line-of-sight velocity dispersion uncorrected for measurement error, column (7) is the integrated group magnitude, column (8) is the mean harmonic radius of the group as defined by equation (13) of HG, and, finally, column (9) is the mean pairwise separation as defined in equation (14) of HG. The ratio of the radii in columns (8) and (9) gives a measure of the concentration in the system. The galaxies in each group are listed in Table 2 in order of right ascension. That table lists the galaxy name, 1950 coordinates, "corrected" velocity, the quoted error in the velocity measurement (to be taken with a grain of salt—see HDLT for more details), and apparent magnitude (m_{pg}) and morphological type on the de Vaucouleurs' T system (de Vaucouleurs, de Vaucouleurs, and Corwin 1976). We have produced group catalogs from the CfA survey for a range of the selection parameters D_0 and V_0 . As in the case of the nearby sample, the group catalog we choose has selection parameters in the range for which group properties are relatively stable. The range shown in Figure 2 of HG is very similar to the one appropriate for this catalog. The search parameters are also set to agree with the choice in HG. The limiting density contour is an enhancement of a factor of 20; the velocity cut used here is larger than the cut of 400 km s⁻¹ used in HG because this sample contains rich systems near the survey limit. Identification of members of these systems would be somewhat biased by the smaller velocity cut.

We have compared our group catalog (CfA) with three earlier catalogs: (1) the nearby groups of HG, hereafter NB, (2) the nearby groups of de Vaucouleurs (1975), hereafter DV, and (3) the groups of Turner and Gott (1976), hereafter TG. Table 3 is a comparison of these catalogs with the catalog of Table 1.

Discrepancies between our group catalog and the TG catalog reflect differences in the group selection algorithms. TG define groups as *surface density* enhancements. Their limiting surface density enhancement of $10^{2/3}$ corresponds to a typical volume density enhance-

ment of at least a few hundred. One result of the surface density criterion is that the properties of the groups vary with distance. A nearby group must be more dense than a more distant one in order to be identified. Indeed, some nearby groups identified by DV and NB are missing from the TG catalog for this reason (e.g., CfA 43 and 44). The identification procedure used here is specifically designed to minimize the dependence of group properties on distance. Our membership criterion depends on projected spatial separation rather than angular separation.

Because our finding algorithm looks for volume rather than surface density enhancements, the method should yield very nearly the same groups when applied to samples which cover the same region of the sky but to different limiting magnitudes. Comparison of the NB and CfA catalogs is a check of this expectation. Every NB group in the CfA survey region is identified once again in the CfA catalog. NB groups 50 and 56 are split because of the somewhat smaller D_0 used here. NB groups 60 and 82 are linked together by faint members: they are pieces of the UMa+CVn+Coma I complex that lies on the plane of the Local Supercluster (Tully 1982). NB 72 and 73 are also linked together by faint members. Each of the 29 remaining NB groups in the region of overlap corresponds to a single group in the CfA list. In general, faint members are added. In HG we compared the NB catalog with DV and found remarkably good agreement. Obviously that agreement persists here. In Paper II we discuss the effects of the addition of faint members on the derived dynamical parameters.

The use of complete velocity information not available to Turner and Gott helps us to avoid assigning galaxies at markedly different redshifts to a single group. We do not, however, completely avoid the interloper problem. Groups which very probably contain interlopers are 2, 6, 7, 25, 26, 27, 34, 37, 41, 53, 55, 65, 70, 73, 74, 110, 119, 127, 134, 137, 162, 165, 167, 169 and 173. Of course, these assignments are subjective, *a posteriori* judgments.

In summary, differences between the CfA and TG catalogs arise from (1) nearby groups at large angular scale but small spatial scale which cannot easily be identified by a surface density criterion, (2) the increased depth of the CfA catalog ($m_{lim} = 14.5$ instead of 14.0), and (3) use of complete redshift information as a membership discriminant. TG groups which do not appear in Table 3 are either accidental superpositions (e.g., TG 9, 19, 22, 29, 36, 66, and 55) or are identified by our algorithm as binaries (e.g., TG 4, 8, 12, 14, 18, 37, 48, 65, 68, 70, 72 (two binaries), 73, 75, 76, 85, 88, 90, 93, 96, and 103). Of the latter list, six of the groups (TG 4, 12, 14, 37, 70, 72) have more than two members in the TG catalog; these extra members are interlopers. Some TG groups are superpositions of groups at different distances (e.g., TG 53 = CfA 101 and 102).

TABLE 1
GROUP PROPERTIES

NUM (1)	NGAL (2)	RA (1950) (3)	DEC (4)	V (5)	SIGMA (6)	B (7)	RH (8)	RP (9)	NUM	NGAL	RA (1950) DEC	V	SIGMA	B	RH	RP
1	3	0 12.3	16 41	4806	664	12.8	0.05	1.18	46	4	9 19.2	63 59	1895	82	11.3	0.11
2	8	0 15.4	29 57	5519	1128	11.7	0.01	0.53	47	6	9 33.6	10 3	3137	300	11.8	0.42
3	4	0 18.7	21 59	5649	468	12.6	0.02	0.26	48	4	9 39.2	11 42	6421	429	12.7	0.63
4	5	0 26.9	31 1	6567	218	12.6	0.24	1.94	49	3	9 47.4	43 58	4945	105	12.3	0.24
5	3	0 34.0	23 42	4749	470	12.7	0.00	0.00	50	8	9 49.1	32 56	1601	81	10.9	0.48
6	10	0 37.6	1 50	4727	562	11.4	0.05	1.00	51	3	9 50.2	28 34	1594	184	12.3	0.55
7	7	0 47.7	- 2 5	4228	617	11.6	0.07	1.68	52	5	9 58.1	69 0	334	113	7.5	0.13
8	12	0 48.5	30 10	5089	294	10.9	0.18	2.00	53	7	9 59.0	14 47	3531	709	11.8	0.07
9	16	1 10.0	31 48	4886	405	11.1	0.03	0.50	54	3	10 1.3	59 41	3207	171	12.8	0.11
10	5	1 10.5	- 0 46	5250	180	12.4	0.04	0.25	55	3	10 5.4	19 35	3629	522	13.0	0.06
11	4	1 13.8	4 24	5199	94	12.2	0.54	1.89	56	3	10 5.6	47 0	1036	312	11.0	0.06
12	5	1 18.9	4 19	2107	79	10.6	0.11	0.33	57	4	10 11.0	3 36	1379	20	10.6	0.07
13	8	1 21.4	9 11	2331	206	11.2	0.03	0.26	58	10	10 16.8	21 1	1432	220	10.1	0.02
14	4	1 21.9	1 27	5143	429	11.9	0.05	0.75	59	3	10 17.8	43 14	7144	186	13.1	0.02
15	13	1 25.2	- 1 32	5132	360	11.3	0.05	0.70	60	4	10 27.3	22 23	1591	33	11.1	0.31
16	4	1 36.0	5 40	3029	75	12.5	0.35	0.99	61	3	10 30.4	22 23	1546	94	11.8	0.45
17	6	1 37.0	14 52	617	87	9.8	0.07	0.23	62	4	10 33.5	13 49	3105	59	12.2	0.29
18	4	1 45.2	27 36	3593	206	11.8	0.11	0.87	63	4	10 34.2	64 35	1860	386	10.9	0.03
19	8	1 46.0	11 48	5085	284	11.7	0.14	1.46	64	3	10 43.0	73 20	1485	57	12.5	0.73
20	7	1 47.6	21 33	2803	153	11.2	0.04	0.25	65	4	10 43.4	6 55	7230	1289	12.3	0.03
21	3	1 48.3	5 10	1443	116	10.3	0.09	0.38	66	3	10 46.3	14 14	3169	92	11.7	0.20
22	5	1 50.1	28 10	246	288	6.4	0.01	0.09	67	8	10 48.6	33 51	1928	174	10.7	0.03
23	3	1 51.9	5 55	5069	281	12.3	0.14	1.47	68	23	10 49.6	15 31	1188	234	8.5	0.05
24	6	1 57.3	25 0	4948	89	12.1	0.23	0.76	69	3	10 50.5	72 52	2995	144	11.7	0.13
25	5	2 2.4	14 38	3986	433	12.4	0.02	0.34	70	7	10 51.6	9 1	7884	1836	11.9	0.04
26	4	2 3.6	29 15	5228	871	12.6	0.02	0.77	71	7	10 52.0	28 19	1651	126	10.8	0.07
27	4	2 9.8	4 31	3494	601	12.7	0.05	1.15	72	5	10 55.6	50 25	7422	355	12.5	0.15
28	5	2 25.3	- 1 36	1328	146	10.9	0.03	0.16	73	10	11 1.1	46 8	7620	1624	11.3	0.02
29	6	2 27.7	20 14	4164	224	11.7	0.10	0.80	74	9	11 5.3	5 8	7714	961	11.9	0.07
30	12	2 31.7	0 51	6191	290	11.5	0.14	1.51	75	3	11 13.5	43 14	1025	33	10.8	0.83
31	3	2 35.7	10 53	3378	85	12.7	0.08	0.26	76	7	11 18.2	3 36	1803	417	10.9	0.01
32	5	2 42.7	- 0 10	1050	223	9.4	0.05	0.39	77	13	11 18.7	17 57	1316	235	9.9	0.25
33	3	2 43.9	3 30	6510	312	12.8	0.17	1.94	78	9	11 19.4	12 11	1200	327	8.8	0.04
34	7	2 47.8	- 0 40	7207	947	11.8	0.01	0.41	79	4	11 20.8	39 0	2352	30	11.2	0.13
35	5	2 54.9	2 51	2849	142	12.1	0.08	0.44	80	3	11 27.3	28 24	7292	112	13.1	0.24
36	4	3 13.3	- 0 29	6481	282	12.7	0.14	1.44	81	5	11 27.7	22 55	6820	462	12.6	0.20
37	3	3 17.7	- 2 7	7439	992	13.1	0.04	1.65	82	6	11 28.3	62 48	3769	190	11.7	0.09
38	4	4 28.2	0 21	3452	109	12.1	0.03	0.11	83	3	11 30.9	0 52	6075	36	12.4	0.11
39	4	8 55.2	51 58	4576	541	12.1	0.02	0.33	84	6	11 31.9	36 13	2136	408	11.7	0.05
40	4	9 3.7	36 49	7254	122	12.8	0.45	2.04	85	3	11 33.7	55 15	5955	118	13.0	0.10
41	4	9 7.6	50 25	4943	486	12.5	0.01	0.15	86	3	11 35.1	32 26	2911	52	12.4	0.08
42	3	9 11.4	30 9	6652	521	12.8	0.03	0.62	87	4	11 37.5	25 18	3783	198	12.6	0.05
43	5	9 12.1	34 36	2014	157	10.9	0.07	0.42	88	10	11 37.8	17 6	3593	238	11.3	0.05
44	3	9 12.2	52 45	926	146	10.2	0.10	0.52	89	7	11 39.9	10 3	6282	220	11.8	0.08
45	4	9 16.8	41 17	1912	172	12.4	0.01	0.07	90	22	11 44.0	20 35	6600	641	10.7	0.06

TABLE 1—Continued

NUM	NGAL	RA (1950)	DEC	V	SIGMA	B	RH	RP	NUM	NGAL	RA (1950)	DEC	V	SIGMA	B	RH	RP
91	9	11 44.4	59 40	3508	315	10.9	0.04	0.48	136	4	14 15.4	7 26	7768	213	12.8	0.20	1.60
92	10	11 52.3	25 46	4452	513	11.8	0.04	0.72	137	3	14 15.8	13 15	7260	943	13.2	0.09	3.03
93	7	11 53.5	32 40	3438	86	11.7	0.07	0.21	138	4	14 16.4	40 11	5912	238	12.6	0.10	0.86
94	170	11 53.8	47 47	1359	539	6.4	0.05	0.92	139	6	14 18.7	3 29	1784	115	10.7	0.03	0.12
95	3	11 55.7	28 6	3716	81	12.5	0.15	0.46	140	3	14 20.4	14 46	2576	54	12.6	0.27	0.54
96	4	12 0.0	17 24	4467	437	12.4	0.10	1.56	141	13	14 21.8	36 15	3837	488	10.6	0.00	0.02
97	3	12 0.0	19 22	1275	214	11.9	0.04	0.29	142	3	14 27.7	14 10	5475	77	13.0	0.09	0.27
98	7	12 2.1	20 38	7188	483	12.2	0.02	0.28	143	6	14 27.9	29 56	4328	413	11.8	0.11	1.67
99	14	12 3.9	68 29	2845	231	10.5	0.13	1.11	144	3	14 28.2	58 12	2319	36	11.5	0.87	1.17
100	4	12 5.3	2 29	1627	314	10.9	0.03	0.37	145	13	14 34.4	4 10	1883	237	10.1	0.12	1.06
101	11	12 6.8	29 37	3974	339	11.2	0.04	0.47	146	4	14 39.2	38 52	4476	511	12.6	0.04	0.81
102	3	12 7.0	25 56	6702	384	13.0	0.10	1.47	147	3	14 47.5	35 22	1737	262	13.2	0.01	0.09
103	3	12 18.4	49 35	4274	273	12.6	0.09	0.88	148	5	14 50.9	3 44	1778	89	11.4	0.03	0.09
104	3	12 18.5	58 23	3408	63	12.0	0.67	1.56	149	4	14 55.8	49 58	4450	76	12.5	0.10	0.27
105	3	12 23.2	9 23	7552	290	13.0	0.00	0.03	150	11	15 3.2	1 57	1966	365	10.0	0.03	0.39
106	248	12 27.8	10 33	1495	686	6.3	0.04	1.08	151	4	15 11.0	55 14	3593	144	11.6	0.11	0.58
107	13	12 29.6	74 31	1956	181	10.4	0.10	0.70	152	4	15 15.1	56 35	1055	56	10.3	0.25	0.52
108	3	12 30.8	64 10	2993	108	12.1	0.09	0.37	153	3	15 24.5	41 28	2938	65	12.7	0.02	0.04
109	3	12 33.5	26 49	7424	507	12.8	0.05	0.91	154	3	15 29.2	68 21	6902	98	12.7	0.46	1.67
110	3	12 35.9	0 47	7892	1374	13.0	0.06	2.97	155	6	15 32.3	43 26	6020	120	12.1	0.10	0.43
111	3	12 38.8	26 32	5015	47	12.9	0.09	0.15	156	4	15 32.5	15 40	2228	104	11.6	0.02	0.07
112	6	12 42.4	54 42	5267	238	12.1	0.10	0.88	157	3	15 33.9	12 9	2185	82	11.7	0.11	0.33
113	30	12 58.0	28 18	7275	766	10.3	0.01	0.22	158	5	15 38.5	59 20	3147	208	11.2	0.04	0.29
114	3	13 4.1	35 43	5103	32	12.8	0.91	1.09	159	3	15 46.6	18 46	3999	439	12.4	0.04	0.61
115	8	13 9.7	37 11	1187	239	9.8	0.05	0.45	160	4	15 57.2	48 37	6355	44	12.8	0.79	1.31
116	5	13 18.3	45 33	747	124	8.4	0.03	0.14	161	3	16 1.6	21 6	5006	123	12.8	0.34	1.59
117	3	13 22.8	14 39	7357	208	12.6	0.08	0.63	162	3	22 34.0	20 6	6106	934	12.7	0.07	2.51
118	3	13 23.1	36 30	5689	177	12.7	0.03	0.20	163	7	22 58.7	15 37	2086	185	11.3	0.01	0.08
119	11	13 25.4	32 41	6836	1128	11.6	0.05	2.17	164	3	23 12.6	12 51	4445	171	13.1	0.12	0.78
120	3	13 28.0	17 44	7017	147	12.8	0.46	2.53	165	5	23 14.5	24 18	7997	1261	12.2	0.05	2.36
121	3	13 32.7	14 0	7225	108	12.4	0.06	0.26	166	8	23 18.4	8 15	3422	232	11.2	0.04	0.37
122	13	13 46.5	60 46	2693	535	10.3	0.03	0.63	167	5	23 20.0	26 43	5434	1142	12.1	0.04	1.85
123	17	13 49.2	41 8	2763	164	9.8	0.08	0.48	168	4	23 25.3	23 22	3487	58	11.5	0.22	0.47
124	6	13 51.3	5 14	1433	242	10.3	0.02	0.19	169	3	23 30.2	24 39	6736	1426	13.1	0.05	2.40
125	8	13 53.4	14 37	6686	777	12.1	0.05	1.34	170	3	23 33.1	15 25	4010	15	12.8	1.05	1.19
126	6	13 54.0	37 55	3746	250	11.3	0.03	0.29	171	3	23 35.9	4 24	5973	266	13.2	0.18	1.83
127	5	13 56.2	6 49	5227	1140	12.2	0.01	0.43	172	4	23 42.1	3 34	2815	41	12.6	0.08	0.12
128	6	13 58.7	54 21	603	61	8.4	0.12	0.26	173	10	23 47.5	27 35	7901	1031	11.7	0.05	1.99
129	4	13 59.9	39 8	5879	306	12.4	0.07	0.81	174	3	23 51.0	7 38	5158	108	12.4	0.03	0.13
130	11	14 0.4	9 25	6045	1073	11.5	0.02	0.93	175	3	23 54.7	16 14	1718	30	12.8	0.77	0.85
131	4	14 1.2	35 24	4202	95	12.1	0.10	0.34	176	3	23 59.9	31 10	4936	71	13.1	0.02	0.07
132	6	14 2.9	55 31	2144	282	11.1	0.03	0.29									
133	3	14 7.7	18 7	5483	231	12.8	0.06	0.55									
134	8	14 9.9	14 55	5870	1364	11.9	0.04	1.84									
135	19	14 14.6	49 30	2402	214	10.0	0.14	1.13									

TABLE 2
GROUP CATALOG

GROUP NUMBER I 4 N 57 0013+1548	1	0 10.8 0 12.9 0 13.2	3 GALAXIES + 17 13 + 17 3 + 15 48	4933 35 5397 22 4087 35	14.20 20 13.70 -7 14.00 20	GROUP NUMBER N 183 I 43 N 233 0043+2958 N 266 0049+2924 0050+2845 N 295 N 311 N 315 0055+3113 N 338	8	0 35.8 0 39.7 0 41.0 0 43.7 0 47.1 0 49.4 0 50.2 0 52.4 0 54.8 0 55.1 0 57.9	12 GALAXIES + 29 15 + 29 22 + 30 19 + 29 58 + 32 0 + 29 24 + 28 45 + 31 16 + 30 0 + 30 5 + 31 13 + 30 24	5396 31 4853 10 5427 27 4997 21 4706 23 5542 20 4968 20 5486 27 5036 16 4910 18 4990 18 4755 35	13.80 -7 14.40 5 13.80 -7 14.50 1 12.60 1 14.30 0 14.10 15 13.50 5 14.10 -2 12.50 0 14.40 0 14.00 3
GROUP NUMBER N 39 N 43 0011+3037 N 68 N 70 N 76 N 97 N 108	2	0 9.7 0 10.4 0 11.3 0 15.7 0 15.8 0 17.0 0 19.9 0 23.3	8 GALAXIES + 30 47 + 30 39 + 30 37 + 29 48 + 29 48 + 29 40 + 29 28 + 28 56	4880 42 4802 22 4751 30 5720 29 7155 32 7376 34 4734 27 4736 25	14.40 5 13.90 -2 14.20 15 14.05 -3 14.50 5 14.00 15 13.50 -7 13.30 -2	GROUP NUMBER N 380 N 379 N 384 N 385 N 383 N 382 N 399 0106+3153 0107+3205 N 420 I1652 I1654 N 452 I1666 0122+3153 0124+3118	9	1 4.5 1 4.5 1 4.6 1 4.7 1 4.7 1 4.7 1 6.2 1 6.5 1 7.2 1 9.3 1 12.2 1 12.4 1 13.5 1 17.1 1 22.7 1 24.8	16 GALAXIES + 32 13 + 32 15 + 32 2 + 32 3 + 32 9 + 32 8 + 32 22 + 31 53 + 32 5 + 31 52 + 31 42 + 29 56 + 30 46 + 32 12 + 31 53 + 31 18	4411 25 5553 41 4283 23 5020 24 5067 23 5224 27 5231 23 4611 31 5215 25 4943 21 5166 30 4824 34 5111 35 4888 30 4612 30 4023 34	14.05 -1 14.16 -3 14.45 -5 14.38 -3 13.59 -4 14.20 -7 14.50 1 14.50 5 14.00 20 13.40 -2 14.30 0 14.30 1 14.00 2 14.40 5 14.00 1 14.40 5
GROUP NUMBER I1543 N 80 N 83 N 91	3	0 18.3 0 18.6 0 18.8 0 19.2	4 GALAXIES + 21 36 + 22 5 + 22 9 + 22 8	5526 26 5661 22 6267 28 5140 34	14.20 20 13.74 -3 14.21 -5 14.50 5	GROUP NUMBER N 380 N 379 N 384 N 385 N 383 N 382 N 399 0106+3153 0107+3205 N 420 I1652 I1654 N 452 I1666 0122+3153 0124+3118	9	1 4.5 1 4.5 1 4.6 1 4.7 1 4.7 1 4.7 1 6.2 1 6.5 1 7.2 1 9.3 1 12.2 1 12.4 1 13.5 1 17.1 1 22.7 1 24.8	16 GALAXIES + 32 13 + 32 15 + 32 2 + 32 3 + 32 9 + 32 8 + 32 22 + 31 53 + 32 5 + 31 52 + 31 42 + 29 56 + 30 46 + 32 12 + 31 53 + 31 18	4411 25 5553 41 4283 23 5020 24 5067 23 5224 27 5231 23 4611 31 5215 25 4943 21 5166 30 4824 34 5111 35 4888 30 4612 30 4023 34	14.05 -1 14.16 -3 14.45 -5 14.38 -3 13.59 -4 14.20 -7 14.50 1 14.50 5 14.00 20 13.40 -2 14.30 0 14.30 1 14.00 2 14.40 5 14.00 1 14.40 5
GROUP NUMBER N 160 I1559 N 169	5	0 33.4 0 34.2 0 34.2	3 GALAXIES + 23 41 + 23 43 + 23 43	5290 29 4518 31 4440 220	13.77 -1 13.70 -2 14.10 2	GROUP NUMBER I1639 N 426 N 429 N 430 N 442	10	1 9.2 1 10.3 1 10.4 1 10.5 1 12.1	5 GALAXIES - 0 55 - 0 33 - 0 36 - 0 31 - 1 17	5203 23 5074 23 5453 88 5093 25 5425 25	14.20 -6 14.40 -7 14.40 -2 13.60 -7 14.50 15
GROUP NUMBER N 173 N 182 N 192 N 194 N 193 N 198 N 200 N 223 N 237 N 236	6	0 34.6 0 35.6 0 36.7 0 36.7 0 36.7 0 36.9 0 37.0 0 39.8 0 40.9 0 40.9	10 GALAXIES + 1 40 + 2 27 + 0 35 + 2 46 + 3 3 + 2 31 + 2 37 + 0 34 - 0 24 + 2 40	4196 9 5076 33 4044 20 5033 24 4187 25 5106 27 4985 39 5187 25 3966 27 5490 34	13.24 4 13.51 1 13.90 1 13.65 -5 14.30 -3 14.10 5 14.00 4 14.50 15 14.05 6 14.50 5	GROUP NUMBER N 437 N 455 I 89 N 467	11	1 11.8 1 13.4 1 13.5 1 16.6	4 GALAXIES + 5 40 + 4 55 + 4 2 + 3 2	5131 19 5105 22 5268 22 5291 22	14.00 0 13.90 15 13.80 -2 13.30 -2
GROUP NUMBER 0038-0159 N 227 N 245 N 271 N 279 N 307 N 351	7	0 38.8 0 40.1 0 43.5 0 48.2 0 49.6 0 54.0 0 59.5	7 GALAXIES - 1 59 - 1 48 - 2 0 - 2 9 - 2 29 - 2 2 - 2 11	5122 21 5117 28 3931 20 3912 22 3689 23 3821 22 4001 23	14.40 1 13.51 -5 13.18 3 13.20 3 14.00 -2 14.10 -3 14.30 0	GROUP NUMBER N 470 N 474 N 485 N 488 N 520	12	1 17.2 1 17.5 1 18.8 1 19.2 1 22.0	5 GALAXIES + 3 9 + 3 9 + 6 45 + 5 0 + 3 32	2194 10 2157 21 2094 35 2101 10 1986 10	12.75 3 12.51 -2 14.20 20 11.41 3 12.75 0

TABLE 2—Continued

GROUP NUMBER	13	8 GALAXIES	27	13.40	20	GROUP NUMBER	19	8 GALAXIES	20	13.50	-2
N 489	1	19.2	2328	13.80	-2	N 665	1	42.3	5271	20	13.50
N 502	1	20.2	2342	14.30	-2	N 671	1	44.3	5325	28	14.30
N 516	1	21.4	2287	14.30	-2	N 673	1	45.7	5029	15	13.30
N 518	1	21.6	2558	14.40	1	0145+1221	1	45.8	5336	90	14.00
N 522	1	22.1	2663	14.20	4	I 162	1	46.1	5204	33	14.20
N 524	1	22.2	2282	12.11	-1	N 677	1	46.8	4964	22	14.30
N 525	1	22.2	2002	14.50	-2	0146+1215	1	46.8	5082	25	14.20
N 532	1	22.6	2185	13.50	1	I1743	1	50.2	4472	21	14.00
GROUP NUMBER	14	4 GALAXIES	30	14.30	3	GROUP NUMBER	20	7 GALAXIES	15	13.80	20
0118+0106	1	18.6	4760	12.75	4	I 163	1	46.5	2644	15	13.80
N 521	1	22.0	4812	13.44	-5	N 678	1	46.7	2779	8	13.30
N 533	1	22.9	5357	13.60	20	N 680	1	47.0	2869	16	13.00
N 550	1	24.1	5643	13.60	20	N 691	1	47.9	2574	20	13.50
GROUP NUMBER	15	13 GALAXIES	74	14.41	-3	N 694	1	48.2	2882	8	13.70
0118-0048	1	18.7	5044	14.50	1	I 167	1	48.4	2843	10	14.00
N 530	1	22.1	4804	14.00	1	N 697	1	48.5	3027	20	12.70
N 541	1	23.2	5214	14.00	-3	GROUP NUMBER	21	3 GALAXIES	1342	20	10.50
N 545	1	23.4	5118	13.70	-3	N 676	1	46.3	1418	24	13.50
N 547	1	23.5	5321	13.40	-5	N 693	1	47.9	1570	22	12.81
N 560	1	24.9	5219	14.41	-3	N 718	1	50.6	1570	22	12.81
N 564	1	25.2	5493	14.02	-5	GROUP NUMBER	22	5 GALAXIES	-206	1	6.47
N 565	1	25.6	4302	14.50	1	N 598	1	31.1	377	33	12.20
N 570	1	26.4	5289	14.20	1	I1727	1	44.7	377	5	12.20
0126-0049	1	26.4	5272	14.00	20	N 672	1	45.1	361	6	11.76
N 577	1	28.1	5727	14.20	1	N 784	1	58.4	155	5	12.47
N 585	1	29.1	5186	14.20	1	N 855	2	11.2	545	23	13.00
0131-0117	1	31.6	4724	14.40	2	GROUP NUMBER	23	3 GALAXIES	4819	18	13.20
GROUP NUMBER	16	4 GALAXIES	31	14.50	15	N 706	1	49.2	5016	12	14.50
0134+0438	1	34.6	2982	13.50	-2	0152+0621	1	52.7	5373	18	13.20
N 632	1	34.7	2980	14.40	15	N 741	1	53.8	5373	18	13.20
N 638	1	37.0	3014	13.80	4	GROUP NUMBER	24	6 GALAXIES	4850	29	14.30
N 645	1	37.6	3139	13.80	4	0155+2507	1	55.6	5048	29	14.20
GROUP NUMBER	17	6 GALAXIES	36	14.30	10	N 765	1	56.0	4843	10	13.40
0130+1804	1	30.0	570	10.07	5	N 776	1	57.1	4957	31	14.50
N 628	1	34.0	541	14.38	10	I1764	1	57.6	5042	35	13.90
0137+1539B	1	37.5	518	13.90	10	0158+2615	1	58.7	4949	15	14.40
0139+1343	1	39.7	639	14.30	10	0158+2618	1	58.9	4949	15	14.40
0140+1254	1	40.1	706	11.90	1	GROUP NUMBER	25	5 GALAXIES	4340	36	14.30
N 660	1	40.4	726	13.00	1	N 786	1	58.6	3517	28	14.30
GROUP NUMBER	18	4 GALAXIES	16	13.00	-7	I 195	2	1.0	3509	21	14.20
N 661	1	41.4	3795	13.04	-2	I 196	2	1.1	4291	20	13.70
N 670	1	44.6	3741	14.20	5	N 820	2	5.6	4274	32	14.30
I1731	1	47.3	3374	13.20	3	0205+1444	2	5.6	4274	32	14.30
N 684	1	47.4	3463	13.20	3						

TABLE 2—Continued

GROUP NUMBER	26	4 GALAXIES	4638	30	13.80	-7	GROUP NUMBER	33	2 42.8	3 GALAXIES	6586	31	14.20	1
N 807	2	2.0	28 45	25	14.00	-3	I1843	2	43.8	+ 2 40	6777	72	13.60	3
0203+2933	2	3.2	+ 29 33	28	14.50	20	N1085	2	45.0	+ 3 24	6166	32	14.20	5
0203+2944	2	3.3	+ 29 44	4795	14.10	15	N1095	2		+ 4 26				
N 819	2	5.7	+ 29 0	6520										
GROUP NUMBER	27	4 GALAXIES	4385	30	14.50	20	GROUP NUMBER	34	2 41.0	7 GALAXIES	7801	23	14.30	2
0208+0538	2	8.0	+ 5 38	3072	13.70	5	N1072	2	44.9	- 0 30	6071	58	13.50	2
I 211	2	8.5	+ 3 38	3257	14.30	15	N1094	2	46.9	- 0 58	6260	30	14.50	3
0211+0353	2	11.1	+ 3 53	3260	14.40	15	I1856	2	50.3	- 1 5	6932	32	13.90	3
I 214	2	11.4	+ 4 57	3260	14.40	15	0246-0105	2	52.6	- 1 28	6724	17	13.90	-7
							N1132	2		- 0 23	8417	32	13.60	10
							N1144	2		- 0 23	8242	31	14.20	-2
							N1143	2		- 0 23				
GROUP NUMBER	28	5 GALAXIES	1192	35	14.00	5	GROUP NUMBER	35	2 51.4	5 GALAXIES	2797	29	13.50	3
0221-0223	2	21.9	- 2 23	1197	11.28	-1	N1137	2	54.5	+ 2 45	3004	30	14.40	0
N 936	2	25.1	- 1 23	1537	14.40	20	I 273	2	55.5	+ 3 10	2920	22	13.50	0
0225-0134	2	25.7	- 1 34	1403	13.20	5	N1153	2	56.0	+ 3 14	2893	28	14.40	15
N 941	2	25.9	- 1 23	1310	13.40	2	0256+0314	2	57.2	+ 2 34	2633	35	13.80	4
N 955	2	28.0	- 1 20				I 277	2						
GROUP NUMBER	29	6 GALAXIES	4558	56	13.80	-2	GROUP NUMBER	36	3 9.2	4 GALAXIES	6621	35	14.40	3
N 924	2	24.0	+ 20 16	3981	13.70	1	0309-0035	3	10.2	- 0 35	6600	21	14.50	0
N 930	2	25.1	+ 20 6	4181	13.90	5	0310-0030	3	15.4	- 0 20	6645	48	13.90	3
N 935	2	25.4	+ 19 22	3984	13.80	-7	N1280	3	18.4	- 0 32	6059	19	14.10	5
N 938	2	25.7	+ 20 3	4260	13.30	5	0318-0032	3						
N 976	2	31.2	+ 20 45	4019	13.50	20								
N 992	2	34.6	+ 20 53											
GROUP NUMBER	30	12 GALAXIES	6296	29	13.90	4	GROUP NUMBER	37	3 15.1	3 GALAXIES	8031	55	14.50	-2
N 926	2	23.6	- 0 33	6134	14.40	-2	0315-0200	3	17.7	- 2 17	6293	22	14.20	-5
N 934	2	25.0	- 0 28	6147	14.30	20	N1298	3	20.2	- 2 5	7993	27	14.30	15
I 232	2	28.6	+ 1 2	5944	14.40	15	0320-0205	3						
0230+0003	2	30.1	+ 0 3	5990	14.50	2								
0230+0024	2	30.1	+ 0 24	6497	14.40	2	GROUP NUMBER	38	4 28.1	4 GALAXIES	3319	40	14.30	3
0230+0012	2	30.4	+ 0 12	6362	14.40	-2	N1586	4	28.1	- 0 25	3456	23	13.45	-5
0231+0108	2	31.5	+ 1 8	6270	14.30	-7	N1587	4	28.2	+ 0 33	3446	58	13.30	-5
N1004	2	35.0	+ 1 45	6723	14.50	15	N1588	4	28.2	+ 0 45	3585	27	13.80	3
I 241	2	35.3	+ 2 7	6376	13.30	-7	N1589	4						
N1016	2	35.7	+ 1 55	5692	14.50	1								
I1827	2	37.1	+ 1 20	5856	14.40	1	GROUP NUMBER	39	8 53.1	4 GALAXIES	4243	21	13.60	20
N1038	2	37.5	+ 1 18				0853+5218	8	53.4	+ 52 18	5074	24	13.42	-5
							N2693	8	53.4	+ 51 32	3991	30	14.10	1
GROUP NUMBER	31	3 GALAXIES	3351	21	13.90	-7	N2692	8	1.0	+ 51 49	4996	34	13.60	20
N 990	2	33.6	+ 11 26	3310	13.80	2	0901+5149	9						
N1024	2	36.5	+ 10 38	3472	14.10	0								
N1029	2	36.9	+ 10 35											
GROUP NUMBER	32	5 GALAXIES	784	10	11.77	3	GROUP NUMBER	40	9 2.6	4 GALAXIES	7390	26	14.00	-2
N1055	2	39.2	+ 0 14	910	9.81	3	0902+3632	9	2.8	+ 36 32	7178	26	14.40	1
N1068	2	40.1	- 0 14	998	11.80	5	N2746	9	4.1	+ 37 24	7320	29	14.50	3
N1073	2	41.1	+ 1 10	1279	11.74	5	I2434	9	5.4	+ 37 49	7129	27	14.20	-3
N1087	2	43.9	- 0 42	1280	14.18	9	N2759	9						
0249-0123	2	49.4	- 1 23											

TABLE 2—Continued

GROUP NUMBER	41	9	6.7	4 GALAXIES	5158	30	14.40	15	GROUP NUMBER	49	9	45.6	3 GALAXIES	4995	10	12.62	5
N2767		9	7.0	+ 50 37	5068	27	13.80	1	N2998		9	47.0	+ 44 19	4824	36	14.50	20
N2769		9	7.1	+ 50 39	5315	25	14.00	1	N3009		9	49.7	+ 43 5	5015	26	14.50	3
N2771		9	9.6	+ 49 50	4230	33	14.10	5	0949+4305								
0909+4950																	
GROUP NUMBER	42	9	10.6	3 GALAXIES	6849	28	13.90	-7	GROUP NUMBER	50	9	40.0	8 GALAXIES	1488	20	12.37	4
N2783		9	11.6	+ 30 11	7047	28	14.50	-1	N2964		9	40.2	+ 32 10	1514	23	13.25	0
0911+3020		9	12.0	+ 29 56	6061	150	13.80	0	N2968		9	46.7	+ 33 39	1660	9	12.52	4
N2789		9	13.7	+ 34 38	1839	3	13.35	9	N3003		9	48.0	+ 33 47	1722	15	13.23	4
GROUP NUMBER	43	9	6.5	5 GALAXIES	2099	15	12.10	5	N3011		9	52.4	+ 33 30	1599	43	14.50	10
N2770		9	9.2	+ 33 20	2173	22	13.10	-7	N3021		9	55.4	+ 32 37	1643	26	12.91	2
N2778		9	9.6	+ 35 7	2108	32	13.35	9	0952+3330								
N2780		9	13.7	+ 34 38	1839	3	13.35	9	N3067		10	4.3	+ 33 16	1538	20	14.40	4
N2793		9	21.3	+ 34 44	1849	14	11.96	-1	N3118								
N2859																	
GROUP NUMBER	44	9	5.4	3 GALAXIES	1094	0	13.20	3	GROUP NUMBER	51	9	48.0	3 GALAXIES	1673	20	13.80	10
N2756		9	12.5	+ 53 3	825	100	14.00	10	N3026		9	49.2	+ 29 28	1727	20	12.86	-2
0912+5303		9	18.6	+ 51 11	860	10	10.27	3	N3032		9	53.5	+ 27 28	1384	20	14.30	15
N2841									I2520								
GROUP NUMBER	45	9	14.2	4 GALAXIES	1922	35	13.29	1	GROUP NUMBER	52	9	43.2	5 GALAXIES	288	14	11.09	5
N2798		9	14.3	+ 42 13	2071	30	14.40	9	N2976		9	51.5	+ 69 18	236	5	7.88	2
N2799		9	18.6	+ 40 22	1671	9	14.11	1	N3031		9	51.7	+ 69 55	527	2	9.57	0
N2844		9	20.0	+ 40 23	1986	25	14.00	1	N3034		9	59.4	+ 68 58	289	3	11.12	0
N2852									N3077		10	24.7	+ 68 40	328	10	11.20	9
GROUP NUMBER	46	9	16.3	4 GALAXIES	1993	8	11.95	7	I2574								
N2805		9	17.1	+ 64 19	1930	76	14.00	0	GROUP NUMBER	53	9	52.8	7 GALAXIES	3909	95	13.70	1
N2814		9	17.7	+ 64 28	1834	25	13.50	5	N3053		9	53.6	+ 16 40	3860	27	13.80	3
N2820		9	25.7	+ 62 43	1821	20	12.97	-3	N3060		9	54.0	+ 15 53	4703	31	14.30	20
N2880									0954+1553		9	56.2	+ 14 39	3672	31	14.50	5
GROUP NUMBER	47	9	31.1	6 GALAXIES	3243	26	13.82	-2	N3075		10	1.7	+ 13 52	2850	41	13.60	15
N2911		9	31.4	+ 10 22	3130	22	14.10	20	N3107		10	4.8	+ 12 31	2804	220	14.00	20
N2913		9	31.4	+ 10 20	3213	76	14.19	2	I 591		10	10.2	+ 12 55	2917	15	13.60	6
N2914		9	32.1	+ 10 30	2553	51	13.60	3	GROUP NUMBER	54	10	0.4	3 GALAXIES	3273	34	14.20	15
N2919		9	35.4	+ 9 45	3407	28	13.50	4	N3102		10	1.0	+ 60 21	3335	26	14.30	-2
N2939		9	40.2	+ 9 43	3275	35	13.70	10	1002+5903		10	2.5	+ 59 3	3012	35	13.60	15
0940+0943																	
GROUP NUMBER	48	9	38.0	4 GALAXIES	6716	32	13.90	4	GROUP NUMBER	55	10	2.6	3 GALAXIES	3893	12	14.30	20
N2958		9	38.6	+ 10 52	5880	22	14.50	-2	1002+1931		10	5.5	+ 19 31	3028	26	14.30	-1
I 552		9	39.2	+ 12 31	6812	25	14.40	-2	1005+1857		10	8.0	+ 20 18	3967	23	14.00	1
I 555		9	41.0	+ 11 18	6276	24	14.30	15	1008+2018		10						
N2984																	

TABLE 2—Continued

GROUP NUMBER	56	3 GALAXIES	1392	43	14.40	20	GROUP NUMBER	63	4 GALAXIES	2032	60	13.02	4
0955+4758	9	55.7 + 47 58	811	37	14.10	10	N3259	10	29.1 + 65 18	2189	86	13.50	0
1004+4716	10	4.2 + 47 16	904	7	11.09	5	N3266	10	29.8 + 65 1	1915	55	14.40	15
N3198	10	16.9 + 45 48					1034+6432	10	34.6 + 64 32	1305	10	11.31	5
							N3359	10	43.4 + 63 29				
GROUP NUMBER	57	4 GALAXIES	1361	25	13.19	-2	GROUP NUMBER	64	3 GALAXIES	1431	30	14.20	20
N3156	10	10.1 + 3 23	1384	39	14.50	10	N3252	10	30.4 + 74 1	1480	34	14.40	-7
N3165	10	10.9 + 3 38	1406	22	11.44	0	1048+7202	10	48.4 + 72 2	1544	55	13.00	4
N3166	10	11.2 + 3 40	1367	35	11.50	1	N3403	10	50.2 + 73 57				
N3169	10	11.7 + 3 43											
GROUP NUMBER	58	10 GALAXIES	1460	9	12.30	4	GROUP NUMBER	65	4 GALAXIES	6296	10	13.30	3
N3162	10	10.8 + 22 59	1462	19	13.31	3	N3356	10	41.6 + 7 1	8430	33	13.60	5
N3177	10	13.8 + 21 22	1393	19	13.23	1	N3362	10	42.2 + 6 52	5948	23	14.40	20
N3185	10	14.9 + 21 56	1766	20	13.55	5	N3376	10	44.8 + 6 19	8246	30	14.50	3
N3187	10	15.0 + 22 8	1467	38	12.20	1	1044+0731	10	44.8 + 7 31				
N3189	10	15.4 + 22 5	1536	19	12.37	-5							
N3193	10	15.7 + 22 9	1562	30	14.30	4	GROUP NUMBER	66	3 GALAXIES	3184	13	12.22	5
N3213	10	18.6 + 19 53	1428	24	12.77	-5	N3367	10	43.9 + 14 1	3071	20	13.50	15
N3226	10	20.7 + 20 9	1353	6	11.75	1	N3391	10	46.3 + 14 29	3254	26	13.40	-1
N3227	10	20.8 + 20 7	897	7	12.23	10	N3419	10	48.7 + 14 14				
N3239	10	22.4 + 17 25											
GROUP NUMBER	59	3 GALAXIES	6931	27	14.20	1	GROUP NUMBER	67	8 GALAXIES	2262	26	14.30	-1
N3202	10	17.5 + 43 16	7272	29	14.40	15	1043+3514	10	43.1 + 35 14	1840	20	12.80	3
N3205	10	17.8 + 43 13	7229	28	14.30	15	N3381	10	45.6 + 34 58	1854	6	12.46	6
N3207	10	18.0 + 43 14					N3395	10	47.0 + 33 15	1874	15	12.90	10
							N3396	10	47.1 + 33 15	1722	20	13.20	3
GROUP NUMBER	60	4 GALAXIES	1562	19	12.04	-2	N3424	10	49.0 + 33 10	1812	7	12.39	5
N3245	10	24.5 + 28 46	1564	8	12.41	4	N3430	10	49.4 + 33 13	1970	71	13.20	1
N3254	10	26.5 + 29 45	1625	28	14.10	-7	N3442	10	50.3 + 34 11	2091	20	13.30	15
N3265	10	28.2 + 29 4	1614	15	12.60	2	1056+3339	10	50.9 + 33 39				
N3277	10	30.1 + 28 46											
GROUP NUMBER	61	3 GALAXIES	1653	40	13.90	-2							
N3248	10	25.0 + 23 6	1478	15	13.15	7							
N3287	10	32.1 + 21 55	1507	75	12.43	0							
N3301	10	34.2 + 22 8											
GROUP NUMBER	62	4 GALAXIES	3137	34	13.90	10							
1031+1400	10	31.7 + 14 0	3134	31	14.20	20							
1033+1358	10	33.7 + 13 58	3132	31	13.21	-2							
N3300	10	34.0 + 14 26	3017	15	13.70	9							
N3306	10	34.5 + 12 55											

TABLE 2—Continued

GROUP NUMBER		68		23 GALAXIES		69		3 GALAXIES		70		7 GALAXIES		71		7 GALAXIES		72		5 GALAXIES		73		10 GALAXIES		74		9 GALAXIES							
N3299	10	33.8	+ 12	57	730	30	14.10	15	N3348	10	43.5	+ 73	6	3129	21	12.45	-5	N3380	10	45.5	+ 28	52	1866	40	13.60	1	N3427	10	48.8	+ 8	34	6389	45	14.00	0
N3338	10	39.5	+ 14	1	1442	7	11.59	5	N3364	10	44.7	+ 72	40	3011	36	13.65	4	N3400	10	48.0	+ 28	44	1659	26	14.30	1	N3425	10	48.8	+ 8	50	6754	24	14.50	-2
1040+1343	10	40.2	+ 13	43	1320	35	13.80	20	N3516	11	3.4	+ 72	50	2843	23	12.86	-2	N3414	10	48.5	+ 28	15	1629	20	12.23	-2	N3428	10	48.8	+ 9	33	8083	28	14.10	3
N3346	10	41.0	+ 15	8	1415	10	12.34	6										N3418	10	48.6	+ 28	23	1490	24	14.50	0	N3441	10	49.9	+ 7	30	6722	220	13.90	20
N3351	10	41.3	+ 11	58	914	4	10.75	3										N3451	10	51.6	+ 27	30	1544	0	13.50	5	N3462	10	52.7	+ 7	58	6512	42	13.40	-2
N3368	10	44.1	+ 12	5	1037	10	10.32	2										N3504	11	0.5	+ 28	15	1754	19	11.80	2	N3467	10	54.1	+ 10	2	9615	27	14.20	-2
N3370	10	44.4	+ 17	32	1450	23	12.34	5										N3512	11	1.3	+ 28	18	1615	19	13.12	5	N3492	10	58.3	+ 10	46	11114	46	14.00	-5
N3377	10	45.1	+ 14	15	838	19	11.75	-5																											
N3379	10	45.2	+ 12	51	1064	18	10.83	-5																											
N3384	10	45.6	+ 12	54	871	17	10.84	-3																											
N3389	10	45.8	+ 12	48	1404	12	12.41	5																											
N3412	10	48.3	+ 13	41	1016	19	12.00	-2																											
1049+2003	10	49.8	+ 20	3	1292	36	14.20	10																											
N3454	10	51.8	+ 17	37	1175	45	14.10	5																											
N3455	10	51.9	+ 17	33	1271	10	13.13	3																											
N3457	10	52.1	+ 17	53	1327	20	13.00	15																											
N3485	10	57.4	+ 15	7	1566	20	12.85	3																											
N3489	10	57.7	+ 14	10	852	18	11.24	-1																											
1059+1700	10	59.9	+ 17	0	1211	10	14.50	20																											
1100+1700	11	0.0	+ 17	0	1210	10	14.50	5																											
N3501	11	0.2	+ 18	15	1318	15	13.80	5																											
N3507	11	0.8	+ 18	24	1160	10	11.40	3																											
N3522	11	4.0	+ 20	20	1445	26	14.20	-7																											

TABLE 2—Continued

GROUP NUMBER	75	3 GALAXIES	1035	10	14.40	15	GROUP NUMBER	81	5 GALAXIES	7610	31	14.40	3
1104+4400	11	4.0	44	0	14.40	15	1125+2340	11	25.9	23	40	14.40	3
N3600	11	13.0	41	52	12.60	1	N3697	11	26.1	21	4	14.10	3
N3675	11	23.5	43	52	11.11	3	1127+2513	11	27.2	25	13	14.50	15
							N3710	11	28.4	23	2	14.50	-7
							I 707	11	31.0	21	39	14.40	20
GROUP NUMBER	76	7 GALAXIES	1751	15	13.02	1	GROUP NUMBER	82	6 GALAXIES	4031	9	14.10	5
N3611	11	14.9	4	50	14.40	10	1122+6401	11	22.4	64	1	13.10	4
1117+0248	11	17.7	2	48	13.01	-2	N3668	11	22.5	63	43	14.10	20
N3630	11	17.7	3	14	14.30	1	1129+6247	11	29.6	62	47	14.10	5
N3633	11	17.9	3	51	11.82	-5	1129+6206	11	30.9	62	10	13.60	5
N3640	11	18.5	3	31	14.00	-7	N3725	11	34.7	62	2	13.30	1
N3641	11	18.6	3	28	13.01	9	N3762	11					
N3664	11	21.8	3	36									
GROUP NUMBER	77	13 GALAXIES	1040	45	13.00	-2	GROUP NUMBER	83	3 GALAXIES	6041	40	13.80	3
N3599	11	12.8	18	23	13.71	-5	N3719	11	29.7	1	6	13.00	2
N3605	11	14.1	18	18	14.30	1	N3720	11	29.8	1	5	14.40	20
1114+1804	11	14.2	18	4	11.42	-2	1133+0025	11	33.1	0	25		
N3607	11	14.3	18	20	12.31	-5							
N3608	11	14.4	18	26	13.60	15	GROUP NUMBER	84	6 GALAXIES	2512	150	13.50	20
1115+1907	11	15.6	19	7	12.11	-1	N3694	11	26.2	35	41	14.00	3
N3626	11	17.4	18	38	12.93	5	1129+3658	11	29.3	36	58	14.10	15
N3655	11	20.3	16	52	12.70	4	1129+3536	11	28.9	35	36	14.50	0
N3659	11	21.1	18	5	12.63	4	1133+3536	11	33.2	36	41	13.90	5
N3681	11	23.9	17	8	12.24	4	N3755	11	33.9	36	41	12.88	3
N3684	11	24.6	17	18	13.53	3	N3813	11	38.7	36	49		
N3686	11	25.1	17	30									
N3691	11	25.5	17	12			GROUP NUMBER	85	3 GALAXIES	5892	120	13.90	-2
							N3737	11	32.9	55	14	14.30	-2
GROUP NUMBER	78	9 GALAXIES	860	37	11.91	0	N3759	11	34.1	55	6	14.50	4
N3593	11	12.0	13	5	12.07	5	N3759	11	34.2	55	26		
N3596	11	12.5	15	4	10.51	1							
N3623	11	16.3	13	22	9.89	3	GROUP NUMBER	86	3 GALAXIES	2876	41	14.50	15
N3627	11	17.6	13	16	10.43	3	1131+3254	11	31.0	32	54	13.50	1
N3628	11	17.7	13	52	12.54	5	N3786	11	37.1	32	11	13.20	2
N3666	11	21.8	11	37	14.10	15	N3788	11	37.1	32	13		
I 692	11	23.3	10	16	11.95	2							
N3692	11	25.8	9	41			GROUP NUMBER	87	4 GALAXIES	3520	32	14.50	15
N3705	11	27.5	9	33	13.50	-2	1134+2602	11	34.8	26	2	13.90	-2
							N3798	11	37.6	24	59	13.90	-7
GROUP NUMBER	79	4 GALAXIES	2381	50	12.60	6	N3812	11	38.5	25	7	14.20	2
N3648	11	19.8	40	9	13.30	-2	N3815	11	39.1	25	5		
N3652	11	19.9	38	2	12.01	-2							
N3658	11	21.3	38	50									
N3665	11	22.0	39	2									
GROUP NUMBER	80	3 GALAXIES	7421	32	14.20	4							
N3678	11	23.6	28	9	14.40	-3							
N3713	11	29.0	28	25	14.30	15							
N3714	11	29.2	28	38									

TABLE 2—Continued

GROUP NUMBER	88	10 GALAXIES	4186	38	14.50	4	GROUP NUMBER	92	10 GALAXIES	3869	31	14.00	3
1134+1551	11 34.5	+ 15 51	4186	38	14.50	4	N3902	11 46.7	+ 26 24	3869	31	14.00	3
N3768	11 34.6	+ 18 7	3507	22	13.70	-2	N3920	11 47.5	+ 25 13	3835	100	14.10	15
N3790	11 37.2	+ 17 59	3642	27	14.50	0	1147+2615	11 47.7	+ 26 15	4004	46	14.40	2
N3799	11 37.6	+ 15 36	3523	28	14.40	3	N3944	11 50.5	+ 26 30	3888	26	14.30	-3
N3800	11 37.6	+ 15 37	3508	11	13.10	3	I 746	11 53.0	+ 26 10	5250	33	14.50	20
1137+1735	11 37.6	+ 17 35	3750	31	14.30	15	N3987	11 54.7	+ 25 29	4792	38	14.40	3
N3801	11 37.7	+ 18 0	3462	70	13.30	-2	N3997	11 55.2	+ 25 33	4977	35	14.30	3
1139+1618	11 39.7	+ 16 18	3310	32	14.30	20	N4005	11 55.6	+ 25 24	4673	34	14.10	20
N3827	11 40.0	+ 19 7	3483	20	13.60	15	N4015	11 56.1	+ 25 19	4591	30	14.20	-2
N3853	11 41.8	+ 16 50	3557	16	13.50	-7	N4022	11 56.4	+ 25 30	4640	23	14.40	-2
GROUP NUMBER	89	7 GALAXIES	6403	28	14.50	-1	GROUP NUMBER	93	7 GALAXIES	3336	29	14.00	20
1136+1014	11 36.7	+ 10 14	6403	28	14.50	-1	N3935	11 49.8	+ 32 41	3336	29	14.00	20
N3817	11 39.3	+ 10 35	6278	27	14.40	0	I 2973	11 51.2	+ 33 38	3472	32	14.50	5
N3822	11 39.6	+ 10 33	6301	32	13.70	-2	N3986	11 54.2	+ 32 18	3513	48	14.00	-2
N3825	11 39.8	+ 10 33	6698	24	13.80	1	1154+3225	11 54.3	+ 32 25	3394	27	14.50	-2
I 724	11 41.0	+ 9 13	6101	21	13.80	1	N3991	11 54.9	+ 32 36	3383	34	13.83	10
N3843	11 41.3	+ 8 12	6076	27	14.10	0	N3994	11 55.0	+ 32 33	3390	27	13.68	5
N3839	11 41.3	+ 11 4	6120	33	13.60	20	N3995	11 55.2	+ 32 34	3579	31	12.96	9
GROUP NUMBER	90	22 GALAXIES	6417	8	13.90	5	GROUP NUMBER	94	170 GALAXIES	1433	15	12.70	6
1134+2015	11 34.3	+ 20 15	6417	8	13.90	5	N3206	10 18.5	+ 57 11	1433	15	12.70	6
N3805	11 38.2	+ 20 37	6691	35	13.80	-3	N3220	10 20.5	+ 57 17	1499	35	13.70	0
N3816	11 39.2	+ 20 22	5767	49	13.60	-2	N3264	10 29.2	+ 56 19	1218	10	14.30	9
N3821	11 39.6	+ 20 36	5755	44	13.80	1	1029+5439	10 29.4	+ 54 39	1893	27	13.20	10
1141+2015	11 41.2	+ 20 15	6869	36	14.30	10	N3353	10 42.3	+ 56 13	1230	13	13.47	10
N3837	11 41.3	+ 20 10	6468	29	14.20	-7	I 644	10 48.4	+ 55 39	3151	29	14.40	20
N3842	11 41.5	+ 20 14	6457	17	13.30	-5	N3440	10 50.8	+ 57 23	2208	34	14.00	3
N3860	11 42.2	+ 20 5	6574	30	14.50	2	N3445	10 51.6	+ 57 15	2315	25	13.16	9
N3862	11 42.5	+ 19 53	6682	24	14.00	-5	N3448	10 51.7	+ 54 34	1641	9	12.42	0
1142+2044	11 42.5	+ 20 44	7101	27	14.50	-2	N3458	10 53.0	+ 57 23	2089	32	13.26	-2
N3861	11 42.5	+ 20 15	5296	27	14.00	3	N3488	10 58.4	+ 57 57	3264	31	13.70	5
N3873	11 43.1	+ 20 3	5659	30	14.20	-7	N3499	11 0.0	+ 56 29	1850	24	14.30	15
N3884	11 43.6	+ 20 40	7045	30	14.00	1	N3517	11 2.6	+ 56 48	2366	124	13.80	3
N3883	11 44.2	+ 20 58	7275	37	14.20	3	1105+5354	11 5.1	+ 53 54	1545	36	14.10	15
N3886	11 44.5	+ 20 7	5989	32	14.30	-3	N3530	11 5.7	+ 57 30	2234	24	14.40	1
N3910	11 47.4	+ 21 38	8070	30	14.40	-3	N3556	11 8.6	+ 55 57	992	8	10.90	6
N3919	11 48.0	+ 20 17	6469	39	14.50	-7	N3589	11 12.2	+ 60 58	2268	33	14.50	15
N3929	11 49.1	+ 21 17	7360	29	14.50	15	N3610	11 15.5	+ 59 4	2067	50	12.14	-5
N3937	11 50.1	+ 20 55	6847	100	14.00	-3	N3613	11 15.7	+ 58 16	2355	75	12.25	-5
N3940	11 50.1	+ 21 17	6731	25	14.30	-7	N3619	11 16.5	+ 58 2	1950	75	12.86	-1
N3947	11 50.8	+ 21 2	6480	33	14.20	3	N3625	11 17.6	+ 58 4	2268	31	13.90	3
N3954	11 51.1	+ 21 10	7202	28	14.40	-5	N3631	11 18.2	+ 53 27	1457	8	11.27	5
GROUP NUMBER	91	9 GALAXIES	3525	27	13.50	1	N3642	11 19.4	+ 59 21	1888	20	11.96	4
N3770	11 35.2	+ 59 53	3525	27	13.50	1	N3657	11 21.1	+ 53 12	1512	10	13.10	5
N3809	11 38.5	+ 60 10	3755	44	13.60	-2	N3669	11 22.6	+ 58 0	2244	50	12.90	6
N3835	11 41.4	+ 60 24	2764	47	13.00	3	N3674	11 23.6	+ 57 20	2189	50	13.10	-2
1142+5915	11 42.8	+ 59 15	3403	17	13.50	15	1123+5401	11 23.8	+ 54 1	946	20	14.50	7
1144+6034	11 44.6	+ 60 34	3889	31	13.90	20	I 691	11 23.9	+ 59 26	1516	28	14.20	15
N3894	11 46.2	+ 59 42	3572	25	12.90	-5	N3683	11 24.7	+ 57 9	1990	18	13.50	5
N3895	11 46.4	+ 59 43	3525	26	14.00	1	N3690	11 25.7	+ 58 50	3305	12	12.73	9
N3958	11 52.0	+ 58 39	3639	23	13.10	1	I 694	11 25.7	+ 58 50	3421	14	11.80	9
N3963	11 52.4	+ 58 46	3502	20	12.52	4							

TABLE 2—Continued

GROUP 94	(CON'T)	GROUP 94	(CON'T)	GROUP 94	(CON'T)	GROUP 94	(CON'T)
1126+5725	11 26.4	11 26.4	40	2751	12.60	5	12.60
N3718	11 29.8	11 29.8	10	1289	11.72	1	11.72
N3726	11 30.6	11 30.6	10	1154	11.09	5	11.09
1130+4931	11 30.8	11 30.8	8	547	13.90	10	13.90
N3729	11 31.1	11 31.1	1338	11 1493	12.26	1	12.26
N3733	11 32.3	11 32.3	10	530	13.20	5	13.20
N3738	11 33.1	11 33.1	10	1420	12.20	10	12.20
N3741	11 33.4	11 33.4	502	35	14.20	10	14.20
1133+5829	11 33.6	11 33.6	1534	38	14.30	5	14.30
N3756	11 34.1	11 34.1	1587	10	12.42	4	12.42
N3757	11 34.3	11 34.3	1577	21	13.50	-2	13.50
N3769	11 35.1	11 35.1	1021	10	12.71	3	12.71
1135+5902	11 35.4	11 35.4	1633	24	14.00	-2	14.00
1136+5833	11 36.6	11 36.6	1464	10	14.20	6	14.20
N3782	11 36.7	11 36.7	1035	12	13.30	6	13.30
N3780	11 36.7	11 36.7	2703	10	12.47	5	12.47
N3795	11 37.4	11 37.4	1402	41	14.10	20	14.10
N3796	11 37.8	11 37.8	1578	28	13.40	20	13.40
N3804	11 38.2	11 38.2	1694	10	12.72	6	12.72
N3846	11 41.5	11 41.5	1706	33	14.20	20	14.20
N3838	11 41.5	11 41.5	1612	14	12.70	0	12.70
N3850	11 42.9	11 42.9	1477	25	14.40	5	14.40
N3870	11 43.3	11 43.3	1055	15	13.20	-2	13.20
N3877	11 43.5	11 43.5	1203	10	11.96	5	11.96
N3888	11 44.9	11 44.9	2720	15	13.00	5	13.00
N3893	11 46.0	11 46.0	1281	8	11.10	5	11.10
N3896	11 46.3	11 46.3	1284	36	14.00	0	14.00
N3898	11 46.6	11 46.6	1471	10	11.60	2	11.60
N3906	11 47.0	11 47.0	1263	36	14.10	3	14.10
1147+4220	11 47.6	11 47.6	1325	28	14.20	15	14.20
N3913	11 48.0	11 48.0	1249	10	14.20	7	14.20
N3917	11 48.1	11 48.1	1284	10	12.48	6	12.48
N3931	11 48.6	11 48.6	1180	44	14.50	-3	14.50
N3928	11 49.2	11 49.2	1295	43	13.10	-5	13.10
N3938	11 50.2	11 50.2	1110	8	11.02	5	11.02
N3945	11 50.6	11 50.6	1537	75	11.91	-1	11.91
N3949	11 51.1	11 51.1	1091	10	11.66	4	11.66
N3953	11 51.2	11 51.2	1348	9	11.11	4	11.11
N3972	11 53.2	11 53.2	1146	10	13.76	4	13.76
1153+5043	11 53.9	11 53.9	1219	10	14.00	9	14.00
N3982	11 53.9	11 53.9	1425	15	12.45	3	12.45
N3985	11 54.1	11 54.1	1288	40	13.38	9	13.38
1154+5327	11 54.2	11 54.2	1397	15	14.10	10	14.10
1154+4933	11 54.7	11 54.7	1085	10	14.20	5	14.20
1154+5813	11 54.7	11 54.7	1493	37	14.50	15	14.50
N3992	11 55.0	11 55.0	1365	10	10.80	4	10.80
N3990	11 55.0	11 55.0	1021	22	13.85	-3	13.85
N3998	11 55.5	11 55.5	1344	20	11.79	-2	11.79
I 749	11 56.0	11 56.0	1108	10	13.40	5	13.40
N4013	11 56.0	11 56.0	1136	10	12.43	3	12.43
N4010	11 56.0	11 56.0	1212	10	13.10	6	13.10
I 750	11 56.3	11 56.3	1012	30	13.00	0	13.00
N4020	11 56.4	11 56.4	1027	20	13.20	7	13.20
1156+5259	11 56.6	11 56.6	1382	10	14.50	6	14.50
N4026	11 56.9	11 56.9	1190	75	12.13	-2	12.13
N4036	11 58.9	11 58.9	1722	22	11.87	-3	11.87
1159+6237	11 59.2	11 59.2	1441	15	14.50	10	14.50
N4041	11 59.7	11 59.7	1554	10	11.93	4	11.93
1200+6439	12 0.1	12 0.1	1014	15	14.30	-2	14.30
N4051	12 0.6	12 0.6	1044	10	11.23	4	11.23
N4062	12 1.5	12 1.5	529	7	12.17	5	12.17
N4068	12 1.5	12 1.5	1597	10	13.30	10	13.30
I 758	12 1.7	12 1.7	1634	37	14.40	5	14.40
N4081	12 2.0	12 2.0	1064	10	13.60	1	13.60
N4085	12 2.8	12 2.8	1067	10	13.11	5	13.11
N4088	12 3.0	12 3.0	870	10	11.39	4	11.39
N4096	12 3.5	12 3.5	1394	10	11.31	5	11.31
N4100	12 3.6	12 3.6	1179	30	11.98	4	11.98
N4102	12 3.9	12 3.9	1098	14	12.08	-1	12.08
N4111	12 4.5	12 4.5	1262	28	14.30	-2	14.30
N4117	12 5.2	12 5.2	1663	24	11.36	-5	11.36
N4125	12 5.6	12 5.6	1229	23	14.30	2	14.30
1206+4201	12 6.4	12 6.4	891	8	11.76	5	11.76
N4136	12 6.8	12 6.8	1345	100	12.80	-1	12.80
N4138	12 7.0	12 7.0	1460	20	14.30	5	14.30
N4142	12 7.1	12 7.1	1088	100	12.40	-2	12.40
N4143	12 7.5	12 7.5	574	10	12.29	6	12.29
N4144	12 7.5	12 7.5	1312	10	11.68	7	11.68
N4145	12 8.0	12 8.0	519	50	12.83	-2	12.83
N4150	12 8.0	12 8.0	1287	10	11.48	2	11.48
N4151	12 8.6	12 8.6	1088	10	11.80	3	11.80
N4157	12 9.6	12 9.6	462	10	13.70	10	13.70
N4163	12 9.8	12 9.8	1399	20	13.70	7	13.70
N4173	12 10.8	12 10.8	1242	10	12.51	6	12.51
N4183	12 11.2	12 11.2	528	7	13.20	10	13.20
N4190	12 12.5	12 12.5	1760	25	13.80	20	13.80
N4205	12 12.6	12 12.6	1375	14	11.80	-3	11.80
N4214	12 13.1	12 13.1	588	4	10.38	10	10.38
N4218	12 13.3	12 13.3	1041	20	13.20	1	13.20
N4217	12 13.4	12 13.4	1347	10	11.81	3	11.81
N4220	12 13.7	12 13.7	1270	10	12.56	-1	12.56
N4244	12 15.0	12 15.0	545	5	10.92	6	10.92
N4242	12 15.0	12 15.0	830	10	11.96	8	11.96
N4245	12 15.1	12 15.1	1167	65	12.57	0	12.57
N4248	12 15.4	12 15.4	800	25	13.90	0	13.90
N4251	12 15.6	12 15.6	1287	75	12.03	-2	12.03
N4258	12 16.5	12 16.5	766	7	9.19	4	9.19
N4274	12 17.3	12 17.3	1191	4	11.50	2	11.50
N4278	12 17.6	12 17.6	907	14	11.58	-5	11.58
N4283	12 17.8	12 17.8	1329	13	13.42	-5	13.42
N4288	12 18.2	12 18.2	850	15	13.60	9	13.60
N4308	12 19.4	12 19.4	887	71	14.30	-5	14.30
1219+3222	12 19.5	12 19.5	1480	38	14.30	10	14.30
N4310	12 19.9	12 19.9	1179	150	13.50	-1	13.50
N4314	12 20.9	12 20.9	1258	44	11.61	1	11.61
N4346	12 21.0	12 21.0	1080	20	12.49	-2	12.49
N4359	12 21.7	12 21.7	1539	10	13.90	5	13.90

GROUP	94	(CON'T)								
N4369	12 22.1	+ 39 40	1358	10	12.84	1	7572	32	14.40	-5
N4391	12 23.1	+ 65 13	1665	74	13.80	-3	6610	33	14.00	-5
N4389	12 23.1	+ 45 58	1035	11	12.97	4	7622	31	14.40	-7
N4393	12 23.3	+ 27 50	1030	8	13.80	7	7459	37	14.30	-7
N4395	12 23.3	+ 33 49	611	5	10.84	9	6503	35	14.30	20
N4414	12 24.0	+ 31 30	1007	20	11.21	5	6979	29	14.40	4
N4441	12 25.1	+ 65 4	1768	44	13.50	-1	7569	34	14.50	20
N4448	12 25.8	+ 28 54	973	65	12.29	2				
N4449	12 25.8	+ 44 22	516	5	10.08	10				
1229+4330	12 26.3	+ 43 30	858	10	14.38	10				
N4460	12 26.3	+ 45 8	876	11	12.47	-1				
N4485	12 28.1	+ 41 58	773	50	12.60	10				
N4490	12 28.2	+ 41 55	895	26	10.29	7				
N4494	12 28.2	+ 26 3	1623	13	11.31	-5				
1229+4007	12 29.5	+ 40 7	996	35	13.90	20				
1230+4259	12 30.0	+ 42 59	856	10	13.70	10				
1230+3754	12 30.4	+ 37 54	1809	10	13.40	6				
N4509	12 30.6	+ 32 22	1200	32	14.10	15				
N4525	12 31.3	+ 30 34	1419	150	13.00	6				
N4534	12 31.6	+ 35 48	1105	8	13.20	7				
N4559	12 33.5	+ 28 14	1099	10	10.56	6				
N4565	12 33.9	+ 26 16	1504	10	10.61	3				
N4618	12 39.1	+ 41 26	864	8	11.60	9				
N4625	12 39.5	+ 41 34	928	10	13.22	9				
N4627	12 39.6	+ 32 51	1127	53	13.34	-5				
N4631	12 39.7	+ 32 49	919	5	10.04	7				
N4656	12 41.5	+ 32 26	948	7	11.18	9				
N4670	12 42.8	+ 27 24	1336	29	13.44	0				
N4725	12 48.0	+ 25 46	1490	10	10.21	2				
N4736	12 48.6	+ 41 24	629	15	8.91	2				
N4747	12 49.3	+ 26 3	1474	10	13.22	6				
GROUP NUMBER	95	3 GALAXIES								
N4004	11 55.4	+ 28 9	3669	78	14.00	8				
N4008	11 55.7	+ 28 28	3810	49	13.61	-5				
N4017	11 56.1	+ 27 43	3670	32	13.50	4				
GROUP NUMBER	96	4 GALAXIES								
N4014	11 56.0	+ 16 27	3991	24	13.50	0				
N4048	12 0.3	+ 18 17	5003	30	14.40	15				
1200+1646	12 0.9	+ 16 46	4269	29	14.00	15				
1202+1809	12 2.8	+ 18 9	4605	35	14.10	4				
GROUP NUMBER	97	3 GALAXIES								
N4032	11 58.0	+ 20 21	1496	20	13.00	10				
N4049	12 0.4	+ 19 2	1068	25	14.20	15				
N4064	12 1.6	+ 18 43	1262	47	12.60	1				
GROUP NUMBER	98	7 GALAXIES								
N4061	12 1.5	+ 20 31	7572	32	14.40	-5				
N4065	12 1.5	+ 20 31	6610	33	14.00	-5				

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TABLE 2—Continued

GROUP NUMBER	123	17 GALAXIES	15	13.50	2	GROUP NUMBER	128	6 GALAXIES	8	14.20	8
N5289	13 43.0	+ 41 45	2859	13.50	2	N5238	13 32.7	+ 51 53	592	14.20	8
N5290	13 43.2	+ 41 58	2926	13.00	3	1352+5409	13 52.9	+ 54 9	495	14.20	9
N5297	13 44.3	+ 44 7	2750	12.72	4	N5457	14 1.5	+ 54 36	587	8.58	6
N5311	13 46.8	+ 40 14	3035	13.70	0	N5474	14 3.3	+ 53 54	633	11.74	6
1346+3945	13 46.9	+ 39 45	2745	14.30	20	N5477	14 3.8	+ 54 42	648	14.50	9
N5313	13 47.7	+ 40 13	2879	13.07	3	N5585	14 18.2	+ 56 57	661	11.66	7
N5320	13 48.2	+ 41 37	2957	13.10	5						
N5326	13 48.7	+ 39 49	2947	13.40	1						
N5336	13 50.1	+ 43 29	2644	13.60	5	GROUP NUMBER	129	4 GALAXIES			
N5337	13 50.3	+ 39 56	2553	13.40	20	N5406	13 58.2	+ 39 9	5495	13.05	4
N5353	13 51.3	+ 40 31	2515	12.39	-2	N5407	13 58.7	+ 39 23	5775	14.50	15
N5350	13 51.3	+ 40 37	2660	12.70	3	1401+3846	14 1.2	+ 38 46	6077	14.20	20
N5354	13 51.4	+ 40 33	2757	12.85	-2	1401+3917	14 1.5	+ 39 17	6168	14.40	3
N5355	13 51.6	+ 40 34	2712	14.00	-2						
N5362	13 52.8	+ 41 34	2524	13.16	3						
N5371	13 53.6	+ 40 42	2906	11.59	4	GROUP NUMBER	130	11 GALAXIES			
N5383	13 55.0	+ 42 6	2605	12.14	3	1355+1007	13 55.4	+ 10 7	7088	14.50	3
						N5409	13 59.3	+ 9 44	6514	14.40	3
GROUP NUMBER	124	6 GALAXIES				N5414	13 59.6	+ 10 10	4536	13.80	15
N5300	13 45.7	+ 4 12	1404	12.03	5	N5417	13 59.7	+ 8 17	5066	13.80	1
N5338	13 50.9	+ 5 27	1010	14.30	-2	N5416	13 59.7	+ 9 41	6485	13.60	5
N5348	13 51.7	+ 5 29	1690	14.50	3	N5418	13 59.8	+ 7 56	4791	14.40	3
N5356	13 52.4	+ 5 35	1631	14.10	3	N5423	14 0.3	+ 9 35	6005	13.90	-3
N5363	13 53.6	+ 5 30	1372	11.46	0	N5424	14 0.5	+ 9 40	6281	14.30	-2
N5364	13 53.7	+ 5 16	1489	11.31	4	N5434	14 0.9	+ 9 41	4889	14.30	5
						N5463	14 3.7	+ 9 36	7491	14.10	20
						N5482	14 6.0	+ 9 10	7355	14.20	-2
GROUP NUMBER	125	8 GALAXIES									
I 946	13 49.7	+ 14 21	7114	14.50	1	GROUP NUMBER	131	4 GALAXIES			
I 948	13 50.0	+ 14 20	7183	14.40	-7	N5440	14 0.8	+ 35 0	4091	13.40	1
1352+1517	13 52.1	+ 15 17	5975	14.10	-2	N5444	14 1.2	+ 35 22	4312	13.04	-3
I 959	13 53.6	+ 13 45	7142	14.40	1	N5445	14 1.3	+ 35 16	4238	14.10	-1
I 962	13 54.7	+ 12 16	6456	14.00	-6	1401+3559	14 1.6	+ 35 59	4168	14.20	20
1354+1541	13 54.9	+ 15 41	5807	14.50	-1						
1355+1532	13 55.6	+ 15 32	5865	14.30	20	GROUP NUMBER	132	6 GALAXIES			
1356+1548	13 56.6	+ 15 48	7946	14.50	3	N5422	13 58.9	+ 55 24	2192	12.83	-2
						N5443	14 0.5	+ 56 3	2381	13.20	3
GROUP NUMBER	126	6 GALAXIES				N5473	14 3.0	+ 55 8	2362	12.66	-3
N5341	13 50.4	+ 38 4	3988	14.10	20	N5475	14 3.5	+ 55 59	1846	13.40	0
N5351	13 51.3	+ 38 10	3971	12.77	3	N5485	14 5.5	+ 55 14	2342	12.80	-2
N5378	13 54.7	+ 38 3	3383	13.80	1	N5486	14 5.7	+ 55 20	1740	14.00	9
N5380	13 54.8	+ 37 51	3513	13.25	-3						
N5394	13 56.4	+ 37 42	3745	13.85	3	GROUP NUMBER	133	3 GALAXIES			
N5395	13 56.5	+ 37 40	3878	12.47	3	N5490	14 7.6	+ 17 47	5298	13.40	-5
						I 983	14 7.7	+ 17 58	5742	14.30	2
GROUP NUMBER	127	5 GALAXIES				1407+1836	14 7.7	+ 18 36	5409	14.50	3
N5374	13 55.0	+ 6 21	4533	13.70	4						
N5382	13 55.7	+ 6 30	4551	14.00	-2						
N5384	13 55.7	+ 6 46	5344	14.00	-2						
N5386	13 55.8	+ 6 35	4536	13.70	0						
N5405	13 58.7	+ 7 57	7169	14.50	20						

TABLE 2—Continued

GROUP NUMBER	134	8 GALAXIES	14 2.3	7957	23	14.40	-2	GROUP NUMBER	138	4 GALAXIES	14 9.5	5647	30	13.90	-3
N5454	14	+ 14 37		8012	25	14.50	2	1409+3953	14	+ 39 53		6206	23	14.50	1
I 979	14	+ 15 4		5537	10	13.90	4	N5536	14	+ 39 44		5819	20	14.30	-2
N5504	14	+ 16 4		4546	29	14.10	1	N5598	14	+ 40 33		5976	25	14.00	-2
N5505	14	+ 13 32		4955	22	14.00	3	N5603	14	+ 40 36					
1411+1551	14	+ 15 51		4877	23	14.00	3								
N5522	14	+ 15 23		5244	31	14.30	1	GROUP NUMBER	139	6 GALAXIES	14 17.6	1968	20	13.48	3
1412+1421	14	+ 14 21		5834	18	14.00	-2	N5560	14	+ 4 13		1804	24	11.62	2
N5525	14	+ 14 31						N5566	14	+ 4 10		1814	21	13.58	-3
								N5574	14	+ 3 28		1755	20	12.16	-5
								N5576	14	+ 3 30		1743	20	13.60	4
								N5577	14	+ 3 40		1617	0	13.60	5
								1420+0157	14	+ 1 57					
GROUP NUMBER	135	19 GALAXIES	13 44.4	1839	23	12.71	3								
N5301	13	+ 46 21		2148	10	12.43	1	GROUP NUMBER	140	3 GALAXIES	14 19.8	2573	0	14.00	0
N5377	13	+ 47 29		2484	26	14.30	0	N5587	14	+ 14 9		2524	35	14.20	15
1355+4613	13	+ 46 13		2416	30	14.30	5	1420+1518	14	+ 15 18		2631	20	13.42	5
N5425	13	+ 48 41		2378	10	12.53	1	N5600	14	+ 14 52					
N5448	14	+ 49 25		2216	20	12.90	5								
N5480	14	+ 50 58		2329	34	13.50	-3								
N5481	14	+ 50 57		2247	28	14.40	15								
1407+4916	14	+ 49 16		2263	40	14.50	-7								
N5500	14	+ 48 47		2279	24	13.30	3	GROUP NUMBER	141	13 GALAXIES	14 13.5	3221	15	12.90	5
N5520	14	+ 50 36		2281	35	14.10	20	N5529	14	+ 36 27		4205	10	12.98	2
N5602	14	+ 50 45		2696	20	12.44	5	N5533	14	+ 35 35		3390	28	13.80	4
N5624	14	+ 51 50		2741	10	13.70	3	N5545	14	+ 36 48		3376	22	14.20	0
N5660	14	+ 49 51		2487	9	11.87	4	N5544	14	+ 36 48		3539	60	12.60	-5
I1029	14	+ 50 8		2523	22	13.17	0	N5557	14	+ 36 43		3733	30	14.30	1
N5676	14	+ 49 41		2636	15	14.50	7	N5589	14	+ 35 29		3584	26	13.60	-2
N5689	14	+ 48 58		2561	47	13.30	2	N5590	14	+ 35 25		3513	21	14.50	-2
N5693	14	+ 48 48						N5596	14	+ 37 21		4214	75	12.70	2
N5707	14	+ 51 47						N5614	14	+ 35 5		3536	22	12.70	2
								N5656	14	+ 35 32		4512	110	14.00	20
								N5675	14	+ 36 31		4429	26	14.20	-2
								N5684	14	+ 36 45		4623	0	13.90	20
								N5695	14	+ 36 46					
GROUP NUMBER	136	4 GALAXIES	14 11.2	7594	30	14.50	7								
N5514	14	+ 7 54		7575	29	14.10	-7	GROUP NUMBER	142	3 GALAXIES	14 26.6	5555	28	14.40	-2
N5546	14	+ 7 48		7982	29	14.20	-2	1426+1405	14	+ 14 5		5402	30	14.10	20
N5549	14	+ 7 36		7921	28	14.50	-2	N5648	14	+ 14 15		5468	31	14.00	5
N5575	14	+ 6 26						N5649	14	+ 14 11					
GROUP NUMBER	137	3 GALAXIES	14 11.2	6180	31	14.40	20								
1411+1244	14	+ 12 44		7678	29	14.20	20	GROUP NUMBER	143	6 GALAXIES	14 26.3	4678	27	13.90	20
N5550	14	+ 13 6		7920	31	14.50	8	N5635	14	+ 27 38		4687	26	14.30	-7
N5591	14	+ 13 57						N5642	14	+ 30 15		4675	23	12.97	2
								N5641	14	+ 29 3		3849	20	13.39	3
								N5653	14	+ 31 26		4242	30	14.40	3
								N5657	14	+ 29 24		3834	35	14.34	3
								N5672	14	+ 31 53					

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TABLE 2—Continued

GROUP NUMBER	157	3 GALAXIES	2177	8	13.30	5	GROUP NUMBER	165	5 GALAXIES	6067	42	13.70	-2
N5956	15	32.6	2177	8	13.30	5	N7539	23	12.0	23	24	13.70	-2
N5957	15	33.0	2108	12	13.30	3	N7548	23	12.7	25	0	14.50	-2
N5970	15	36.1	2271	25	12.40	5	N7568	23	13.9	24	13	14.50	20
							2316+2457	23	16.2	24	57	14.00	1
							N7620	23	17.6	23	57	13.50	6
GROUP NUMBER	158	5 GALAXIES	2972	27	14.20	4	GROUP NUMBER	166	8 GALAXIES	3314	65	13.89	0
N5981	15	36.8	2972	27	14.20	4	N7611	23	17.1	7	47	13.89	0
N5982	15	37.6	3297	20	12.63	-5	N7612	23	17.2	8	17	14.30	-2
N5985	15	38.6	2882	10	12.11	3	N7619	23	17.7	7	56	12.78	-5
N5987	15	38.8	3349	22	13.30	3	N7623	23	18.0	8	7	14.17	-1
N5989	15	40.5	3238	15	13.60	5	N7626	23	18.2	7	57	12.90	-5
							N7631	23	18.8	7	56	13.80	3
GROUP NUMBER	159	3 GALAXIES	3512	30	13.20	7	N7634	23	19.2	8	37	13.70	-2
N5996	15	44.7	3512	30	13.20	7	N7648	23	21.4	9	24	13.50	-2
N6003	15	47.1	4364	29	14.40	-2							
N6004	15	48.1	4121	40	13.40	5							
GROUP NUMBER	160	4 GALAXIES	6357	21	14.10	-2	GROUP NUMBER	167	5 GALAXIES	5892	24	14.10	-2
1554+4800	15	54.2	6357	21	14.10	-2	2317+2600	23	17.4	26	0	13.70	5
I1152	15	55.3	6292	25	14.40	-7	N7624	23	17.9	27	2	4384	25
1557+4849	15	57.2	6373	27	14.30	-3	N7628	23	18.4	25	37	4205	39
1602+4928	16	2.1	6396	25	14.30	0	2322+2813	23	22.9	28	13	6951	28
							N7660	23	23.3	26	45	5735	20
GROUP NUMBER	161	3 GALAXIES	5086	27	14.20	3	GROUP NUMBER	168	4 GALAXIES	3498	15	13.30	5
1558+2100	15	58.2	5086	27	14.20	3	N7664	23	24.2	24	48	12.70	5
N6052	16	3.0	5069	20	13.64	5	N7673	23	25.2	23	19	13.90	4
N6060	16	3.7	4864	71	14.30	4	N7677	23	25.6	23	15	12.68	5
							N7678	23	26.0	22	9		
GROUP NUMBER	162	3 GALAXIES	5584	20	13.70	20	GROUP NUMBER	169	3 GALAXIES	7987	33	14.40	3
N7316	22	33.5	5584	20	13.70	20	2329+2540	23	29.1	25	40	14.00	-2
N7321	22	34.0	7184	36	14.00	3	2330+2339	23	30.0	23	39	14.50	-2
N7323	22	34.4	5548	42	14.00	3	N7698	23	31.5	24	40		
GROUP NUMBER	163	7 GALAXIES	2099	30	14.40	5	GROUP NUMBER	170	3 GALAXIES	4023	36	14.20	4
N7437	22	55.7	2099	30	14.40	5	N7691	23	30.0	15	34	14.00	-2
N7448	22	57.6	2182	20	12.23	4	N7711	23	33.1	15	2	13.70	0
N7454	22	58.6	1998	20	13.60	-5	N7722	23	36.2	15	41		
N7464	22	59.4	1865	32	14.50	-5							
N7463	22	59.4	2433	26	13.50	3							
N7465	22	59.5	1947	23	13.30	-1							
N7468	23	0.5	2079	12	14.00	-5							
GROUP NUMBER	164	3 GALAXIES	4440	34	14.00	20							
N7515	23	10.3	4440	34	14.00	20							
N7563	23	13.4	4277	25	14.50	1							
N7570	23	14.2	4617	28	14.30	1							

TABLE 2—Continued

GROUP NUMBER	171	3 GALAXIES							
2333+0457	23 33.0	+ 4 57	5680	26	14.50	2			
11503	23 35.9	+ 4 32	6040	35	14.30	20			
11504	23 38.7	+ 3 45	6199	27	14.50	3			
GROUP NUMBER	172	4 GALAXIES							
N7731	23 39.0	+ 3 28	2759	30	14.30	1			
N7732	23 39.1	+ 3 27	2848	37	14.50	8			
N7750	23 44.1	+ 3 30	2812	20	13.80	6			
N7757	23 46.2	+ 3 54	2842	10	13.90	5			
GROUP NUMBER	173	10 GALAXIES							
N7720	23 36.0	+ 26 45	9159	29	14.05	-3			
N7728	23 37.4	+ 26 52	9516	42	14.30	-7			
N7747	23 43.0	+ 27 6	7781	34	14.50	3			
N7767	23 48.3	+ 26 49	8023	27	14.20	0			
N7768	23 48.4	+ 26 53	8133	24	14.00	-5			
N7775	23 49.9	+ 28 30	6715	33	13.90	5			
2350+2801	23 50.7	+ 28 1	6961	28	14.50	-2			
N7777	23 51.4	+ 28 13	6955	27	14.40	-7			
2352+2836	23 52.0	+ 28 36	6858	36	14.30	-2			
2358+2808	23 58.2	+ 28 8	8907	39	14.40	15			
GROUP NUMBER	174	3 GALAXIES							
N7778	23 50.7	+ 7 36	5145	28	13.80	-7			
N7779	23 50.9	+ 7 36	5056	23	13.60	0			
N7782	23 51.3	+ 7 42	5271	20	13.33	3			
GROUP NUMBER	175	3 GALAXIES							
2353+1738	23 53.0	+ 17 38	1733	20	14.40	15			
2354+1633	23 54.2	+ 16 33	1737	36	14.50	10			
N7800	23 57.0	+ 14 32	1684	15	13.40	10			
GROUP NUMBER	176	3 GALAXIES							
N7819	0 1.8	+ 31 12	4978	10	14.30	3			
N7805	23 58.9	+ 31 9	4975	21	14.30	-2			
N7806	23 58.9	+ 31 10	4854	22	14.40	20			

TABLE 3
COMPARISON OF GROUP CATALOGS

CfA	TG	NB	DV	Other	CfA	TG	NB	DV	Other
1	--	--	--	---	51	15	--	--	---
2	--	--	--	---	52	16	86	2	M81
3	--	--	--	---	53	7	--	--	---
4	--	--	--	---	54	--	--	--	---
5	--	--	--	---	55	--	--	--	---
6	--	--	--	---	56	--	--	--	---
7	--	--	--	---	57	20	54	--	---
8	--	--	--	---	58	21	57	47	---
9	--	--	--	Pisces	59	--	--	--	---
10	--	--	--	N383, Pisces	60	--	62	54	---
11	103	--	--	---	61	25	--	--	---
12	--	--	--	---	62	27	--	--	---
13	--	--	--	---	63	24	--	--	---
14	--	--	--	---	64	32	--	--	---
15	--	--	--	A 194	65	26	--	--	---
16	--	--	--	---	66	27	--	--	---
17	--	--	--	---	67	28	65	43	---
18	--	59	--	---	68	27,30,34	56	11	M96
19	--	--	--	---	69	32	87	--	---
20	--	--	--	---	70	--	--	--	---
21	--	--	--	---	71	33	61	48	---
22	--	58	7	N1023	72	--	--	--	---
23	--	--	--	---	73	35	--	--	---
24	--	--	--	---	74	--	--	--	---
25	--	--	--	---	75	35	--	--	---
26	--	--	--	---	76	40	53	--	---
27	--	--	--	---	77	36	56	49	---
28	--	--	--	---	78	38,42	56	9	M66
29	--	--	--	---	79	41	--	--	---
30	--	--	--	---	80	--	--	--	---
31	--	--	--	---	81	--	--	--	Al367-west
32	--	48	15	Cetus I	82	47	--	--	---
33	--	--	--	---	83	43	--	--	---
34	--	--	--	---	84	--	--	--	---
35	--	--	--	---	85	47	--	--	Al318
36	--	--	--	---	86	44	--	--	---
37	--	--	--	---	87	45	--	--	---
38	--	--	--	---	88	46	--	--	---
39	1	--	--	---	89	57	--	--	---
40	--	--	--	---	90	46	--	--	Al367
41	2	--	--	---	91	47	79	--	---
42	3	--	--	---	92	49	--	--	---
43	--	66	42	---	93	53	--	--	---
44	--	74	6	N2841	94	23,31,47,64	--	3,10,13	Coma I, Ursa Major
45	7	--	--	---	95	50-57,59-62	60,82	17,32,34	Canes Venatici
46	6	--	--	---	96	53	--	--	---
47	10	--	--	---	97	57	--	--	---
48	--	--	--	---	98	7	--	--	---
49	--	--	--	---	99	--	83	--	---
50	11,13	64	42	---	100	57	51	--	---

TABLE 3—Continued

CFA	TG	NB	DV	Other	CFA	TG	NB	DV	Other
101	53	--	--	---	151	97	--	--	---
102	53	--	--	---	152	97,99	78	30	---
103	72	--	--	---	153	--	--	--	---
104	47	--	--	---	154	--	--	--	---
105	57	--	--	---	155	101	--	--	---
106	57	41	18,19,20,25 26,35,46	Virgo	156	98	--	--	---
107	58	88	--	---	157	100	--	--	---
108	--	--	--	---	158	102	--	--	---
109	60	--	--	---	159	--	--	--	---
110	57	--	--	---	160	--	--	--	---
111	--	--	--	---	161	--	--	--	---
112	63	--	--	---	162	--	--	--	---
113	64	--	--	Coma, A1656	163	--	--	--	Pegasus-north
114	--	--	--	---	164	--	--	--	---
115	67,69	68	--	---	165	--	--	--	Pegasus
116	72	--	--	---	166	--	--	--	---
117	--	--	--	---	167	--	--	--	---
118	71	--	--	---	168	--	--	--	---
119	--	--	--	Coma-east	169	--	--	--	---
120	--	--	--	---	170	--	--	--	---
121	--	--	--	---	171	--	--	--	---
122	74,78	81	--	---	172	--	--	--	---
123	77	69	--	---	173	--	--	--	A2666/34
124	79	55	--	---	174	--	--	--	---
125	--	--	--	---	175	--	--	--	---
126	77	--	--	---	176	--	--	--	N7819
127	79	--	--	---					
128	82	75	5	M101					
129	77	--	--	N5416					
130	80	--	--	---					
131	81	--	--	---					
132	82	77	--	---					
133	--	--	--	---					
134	84	--	--	---					
135	83,91	73,72	37	---					
136	--	--	--	---					
137	--	--	--	---					
138	--	--	--	---					
139	87	--	--	---					
140	--	--	--	---					
141	86	--	--	---					
142	--	--	--	---					
143	--	--	--	---					
144	--	76	30	---					
145	89,92	49	29	Virgo III					
146	41	--	--	---					
147	--	--	--	---					
148	95	50	--	---					
149	94	--	--	---					
150	95	50	50	---					

Out of the entire redshift survey catalog cut at 12,000 km s^{-1} (2390 galaxies), 1451 galaxies are assigned to groups, 280 are in binaries, and 659 galaxies are unassigned. These percentages are similar to those for the NB catalog (i.e., 60%, 14%, and 26%, respectively). We plan to analyze and publish the binary sample in a later paper. We do not include a list of unassigned galaxies for the reasons given in Huchra and Thuan (1977) and HG: most of these galaxies are not truly isolated but lie near the sample boundaries in velocity magnitude or position.

V. DISCUSSION

Our group selection procedure is designed to minimize distance-dependent biases and to produce a well-defined, statistically homogeneous sample of groups. One hundred two of the 176 groups we find have been previously identified. Papers I and II contain dynamical studies of the NB and CfA catalogs, respectively. Properties of the first-ranked galaxies in these groups have been examined by Geller and Postman (1983).

Several of the groups in our sample are the cores or major fractions of well-known rich clusters of galaxies

(Virgo, Coma, Pegasus, A194, and A1367). The centers, the mean velocities, and the velocity dispersions agree well with published values.

One feature of our studies which is particularly noteworthy is the reproducibility of groups from catalogs covering the same region of the sky to different apparent magnitudes (Table 3). The NB and CfA catalogs then allow us to examine the effects of addition of faint members on the derived dynamical quantities (Paper II).

Another interesting feature is our separation of the Virgo cluster from background groups—there is a “hole” of large angular size and more than 1000 km s^{-1} depth behind the cluster. This is a good example of the kinds of frothy structure seen throughout the CfA redshift survey (Davis *et al.* 1982).

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M. J. GELLER and J. P. HUCHRA: Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138