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A CATALOG OF NEARBY POOR CLUSTERS OF GALAXIES

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ABSTRACT

A catalog of 732 optically selected, nearby poor clusters of galaxies covering the entire sky north of $-3°$ declination is presented. The poor clusters, called WBL clusters, were identified as concentrations of three or more galaxies with photographic magnitudes brighter than 15.7, possessing a galaxy surface overdensity of $10^{4/3}$. These criteria are consistent with those used in the identification of the original Yerkes poor clusters, and this new catalog substantially increases the sample size of such objects. These poor clusters cover the entire range of galaxy associations up to and including Abell clusters, systematically including poor and rich galaxy systems spanning over 3 orders of magnitude in the cluster mass function. As a result, this new catalog contains a greater diversity of richness and structures than other group catalogs, such as the Hickson and Yerkes catalogs. The information on individual galaxies includes redshifts and cross-references to other galaxy catalogs. The entries for the clusters include redshift (where available) and cross-references to other group and cluster catalogs.

Key words: catalogs — galaxies: clusters: general

1. INTRODUCTION

Traditionally, the study of galaxy associations has focused on rich clusters of galaxies such as the Abell clusters (Abell 1958; Abell, Corwin, & Olowin 1989). However, these clusters represent the extreme in galaxy associations and, although massive, are relatively rare. Conversely, poor clusters are less massive but more numerous and constitute a significant fraction of the mass of the universe. As the building blocks of clusters and superclusters, poorer galaxy associations must be studied in order to understand the formation and evolution of large-scale structure in the universe. Poor clusters are fundamental entities, but until recently, they have not received as much attention as they merit. This stems in part from a paucity of catalogs that reach, in a consistent way, out to Abell cluster distances.

There are several poor-cluster catalogs in the literature that have yielded important scientific results. The CfA group catalog (Geller & Huchra 1983), based on both redshift and spatial information (thereby removing the possibility of projection effects). showed groups to be important in tracing large-scale structure. The Hickson compact group catalog (HCG; Hickson 1982), with its high galaxy density criterion, has proved an important resource for studying interacting galaxies. The AWM (Albert, White, & Morgan 1977), MKW (Morgan, Kayser, & White 1975), and WP (White 1978) clusters, also known as Yerkes clusters, specifically targeted poor clusters containing cD galaxies. These clusters have been studied extensively in the optical, radio, and X-ray regions of the spectrum. They possess optical structures that are a continuation of the Abell clusters to lower richness levels (Bahcall 1980), and their X-ray and radio properties show surprising similarities to the Abell clusters as well (e.g., X-ray cooling flows and tailed radio sources; Doe et al. 1995; Burns et al. 1987).

The original identifications of the Yerkes clusters were made by eye in a laborious procedure of scanning the POSS glass plates in conjunction with the Zwicky catalog (CGCG; Zwicky et al. 1961–1968). The new study presented in this paper was undertaken to create a much larger sample of clusters electronically (with galaxy overdensities similar to the Yerkes clusters), utilizing an algorithm that reproduced the human-eye search.

The terms "poor galaxy cluster" and "galaxy group" have not been consistently defined or applied in the literature. Since this catalog includes galaxy associations of all richness levels (see, e.g., Bhavsar 1981), we use the term "poor cluster" to describe these entries. Imposing an arbitrary change in nomenclature, calling rich associations clus-

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ters and poor associations groups, would obscure the continuous spectrum of properties possessed by these objects.

2. TECHNIQUES

The creation of the catalog employed the Turner & Gott (1976, hereafter TG) algorithm, which is capable of mimicking, in a very mathematical, reproducible, and consistent way, the work of the human eye in picking out density enhancements from the POSS. We chose to apply the TG algorithm to the CGCG catalog, since this procedure accomplished our goal of identifying the majority of the Yerkes clusters. The CGCG is a compilation of galaxies and clusters, covering the sky north of $-3°$ declination. Zwicky identified galaxies to a limiting photographic magnitude $m_{pg} = 15.7$ on the POSS photographic plates. Zwicky clusters were identified as galaxy associations containing at least 50 galaxies in the magnitude range m_{max} to $m_{max} + 3$, where m_{max} is the magnitude of the brightest cluster member. To create this poor-cluster catalog, we used CGCG galaxies as faint as $m_{pg} = 15.7$, which is 0.7 mag deeper than previous poor-cluster searches (e.g., Bhavsar 1980).

The TG algorithm begins with an assigned target factor for galaxy surface density enhancement (σ_g). Around each galaxy in the catalog, it determines the smallest circular aperture on the sky, centered on the galaxy, that yields the desired σ_g. The number of additional galaxies, if any, within each aperture is also noted, which we define to be the number of "nearest neighbors." All overlapping apertures are then merged together into a cluster. Galaxies that have no nearest neighbors and are not included within the apertures of other galaxies are considered isolated. The process is then repeated, at a larger value of σ_g, excluding all isolated galaxies. This results in a hierarchy of clusters that shows a given cluster's fragmentation or continued integrity with increasing σ_g. A more detailed discussion of the algorithm and its operation may be found in earlier papers (TG; Bhavsar & Piggott 1983; Bhavsar 1980).

Levels of σ_g were chosen to be multiplicative factors above the average surface density of CGCG galaxies determined in the region of the Galactic caps ($|b| > 40°$, $\delta > 0°$; 6866 galaxies sr^{-1}). Values of σ_g were increased in intervals of $10^{1/3}$ (beginning with $10^{2/3}$), which corresponds nominally to a volume density enhancement $\rho_g = 10^{1/2}$ (beginning with 10).

In order to reduce the role of chance line-of-sight galaxy projections creating false clusters in the catalog, we sought an enhancement level low enough to select all the MKW, AWM, and WP clusters, but no lower. The two most optimum levels were found to be $\sigma_g = 10^{4/3} \approx 21$ (σ_{21}) and $\sigma_g = 10^{5/3} \approx 46$ (σ_{46}), corresponding to $\rho_g = 100$ and $\rho_g = 316$, respectively. The σ_{21} results were used to identify the clusters, and the σ_{46} information was used both to detect regions of hierarchical subclustering and to identify a subsample of poor clusters at a higher density. Subsequent analysis has shown that projection effects play a negligible role in these poor clusters (Burns et al. 1996; Bhavsar 1980). The number of poor clusters detected at σ_{21} and σ_{46}, along with the total number of galaxies that are members of these poor clusters, are listed in Table 1. The typical aperture radius of a three-member cluster at σ_{21} is $0\overset{\circ}{.}146$; at σ_{46} it is $0\overset{\circ}{.}099$. To excellent approximation, for richer clusters, the aperture size scales with the square root of the number of members.

3. THE POOR-CLUSTER CATALOG

The following selection criteria were used to create the full poor-cluster catalog:

$$\sigma_g \geq 10^{4/3} = \sigma_{21} , \quad m_{pg} \leq 15.7 , \quad N_g \geq 3 ,$$

where σ_g is the surface density of galaxies above the background, as defined in § 2, m_{pg} is the photographic magnitude of each galaxy as recorded in the CGCG, and N_g is the number of CGCG galaxies in each cluster. This catalog is presented in Table 2.

The electronic version of the CGCG we used has 15,409 galaxies within the Galactic caps. In this region, the WBL clusters contain 2245 galaxies at σ_{21} and 1159 galaxies at σ_{46}. The total area of this region is 2.24431 sr. The area occupied by WBL clusters in this region is 0.01416 sr at σ_{21} and 0.00346 sr at σ_{46}. Thus the WBL clusters contain about 14.6% of the galaxies in 0.63% of the area at σ_{21} and 7.5% of the galaxies in 0.15% of the area at σ_{46}. These results make clear that this catalog contains poor clusters of high galaxy density.

The summary data for each poor cluster are presented in Table 2, and the data on individual galaxy members in Table 3. Both Tables 2 and 3 will be available in electronic form from the Astronomical Data Center.[3] Table 4 contains a cross-reference to previously used names for these poor clusters. The new clusters are designated "WBL" to represent the last names of the authors, which is consistent with IAU guidelines.

3.1. *The Poor-Cluster Catalog: Table 2*

This table presents basic data on all 732 poor clusters. The following information is provided:

Column (1).—The WBL designation of each poor cluster. Cross-references to previously used names are given in Table 4. Footnotes in this column provide additional information for the poor clusters where necessary.

[3] http://adc.gsfc.nasa.gov/.

TABLE 1

POOR-CLUSTER STATISTICS AT DIFFERENT SURFACE DENSITIES

Galaxy Surface Density	N_3[a]	N_4[a]	N_5[a]	N_6[a]	N_7[a]	N_8[a]	N_9[a]	$N_{>9}$[a]	N_{tot}[b]	G_{tot}[c]
σ_{21}	446	127	54	31	25	10	9	30	732	3324
σ_{46}	262	61	23	15	6	6	6	12	391	1691

[a] N_i = number of poor clusters containing i Zwicky galaxies.
[b] Number of poor clusters with three or more Zwicky galaxies.
[c] Number of Zwicky galaxies in poor clusters.

TABLE 2

POOR-CLUSTER CATALOG

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 001......	0002.3−0150	3	0	0.02394	2	...	...	...	...	...	...	...	...
WBL 002......	0002.4+0455	5	3+0	0.01450	2	i	0000.8+0452	68	0.36	...	...	...	...
WBL 003......	0004.5+0803	3	0	0.01523	2	...	0002.4+0744	79	0.46	...	...	...	...
WBL 004......	0004.9+4645	3	3	...	...	...	...	...	...	...	...	...	...
WBL 005......	0011.5+4756	6	6	0.01191	2	i	...	...	...	...	...	...	...
WBL 006......	0011.8+2814	3	3	0.02342	3	...	0013.6+2927	53	1.44	...	...	...	...
WBL 007......	0015.8+2946	13	11+0	0.02197	11	iii	0013.6+2927	53	0.64	...	002	...	WP 01
WBL 008......	0018.8+2922	3	3	0.02201	2	...	0024.4+3014	91	0.99	...	...	...	...
WBL 009......	0018.8+2210	11	8+0	0.01962	9	...	0014.5+2315	132	0.67	...	003	...	...
WBL 010......	0026.6+0234	3	3	0.01534	3	...	0032.6+0207	89	1.05	...	...	...	...
WBL 011......	0028.5+0453	3	0	0.04295	2	i	0033.8+0538	82	1.11	...	...	...	...
WBL 012......	0028.8+0810	3	3	0.01446	3	...	...	...	...	...	...	002	...
WBL 013......	0035.9+2916	6	5+0	0.01820	5	...	0036.3+2914	47	0.11	0071	...	...	...
WBL 014......	0036.5+2523	3	0	0.01539	3	ii	0034.4+2532	34	0.89	...	...	...	...
WBL 015......	0036.8+0036	3	3	0.01418	3	...	0032.6+0207	89	1.24	...	...	007	...
WBL 016......	0036.8+0631	4	0	0.03847	2	...	0033.8+0538	82	0.84	0076	...	...	...
WBL 017......	0040.4+2313	4	3+0	0.02442	2	...	...	...	...	...	...	...	...
WBL 018......	0044.0+3000	3	0	0.01706	2	...	...	...	...	...	...	...	...
WBL 019......	0052.1+2832	3	3	0.02282	2	...	0107.5+3212	179	1.66	...	...	...	...
WBL 020......	0052.5+3120	4	3+0	0.01957	4	...	0107.5+3212	179	1.11	...	...	...	...
WBL 021......	0053.8−0130	14	10+2+0	0.04527	13	iii	0054.6−0127	50	0.24	0119	...	...	...
WBL 022......	0055.1+3004	3	0	0.01693	3	...	0107.5+3212	179	1.14	...	...	...	...
WBL 023......	0056.5+1243	3	0	...	...	...	0055.0+1212	52	0.73	...	...	...	...
WBL 024......	0058.5+2952	4	2+0	0.02277	4	...	0107.5+3212	179	1.01	...	...	...	...
WBL 025......	0104.7+3208	8	8	0.01706	8	...	0107.5+3212	179	0.20	...	...	...	...
WBL 026......	0105.7+3252	3	3	0.01557	3	...	0107.5+3212	179	0.26	...	...	...	...
WBL 027......	0105.8+3313	4	0	0.02291	4	iii	0107.5+3212	179	0.36	...	...	...	...
WBL 028......	0106.4+3152	3	2+0	0.01708	3	ii	0107.5+3212	179	0.13	...	...	...	...
WBL 029......	0106.4+3227	3	2+0	0.01715	3	ii	0107.5+3212	179	0.11	...	...	...	...
WBL 030......	0107.2+3207	3	0	0.01732	3	...	0107.5+3212	179	0.04	...	...	...	...
WBL 031......	0108.2+3253	4	0	0.01730	4	...	0107.5+3212	179	0.23	...	...	...	...
WBL 032......	0110.4+1516	3	0	0.04425	1	...	0110.5+1515	58	0.04	...	...	...	...
WBL 033......	0110.4−0033	3	3	0.01798	3	...	0106.9+0028	100	0.81	...	010	...	...
WBL 034......	0112.3+0133	4	0	0.04260	4	ii	0106.9+0028	100	1.04	...	...	...	...
WBL 035......	0113.1+3248	3	2+0	0.01696	3	...	0107.5+3212	179	0.44	...	...	...	...
WBL 036......	0113.3+4629	3	3	0.01698	2	...	...	...	...	...	...	...	...
WBL 037......	0119.2+0501	4	2+0	0.00750	2	...	...	...	...	...	...	...	...
WBL 038......	0120.5+3306	22	13+2+2+0	0.01902	20	iii	0107.5+3212	179	0.97	...	...	...	...
WBL 039......	0121.0+3226	3	2+0	0.01797	3	ii	0107.5+3212	179	0.96	...	...	...	...
WBL 040......	0121.5+3335	3	2+0	0.01763	3	...	0107.5+3212	179	1.09	...	...	...	...
WBL 041......	0121.8+3157	3	0	0.03514	3	ii	0107.5+3212	179	1.02	...	...	...	...
WBL 042......	0121.9+0942	3	0	0.00855	3	ii	0123.0+0953	70	0.28	...	...	...	WP 04
WBL 043......	0122.3+0148	3	2+0	0.03233	3	...	0121.5+0113	71	0.51	...	014	...	...
WBL 044......	0122.6+1436	3	3	0.02146	3	...	...	...	...	...	...	...	...
WBL 045......	0123.0−0143	25	18+0	0.01802	25	ii	0123.6−0133	113	0.12	0194	...	...	...
WBL 046......	0123.3+3428	4	3+0	0.01612	4	...	0107.5+3212	179	1.34	...	...	010	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 047......	0125.1−0210	4	0	0.01752	4	...	0123.6−0133	113	0.38	0194	...	...	...
WBL 048......	0126.3+3912	3	2+0	0.02711	3	...	...	...	...	...	...	...	...
WBL 049......	0131.4−0119	3	2+0	0.01603	3	...	0123.6−0133	113	1.05	...	...	...	...
WBL 050......	0146.1+1016	3	3	0.01729	3	...	0144.0+1230	92	1.50	...	...	...	...
WBL 051......	0146.3+3447	4	4	0.01400	4	...	0150.8+3615	106	0.98	0262	...	...	...
WBL 052......	0146.9+2144	3	3	0.00940	2	...	...	...	...	...	020	...	...
WBL 053......	0148.0+3219	3	2+0	0.03648	2	...	0150.9+3050	155	0.62	...	...	...	...
WBL 054......	0149.7+3558	24	13+2+2+0	0.01583	24	...	0150.8+3615	106	0.20	0262	...	...	...
WBL 055......	0151.1+3623	5	4+0	0.01642	5	...	0150.8+3615	106	0.09	0262	...	...	...
WBL 056......	0152.0+3640	3	3	0.01797	3	...	0150.8+3615	106	0.28	0262	...	...	...
WBL 057......	0152.1+0509	3	0	0.01648	1	...	...	...	...	...	...	...	...
WBL 058......	0153.1+3653	3	0	0.01609	3	...	0150.8+3615	106	0.44	0262	...	...	...
WBL 059......	0153.3+3710	4	2+0	0.01761	4	ii	0150.8+3615	106	0.59	...	...	...	...
WBL 060......	0153.9+3248	3	3	0.01468	3	...	0150.9+3050	155	0.80	...	...	...	...
WBL 061......	0153.9+0525	8	4+2+0	0.01905	4	ii	...	...	...	...	...	...	WP 06
WBL 062......	0157.1+2324	4	3+0	0.01641	1	...	...	...	...	...	...	...	...
WBL 063......	0159.2+0814	4	4	0.02575	2	...	...	...	...	...	...	...	...
WBL 064......	0159.8+2723	3	2+0	0.01630	1	...	...	...	...	...	...	...	...
WBL 065......	0202.5+3439	3	2+0	0.01487	3	...	0216.0+3625	135	1.45	...	...	...	...
WBL 066......	0205.1+0154	5	5	0.02318	5	...	0205.5+0110	65	0.68	...	...	015	...
WBL 067......	0215.3+3749	3	0	0.01705	2	...	0216.0+3625	135	0.63	...	...	...	...
WBL 068......	0216.9+3741	3	0	0.02142	1	...	0216.0+3625	135	0.57	...	...	...	...
WBL 069......	0219.8+4247	3	3	0.02088	3	...	0303.0+4125	431	1.13	0347	...	...	...
WBL 070......	0220.7+2516	3	0	0.01706	1	...	0226.0+2600	280	0.30	...	...	...	...
WBL 071......	0222.7+4144	18	5+3+2+0	0.01781	9	ii	0303.0+4125	431	1.05	0347	...	...	...
WBL 072......	0222.9+2439	3	0	0.03503	3	...	0226.0+2600	280	0.33	...	...	...	...
WBL 073......	0222.9+2702	5	3+0	0.03319	3	...	0226.0+2600	280	0.27	...	...	...	...
WBL 074......	0228.9+0103	4	2+0	0.02251	4	ii	0233.0+0124	82	0.79	...	...	...	...
WBL 075......	0229.1+0234	3	3	0.02735	2	...	0233.0+0124	82	1.11	...	...	...	...
WBL 076......	0231.2+3416	3	2+0	0.01213	1	...	0236.2+3249	101	1.06	...	...	...	...
WBL 077......	0231.4+3242	5	3+0	0.01514	4	ii	0236.2+3249	101	0.60	...	...	...	...
WBL 078......	0232.4+3722	3	2+0	0.01285	3	...	0216.0+3625	135	1.52	...	...	...	...
WBL 079......	0235.2+0126	3	2+0	0.02175	1	...	0233.0+0124	82	0.39	...	...	...	...
WBL 080......	0235.5+4128	5	3+0	0.01529	1	...	0303.0+4125	431	0.72	...	...	...	...
WBL 081......	0235.7+0152	11	2+2+0	0.02192	7	...	0233.0+0124	82	0.60	...	...	...	...
WBL 082......	0236.7+1037	3	2+0	0.01192	2	...	...	...	...	...	031	...	...
WBL 083......	0238.3+0830	5	3+0	0.01962	2	...	0240.6+0740	116	0.52	...	...	...	...
WBL 084......	0240.2+4116	3	0	0.01716	2	...	0303.0+4125	431	0.60	...	...	...	...
WBL 085......	0240.4+3213	7	3+3+0	0.01484	5	...	0236.2+3249	101	0.63	...	...	...	...
WBL 086......	0247.9+1551	3	0	0.04225	2	i	...	...	...	...	...	...	...
WBL 087......	0250.2−0128	3	2+0	0.02389	2	...	0246.1−0045	74	1.01	...	...	...	...
WBL 088......	0251.3+4125	7	5+0	0.01838	6	...	0303.0+4125	431	0.31	...	...	...	AWM 7
WBL 089......	0253.5+1543	5	2+0	0.03403	3	...	0254.7+1606	59	0.49	0397	...	...	...
WBL 090......	0255.0+0548	3	3	0.02327	3	...	0254.7+0555	79	0.11	0400	...	...	...
WBL 091......	0255.4+2514	3	0	0.03484	3	ii	...	...	...	...	...	...	...
WBL 092......	0305.4−0059	3	2+0	0.02156	2	...	0310.0−0130	168	0.45	...	...	...	...
WBL 093......	0308.0+3512	3	0	0.02011	2	...	0303.0+4125	431	0.87	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 094......	0312.9+3658	3	3	0.02110	2	...	0303.0+4125	431	0.67	...	...	...	...
WBL 095......	0315.1−0157	3	2+0	0.02757	1	...	0310.0−0130	168	0.48	...	...	...	...
WBL 096......	0315.1−0018	4	2+0	0.02347	3	...	0310.0−0130	168	0.63	...	036	...	...
WBL 097......	0315.9+4120	33	18+4+2+0	0.01733	32	iii	0303.0+4125	431	0.34	0426	...	...	...
WBL 098......	0317.8−0215	3	2+0	0.02973	2	i	0310.0−0130	168	0.74	...	037	...	...
WBL 099......	0318.2−0113	4	4	0.02116	4	ii	0310.0−0130	168	0.74	...	...	025	...
WBL 100......	0320.2−0208	3	2+0	0.02744	1	...	0310.0−0130	168	0.94	...	...	...	...
WBL 101......	0323.6−0048	3	0	...	...	...	0310.0−0130	168	1.24	...	...	...	...
WBL 102......	0329.6+0008	3	0	0.02715	2	i	...	...	...	...	...	...	...
WBL 103......	0335.1+0303	3	2+0	0.01926	1	...	...	...	...	...	...	...	...
WBL 104......	0356.8+0633	3	3	0.01902	1	...	...	...	...	...	...	...	...
WBL 105......	0358.8+2302	4	0	0.02268	4	...	...	...	...	...	...	...	...
WBL 106......	0428.8+7309	3	3	0.01408	1	...	0452.2+7305	108	0.94	...	...	...	...
WBL 107......	0432.7+7312	3	3	...	...	...	0452.2+7305	108	0.79	...	...	...	...
WBL 108......	0443.4−0212	3	0	0.01482	2	...	0449.3−0437	124	1.37	...	...	...	...
WBL 109......	0451.6+0134	3	2+0	0.02967	3	ii	0451.3+0159	47	0.54	...	...	...	...
WBL 110......	0456.3−0036	5	2+2+0	0.01497	5	...	0456.1−0103	76	0.36	...	...	...	...
WBL 111......	0507.7−0047	3	3	0.02630	2	...	0507.9−0110	46	0.52	...	...	...	...
WBL 112......	0513.9+0624	5	0	0.02471	5	ii	0510.0+0458	178	0.59	0539	...	...	...
WBL 113......	0517.5+0633	3	0	0.02949	3	...	0510.0+0458	178	0.83	...	...	...	...
WBL 114......	0519.3+0323	3	2+0	0.01460	3	...	0510.0+0458	178	0.95	...	...	...	...
WBL 115......	0540.4+6904	3	0	0.01432	3	...	...	...	...	...	...	...	...
WBL 116......	0612.1+6633	3	0	...	...	...	...	...	...	...	...	...	...
WBL 117......	0624.1+7428	3	0	0.01827	2	...	...	...	...	...	...	...	...
WBL 118......	0636.7+5318	3	3	0.03570	2	...	0628.9+5232	160	0.52	...	...	...	...
WBL 119......	0637.1+5012	3	0	0.01891	1	...	...	...	...	...	...	...	...
WBL 120......	0642.6+4352	3	3	0.02105	3	...	0642.2+4130	184	0.77	...	...	...	...
WBL 121......	0643.9+3339	3	2+0	0.01678	3	...	0647.4+3323	42	1.10	...	...	...	...
WBL 122......	0644.1+5117	3	3	...	...	...	0628.9+5232	160	0.99	...	...	...	...
WBL 123......	0644.3+8641	3	2+0	0.01549	2	...	0735.0+8545	95	0.79	...	...	...	...
WBL 124......	0645.6+8102	3	0	...	...	...	...	...	...	...	...	...	...
WBL 125......	0646.9+2543	4	4	0.01639	2	...	...	...	...	...	...	...	...
WBL 126......	0647.6+3332	5	5	0.01690	2	...	0647.4+3323	42	0.23	...	...	...	...
WBL 127......	0650.7+5027	3	3	0.01959	1	...	0700.4+4801	203	0.85	...	...	...	...
WBL 128......	0659.8+6407	5	3+2	0.01500	1	...	...	...	...	...	...	...	...
WBL 129......	0700.9+5406	3	0	...	...	...	0718.9+5412	162	0.98	...	...	...	...
WBL 130......	0703.5+4453	3	3	0.01945	1	...	0700.4+4801	203	0.94	...	...	...	...
WBL 131......	0705.3+4842	6	4+0	0.01942	5	...	0700.4+4801	203	0.31	0569	...	...	...
WBL 132......	0706.3+7152	3	0	0.01034	2	...	...	...	...	...	...	...	...
WBL 133......	0706.9+5010	13	7+3+2+0	0.01996	7	...	0700.4+4801	203	0.71	...	...	...	WP 10
WBL 134......	0707.9+8551	6	3+0	0.00804	1	...	0735.0+8545	95	0.32	...	...	...	...
WBL 135......	0708.0+3944	3	2+0	...	...	...	0710.5+4222	104	1.55	...	...	...	...
WBL 136......	0708.1+3116	3	3	...	...	...	0706.6+3221	62	1.09	...	...	...	...
WBL 137......	0710.5+5504	6	4+0	...	...	...	0718.9+5412	162	0.55	...	...	...	...
WBL 138......	0717.8+5551	4	0	0.04040	4	...	0718.9+5412	162	0.62	0576	...	...	...
WBL 139......	0719.8+2134	3	2+0	...	...	...	0720.6+2259	79	1.09	...	...	...	...
WBL 140......	0722.4+1915	3	0	0.02305	2	i	0730.1+1858	87	1.26	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 141	0723.7+3354	3	2+0	0.02609	3	ii	0718.6+3249	82	1.12	...	...	...	...
WBL 142	0725.7+3356	3	3	0.01350	2	...	0718.6+3249	82	1.35	...	...	...	...
WBL 143	0728.3+1312	4	3+0	0.02865	2	...	...	...	...	...	...	...	...
WBL 144	0729.0+1826	3	3	...	...	...	0730.1+1858	87	0.41	...	...	...	...
WBL 145	0732.8+1145	4	0	0.01678	4	...	...	...	...	...	...	...	...
WBL 146	0734.0+5931	4	0	...	...	...	0733.4+6102	203	0.45	...	...	...	...
WBL 147	0734.3+1001	3	2+0	0.02956	1	...	...	...	...	...	...	...	...
WBL 148	0736.2+4925	3	2+0	0.02085	1	...	0739.8+4949	86	0.49	...	...	...	...
WBL 149	0736.9+3221	3	3	...	...	...	...	...	...	...	...	...	...
WBL 150	0742.0+5710	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 151	0743.1+5907	3	0	0.02710	2	i	0733.4+6102	203	0.67	...	...	...	...
WBL 152	0744.2+2703	4	2+0	0.01591	3	...	0752.9+2833	128	1.14	...	...	...	...
WBL 153	0744.5+7428	3	3	0.01314	2	...	...	...	...	...	...	...	...
WBL 154	0747.6+5019	3	3	0.02155	2	...	0739.8+4949	86	0.94	...	...	...	...
WBL 155	0748.8+2733	4	0	0.02636	1	...	0752.9+2833	128	0.64	...	...	...	...
WBL 156	0749.0+1000	3	0	...	...	...	...	...	...	...	...	...	...
WBL 157	0750.4+0905	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 158	0750.7+5545	4	2+0	0.01787	2	i	0756.1+5616	94	0.58	...	...	...	...
WBL 159	0752.2+1433	4	3+0	...	...	...	...	...	...	...	...	...	...
WBL 160	0752.8+2702	6	3+0	0.01867	2	i	0752.9+2833	128	0.71	...	...	...	...
WBL 161	0753.8+5649	4	0	0.01964	2	i	0756.1+5616	94	0.40	...	...	...	...
WBL 162	0754.6+5917	3	2+0	0.01995	2	...	...	...	...	...	...	...	...
WBL 163	0755.8+0812	6	2+0	0.03188	1	...	0755.9+0805	22	0.33	...	...	...	...
WBL 164	0757.0+3958	3	3	0.02791	3	ii	0801.3+3954	53	0.92	...	...	...	...
WBL 165	0757.1+2649	7	5+0	0.02665	2	...	0752.9+2833	128	0.93	...	...	...	...
WBL 166	0757.9+5645	3	0	0.02868	1	...	0756.1+5616	94	0.34	...	...	...	...
WBL 167	0758.1+5704	3	3	0.02726	1	...	0756.1+5616	94	0.54	...	...	...	...
WBL 168	0758.3+2624	3	3	...	...	...	0752.9+2833	128	1.16	...	...	...	...
WBL 169	0759.5+0939	9	3+2+0	0.01558	3	...	0800.0+0946	47	0.22	...	...	...	...
WBL 170	0801.0+1007	5	0	0.03371	1	...	0800.0+0946	47	0.55	...	...	...	...
WBL 171	0801.3+4020	4	2+2	0.04070	1	...	0801.3+3954	53	0.49	...	...	...	...
WBL 172	0801.4+0847	4	0	0.01645	1	...	0800.0+0946	47	1.31	...	...	...	...
WBL 173[a]	0805.3+5758	5	0	0.02181	3	iii	0810.1+5813	48	0.86	...	...	...	...
WBL 174	0807.1+2502	3	3	0.01396	2	...	...	...	...	...	...	...	...
WBL 175	0809.2+5807	4	0	0.01753	2	i	0810.1+5813	48	0.19	0634	...	...	...
WBL 176	0811.4+5825	4	2+0	0.02664	3	...	0810.1+5813	48	0.32	0634	...	...	...
WBL 177	0814.7+2118	3	2+0	0.00714	3	ii	0819.6+2209	121	0.71	...	...	...	...
WBL 178	0817.1+2114	11	6+2+0	0.01596	11	...	0819.6+2209	121	0.54	...	...	...	...
WBL 179	0820.3+0427	7	4+0	...	...	...	0820.6+0436	31	0.32	...	...	...	...
WBL 180	0821.2+2111	3	0	0.01766	3	...	0819.6+2209	121	0.51	...	...	...	...
WBL 181	0821.5−0010	3	3	...	...	...	0820.1−0029	37	0.78	...	...	...	...
WBL 182	0823.5+2304	3	3	0.01843	3	...	0819.6+2209	121	0.64	...	...	...	...
WBL 183	0825.5+3036	7	6+0	0.05117	5	...	0826.2+3039	76	0.12	0671	...	...	...
WBL 184	0830.1+5544	3	3	...	...	...	0822.4+5453	81	1.03	...	...	...	...
WBL 185	0830.4+4139	3	2+0	...	...	...	0836.3+4147	154	0.43	...	...	...	...
WBL 186	0831.5+5257	3	0	...	...	...	0829.6+5245	37	0.57	...	...	...	...
WBL 187	0832.9−0249	5	0	0.02221	1	...	0832.6−0235	97	0.15	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 188......	0833.1−0146	8	5+2+0	0.03002	1	...	0832.6−0235	97	0.51	...	...	...	...
WBL 189......	0833.7+4140	3	0	...	...	...	0836.3+4147	154	0.19	...	...	...	...
WBL 190......	0835.2+2524	4	2+0	...	...	...	0837.0+2506	71	0.43	...	...	...	...
WBL 191......	0835.4+1952	3	2+0	0.01507	2	...	...	...	...	...	...	...	...
WBL 192......	0841.1+5512	4	3+0	0.02581	2	...	...	...	...	...	...	...	...
WBL 193......	0843.9+2824	3	3	0.02128	3	...	0842.3+2820	43	0.51	...	...	...	...
WBL 194......	0844.0+0240	3	0	...	...	...	0843.8+0215MD	37	0.69	...	...	...	...
WBL 195......	0844.6+3751	4	2+0	0.04460	3	iii	...	...	...	...	...	...	...
WBL 196......	0845.5+1910	4	3+0	...	...	...	0846.3+1910	58	0.20	...	...	...	...
WBL 197......	0847.0+4028	4	0	...	...	...	0836.3+4147	154	0.94	...	...	...	...
WBL 198......	0848.5+5307	3	3	0.01927	1	...	0855.0+5248	101	0.61	...	...	...	...
WBL 199......	0859.5+1442	3	3	...	...	...	...	...	...	...	...	...	...
WBL 200......	0900.6+1350	4	0	...	...	...	0900.0+1343	37	0.29	...	...	...	...
WBL 201......	0901.1+2210	3	3	0.01037	1	...	...	...	...	...	...	...	...
WBL 202......	0902.5+1830	5	0	0.02180	2	i	0909.7+1814	178	0.58	...	...	...	...
WBL 203......	0903.6+4134	3	2+0	0.02741	1	...	...	...	...	...	...	...	...
WBL 204......	0906.5+3750	3	0	0.02298	2	...	0903.9+3716	53	0.87	...	...	...	...
WBL 205......	0906.7+2039	3	3	0.02939	2	i	0909.7+1814	178	0.85	...	...	...	...
WBL 206......	0906.9+5038	4	4	0.01647	3	...	0916.7+4952	88	1.19	...	041	...	...
WBL 207......	0909.3+3512	3	2+0	0.00678	3	...	...	...	...	...	...	...	...
WBL 208......	0911.6+3019	3	2+0	0.02298	3	...	0911.0+3025	55	0.18	...	042	...	...
WBL 209......	0912.1+2249	3	3	...	...	...	...	...	...	...	...	...	...
WBL 210......	0913.3+1756	6	4+0	0.02880	4	...	0909.7+1814	178	0.31	...	...	...	...
WBL 211......	0913.9+2934	3	3	0.03590	2	...	0911.0+3025	55	1.17	...	...	...	...
WBL 212......	0914.1+4211	3	3	0.00576	2	...	...	...	...	...	...	...	...
WBL 213......	0914.3+2015	10	4+3+0	0.02882	9	...	0909.7+1814	178	0.77	...	...	...	AWM 1
WBL 214......	0915.4+2035	4	2+0	0.03049	4	...	0909.7+1814	178	0.91	...	...	...	...
WBL 215......	0916.5+0606	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 216......	0916.5+3358	13	4+2+2+0	0.02365	13	...	0915.6+3409	47	0.34	0779	...	...	...
WBL 217......	0917.4+0113	3	2+0	0.01740	3	...	...	...	...	...	...	...	MKW 01s
WBL 218......	0917.6+6429	3	3	0.00527	3	...	...	...	...	...	...	...	...
WBL 219......	0920.7+2234	5	5	0.03289	3	ii	0921.6+2354	91	0.89	...	...	...	...
WBL 220......	0921.1+0220	3	3	0.02845	2	i	...	...	...	...	...	...	...
WBL 221......	0921.2+4929	7	2+2+2+0	0.01141	3	...	0916.7+4952	88	0.56	...	...	...	...
WBL 222......	0923.6+2219	3	3	0.02591	2	...	0921.6+2354	91	1.09	...	...	...	...
WBL 223......	0924.4+2314	3	3	0.02500	1	...	0921.6+2354	91	0.61	...	...	...	...
WBL 224......	0924.9+3015	8	5+2+0	0.02658	8	ii	0926.5+3026	59	0.39	...	...	...	...
WBL 225......	0930.8+3415	3	0	0.02688	3	...	0927.2+3446	61	0.88	...	...	...	...
WBL 226......	0931.3+1020	3	0	0.01056	2	...	...	...	...	...	...	...	...
WBL 227......	0934.7+2325	4	3+0	0.02353	2	...	0941.7+2430	188	0.62	...	...	...	...
WBL 228......	0935.4+0945	3	0	0.02876	1	...	...	...	...	...	...	...	...
WBL 229......	0935.8+1716	4	2+0	0.02890	2	...	0935.3+1701	44	0.37	...	...	...	...
WBL 230......	0936.8+0639	3	3	0.02196	1	...	...	...	...	...	...	...	...
WBL 231......	0938.3+2128	4	4	0.02440	1	...	0941.7+2430	188	1.00	...	...	...	...
WBL 232......	0938.5+1143	6	3+0	0.02160	2	...	0938.2+1130	42	0.32	...	048	...	...
WBL 233......	0938.5+2618	4	3+0	...	...	...	0941.7+2430	188	0.62	...	...	...	...
WBL 234......	0939.8+0431	4	4	...	...	...	...	...	...	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 235......	0940.0+3207	3	0	0.00492	3	...	...	...	...	...	...	...	...
WBL 236......	0940.3+3626	3	0	0.02252	3	...	0945.0+3441MD	111	1.08	...	...	...	...
WBL 237......	0940.5+2301	3	0	...	...	...	0941.7+2430	188	0.48	...	...	...	...
WBL 238......	0943.5+5439	4	3+0	...	...	...	0943.7+5454	49	0.31	...	...	...	...
WBL 239......	0943.7+0318	3	2+0	0.02013	2	...	...	...	...	...	...	...	...
WBL 240......	0945.0+2154	3	3	...	...	...	0941.7+2430	188	0.87	...	...	...	...
WBL 241......	0945.7+4417	4	0	0.01593	1	...	...	...	...	...	049	...	...
WBL 242......	0947.2+0919	3	0	0.01741	1	...	...	...	...	...	...	...	...
WBL 243......	0947.4+1300	5	3+0	0.00476	3	ii	...	...	...	...	...	...	...
WBL 244......	0950.6+0806	3	3	0.02947	2	i	...	...	...	...	...	...	...
WBL 245......	0953.7+2045	4	3+0	0.02505	2	...	0941.7+2430	188	1.49	...	...	...	...
WBL 246......	0956.9+1316	4	0	0.03547	1	...	...	...	...	...	...	...	...
WBL 247......	0957.8+0332	3	0	0.00698	2	...	...	...	...	...	...	...	...
WBL 248......	0957.9−0243	7	5+0	0.02040	7	...	...	...	...	...	...	...	MKW 01, WP 12
WBL 249......	1000.6+1222	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 250......	1001.8+4656	3	3	...	...	...	...	...	...	...	...	...	...
WBL 251......	1004.0+1437	3	0	0.02987	1	...	1003.6+1443	47	0.18	...	...	...	...
WBL 252......	1004.3+1414	3	2+0	...	...	...	1003.6+1443	47	0.66	...	...	...	...
WBL 253......	1005.2+0032	3	3	...	...	...	1006.0+0014	22	0.95	...	...	...	...
WBL 254......	1006.6+5843	3	2+0	0.00724	2	...	...	...	...	...	...	...	...
WBL 255......	1008.8+5907	3	2+0	0.03039	2	...	...	...	...	...	...	...	...
WBL 256......	1008.9+0011	4	3+0	0.03354	3	...	...	...	...	...	...	043	...
WBL 257......	1010.3−0226	3	3	...	...	...	1020.4−0316	122	1.31	...	...	...	...
WBL 258......	1010.8+3858	9	9	0.02211	6	...	1010.5+3922	34	0.72	...	...	...	...
WBL 259......	1011.3+1444	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 260......	1012.4+2122	3	3	0.02061	2	...	1014.1+2215	55	1.05	...	...	...	...
WBL 261......	1013.2+6031	3	0	0.03127	3	...	...	...	...	...	...	...	...
WBL 262......	1015.5+2207	3	0	0.00473	3	...	1014.1+2215	55	0.38	...	...	044	...
WBL 263......	1016.0+1328	3	0	0.01825	1	...	...	...	...	...	...	...	...
WBL 264......	1017.8+4314	3	3	0.02306	3	...	1019.1+4325MD	27	0.67	...	059	...	...
WBL 265......	1019.1+5714	4	0	0.00387	2	...	1029.3+5736	67	1.27	...	...	...	...
WBL 266......	1021.1+1253	3	3	...	...	...	1020.1+1306	34	0.58	0999	...	...	...
WBL 267......	1021.6+1351	3	3	...	...	...	1020.1+1306	34	1.49	...	...	...	...
WBL 268......	1022.0+2818	3	0	0.02094	3	...	...	...	...	...	...	...	...
WBL 269......	1022.1−0037	3	3	0.03453	2	...	...	...	...	...	...	...	...
WBL 270......	1022.5+1726	7	7	0.00262	2	...	1021.8+1725	44	0.24	...	...	...	...
WBL 271......	1024.3+1620	5	4+0	0.03304	2	...	1021.8+1725	44	1.69	...	...	...	...
WBL 272......	1024.6−0304	5	2+0	0.03129	5	...	1020.4−0316	122	0.52	...	...	...	MKW 02s
WBL 273......	1024.6+1118	3	3	0.03229	2	...	1023.8+1056	34	0.74	1016	...	...	...
WBL 274......	1025.8+4004	3	3	0.02925	1	...	1026.9+4023	73	0.31	...	...	...	...
WBL 275......	1027.1+4729	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 276......	1027.6−0255	4	0	0.03691	4	...	1020.4−0316	122	0.91	...	...	...	MKW 02
WBL 277......	1027.7+0728	3	3	...	...	...	...	...	...	...	...	...	...
WBL 278......	1028.3−0230	3	2+0	0.02968	3	...	1020.4−0316	122	1.04	...	...	...	...
WBL 279......	1030.6+1210	5	4+0	0.03418	1	...	...	...	...	...	...	...	...
WBL 280......	1039.0+0632	7	6+0	0.02271	4	ii	...	...	...	...	...	...	WP 13
WBL 281......	1039.0+2135	3	3	0.02499	2	...	1037.4+2156	53	0.58	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 282......	1039.3+1833	3	0	...	...	...	1039.4+1853MD	40	0.50	...	...	...	...
WBL 283......	1044.7+0731	3	3	0.02712	1	...	...	...	...	...	...	...	...
WBL 284......	1045.7+0510	4	2+2	0.02608	1	...	1045.8+0510	22	0.12	...	...	...	...
WBL 285......	1045.8+1855	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 286......	1046.7+1235	3	0	0.00461	1	...	1045.8+1251MD	22	0.96	...	...	...	...
WBL 287......	1047.1+1630	4	4	0.02169	2	...	1047.6+1623	25	0.43	...	...	...	...
WBL 288......	1047.2+0037	5	3+2	0.03899	5	ii	1046.3+0038	26	0.50	...	...	...	WP 14
WBL 289......	1048.0+0902	3	2+0	0.08393	1	...	1049.2+0902	31	0.59	...	...	...	...
WBL 290......	1049.4+0404	3	3	0.01213	1	...	...	...	...	...	...	...	...
WBL 291......	1053.8+1001	3	0	0.03238	2	...	1056.9+0922	56	1.08	...	...	...	...
WBL 292......	1055.6+5553	3	3	0.04670	1	...	...	...	...	...	...	...	...
WBL 293......	1055.7+0452	3	0	...	...	...	...	...	...	...	...	...	...
WBL 294......	1056.9+5018	3	3	0.02413	3	...	...	...	...	...	072	...	...
WBL 295......	1057.9+1014	3	0	0.03342	2	...	1056.9+0922	56	0.97	1142	...	...	...
WBL 296......	1058.2+1045	6	0	0.03513	6	ii	1058.6+1049	28	0.28	1142	...	...	...
WBL 297......	1059.3+1032	4	2+0	0.03511	4	...	1058.6+1049	28	0.68	1142	...	...	...
WBL 298......	1100.8+0709	3	3	...	...	...	...	...	...	...	...	...	...
WBL 299......	1102.2+0433	3	3	0.02544	1	...	1106.2+0516	59	1.24	...	...	...	...
WBL 300......	1102.3+3015	3	0	0.02975	3	...	1105.3+2835	118	0.91	...	...	...	...
WBL 301......	1104.3+2853	3	0	0.03309	3	...	1105.3+2835	118	0.19	1185	...	...	...
WBL 302......	1105.4+1323	4	0	...	...	...	1105.2+1342	36	0.55	...	...	...	...
WBL 303......	1106.2+2654	3	3	0.02986	2	i	1105.3+2835	118	0.87	...	...	...	...
WBL 304......	1107.0+2202	3	3	0.03189	1	...	1105.6+2323	65	1.27	...	...	...	...
WBL 305......	1107.3+3716	4	3+0	0.02885	4	...	1107.7+3610	78	0.85	...	...	...	...
WBL 306......	1107.3+0732	3	0	0.02113	1	...	...	...	...	...	...	...	...
WBL 307......	1107.3+0343	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 308......	1108.0+0506	6	0	0.02485	2	i	1106.2+0516	59	0.47	...	...	...	...
WBL 309......	1108.0+1023	3	3	0.04340	1	...	1107.6+1041	45	0.42	...	...	...	...
WBL 310......	1108.1+2834	3	2+0	0.03536	3	...	1105.3+2835	118	0.32	1185	...	...	...
WBL 311......	1108.2+2858	8	8	0.03158	8	...	1105.3+2835	118	0.38	1185	...	...	...
WBL 312......	1109.1+0325	8	3+2+0	0.02983	3	...	...	...	...	...	...	...	...
WBL 313......	1110.0+2818	3	0	0.04680	3	ii	1105.3+2835	118	0.55	1185	...	...	...
WBL 314......	1110.1+2334	4	3+0	0.02115	1	...	1105.6+2323	65	0.97	...	...	...	...
WBL 315......	1110.6+0525	4	2+2	...	...	...	1106.2+0516	59	1.11	...	...	...	...
WBL 316......	1110.6+0804	4	2+0	0.02937	1	...	...	...	...	...	...	...	...
WBL 317......	1112.0+0420	5	0	...	...	...	...	...	...	...	...	...	...
WBL 318......	1113.6+2934	7	7	0.04258	6	iii	1115.2+3013	87	0.51	1213	...	...	...
WBL 319......	1114.3+1820	3	2+0	0.00299	3	...	...	...	...	...	...	...	...
WBL 320......	1115.6+2342	3	3	0.02250	2	...	1123.5+2256	83	1.42	...	...	...	...
WBL 321......	1115.6+5817	3	3	0.01698	2	i	1138.7+5650	275	0.74	...	...	...	...
WBL 322......	1117.2+7306	5	5	...	...	...	1112.7+7259	60	0.35	...	...	...	...
WBL 323......	1118.3+0046	3	0	...	...	...	...	...	...	...	...	...	...
WBL 324......	1118.4+0323	12	9+2+0	0.02394	9	iii	1119.7+0305	56	0.47	...	076	...	...
WBL 325......	1119.1+3438	7	6+0	0.03482	7	...	1117.6+3352	56	0.89	1228	...	...	...
WBL 326......	1119.6+2435	5	4+0	0.02704	4	...	1123.5+2256	83	1.35	...	...	051	...
WBL 327......	1120.1+4720	3	2+0	...	...	...	1117.0+4653	71	0.58	...	...	...	...
WBL 328......	1120.6+0302	3	2+0	...	...	...	1119.7+0305	56	0.24	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 329......	1121.8+0334	3	0	0.00453	3	...	1119.7+0305	56	0.76	...	...	...	...
WBL 330......	1123.9+3536	4	2+0	0.03401	4	...	1123.9+3541	62	0.08	1257	...	...	...
WBL 331......	1125.4+0816	3	3	0.02120	1	...	...	...	...	...	...	...	...
WBL 332......	1125.5−0057	3	2+0	0.04233	2	...	...	...	...	...	...	...	...
WBL 333......	1125.7+2742	3	2+0	0.03244	3	...	1125.5+2759	77	0.23	...	...	...	...
WBL 334......	1126.1+0921	7	7	0.02100	6	...	1126.3+0913	37	0.25	...	...	...	...
WBL 335......	1126.1+2103	3	3	0.02055	2	...	1123.5+2256	83	1.43	...	...	053	...
WBL 336......	1126.7−0127	3	3	...	...	...	...	...	...	...	...	...	...
WBL 337......	1130.0−0152	3	3	...	...	...	1141.7−0158	186	0.94	...	...	...	...
WBL 338......	1130.6+2003	3	3	0.03262	1	...	...	...	...	...	...	...	...
WBL 339......	1131.6+4919	4	2+0	0.03245	4	...	1131.2+4923	44	0.13	1314	...	...	...
WBL 340......	1132.9+5510	6	3+2+0	0.01964	6	iii	1138.7+5650	275	0.40	1318	085	...	...
WBL 341......	1133.8−0235	4	4	0.04513	3	...	1141.7−0158	186	0.66	...	...	...	...
WBL 342......	1134.3+2015	33	3	0.02138	2	...	1142.1+2126	133	0.98	...	...	...	...
WBL 343......	1135.3+2214	5	4+0	0.03046	5	...	1142.1+2126	133	0.80	...	...	...	...
WBL 344......	1136.7+2637	3	2+0	0.02277	3	ii	1140.0+2715	46	1.29	...	...	...	...
WBL 345......	1137.0+3212	3	3	0.00896	3	ii	...	...	...	...	086	...	...
WBL 346......	1137.5−0036	3	3	...	...	...	1141.7−0158	186	0.55	...	...	...	...
WBL 347......	1137.7+1801	5	2+0	0.01131	4	...	...	...	...	...	...	...	...
WBL 348......	1138.8+2506	3	2+0	0.01225	2	...	...	...	...	...	087	...	...
WBL 349......	1139.3+1616	3	2+0	0.01052	3	ii	...	...	...	...	...	...	...
WBL 350......	1139.6+1035	5	5	0.02072	5	...	1138.3+1024	34	0.65	...	...	058	MKW 10, WP 16
WBL 351......	1140.2+2648	3	0	0.02986	3	...	1140.0+2715	46	0.58	...	...	...	...
WBL 352......	1141.0+1031	3	0	0.02010	3	...	1138.3+1024	34	1.19	...	...	...	...
WBL 353......	1141.7+2012	78	64+2+0	0.02202	77	iii	1142.1+2126	133	0.56	1367	...	...	...
WBL 354......	1141.7+3341	7	3+2+0	0.03129	5	...	1142.2+3456	109	0.69	...	...	...	...
WBL 355......	1142.5−0125	5	4+0	0.02765	3	...	1141.7−0158	186	0.19	...	...	...	...
WBL 356......	1143.6+3324	5	4+0	0.03299	5	...	1142.2+3456	109	0.87	...	...	...	...
WBL 357......	1144.1+3517	3	0	0.04805	2	i	1142.2+3456	109	0.29	...	...	...	...
WBL 358......	1145.8+1259	4	4	0.01354	4	...	...	...	...	...	...	059	...
WBL 359......	1146.8−0048	3	3	0.02075	2	...	1141.7−0158	186	0.55	...	...	...	...
WBL 360......	1147.1−0315	8	8	0.02735	4	ii	1141.7−0158	186	0.60	...	...	...	MKW 03, WP 17
WBL 361......	1147.6+5049	3	0	...	...	...	...	...	...	...	...	...	...
WBL 362......	1148.4+5642	3	2+0	0.00297	1	...	1138.7+5650	275	0.29	...	...	...	...
WBL 363......	1150.4+2058	4	2+0	0.02158	3	...	1142.1+2126	133	0.90	...	...	...	...
WBL 364......	1151.7+0953	3	0	0.03630	1	...	1151.8+0944	19	0.46	...	...	...	...
WBL 365......	1152.9+1215	3	3	0.02131	1	...	...	...	...	...	...	...	...
WBL 366......	1155.1+3234	3	3	0.01065	3	...	1155.0+3127	48	1.40	...	093	...	...
WBL 367......	1155.2+2809	3	3	0.01135	3	ii	1154.9+2806	35	0.13	...	095	...	...
WBL 368......	1155.7+2526	13	4+4+0	0.01515	10	...	1153.0+2522	70	0.52	...	...	...	WP 19
WBL 369......	1157.9+3210	3	0	0.02620	3	...	1155.0+3127	48	1.18	...	...	...	...
WBL 370......	1159.5+1807	4	0	0.02305	1	...	...	...	...	...	...	...	...
WBL 371......	1200.9+1647	3	2+0	0.01839	2	i	...	...	...	...	...	...	...
WBL 372......	1201.4+0210	16	9+2+0	0.02018	16	ii	1201.3+0151	37	0.51	...	...	...	MKW 04
WBL 373......	1202.1+3127	3	3	0.02551	3	...	1217.5+2915	173	1.38	...	...	...	...
WBL 374......	1202.2+2037	19	9+6+2+0	0.02309	17	...	1202.0+2028	54	0.18	...	098	...	WP 20, WP 21
WBL 375......	1202.4+1053	4	3+0	0.00844	1	...	1202.9+1051	39	0.18	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 376.......	1203.0+4325	3	2+0	0.00259	1	...	1157.2+4332	87	0.73	...	...	...	...
WBL 377.......	1203.4−0242	3	0	0.03871	2	i	...	...	...	...	...	...	...
WBL 378.......	1204.0+2828	4	2+2	0.02867	4	...	1217.5+2915	173	1.06	...	...	...	MKW 04s
WBL 379.......	1204.2+6727	3	0	0.00847	2	...	1204.8+6520	149	0.85	...	...	...	...
WBL 380.......	1204.5+4320	3	0	0.00264	3	ii	1157.2+4332	87	0.92	...	...	...	...
WBL 381.......	1204.7+1713	5	3+2	0.02273	2	...	...	...	...	...	...	...	...
WBL 382.......	1206.4+2931	3	0	0.01301	3	...	1217.5+2915	173	0.84	...	101	...	...
WBL 383[b]......	1208.0+3941	3	0	0.01292	2	i	...	...	...	...	...	...	...
WBL 384.......	1208.4+1810	3	2+0	0.02304	3	...	...	...	...	...	...	...	...
WBL 385.......	1209.7+2927	5	4+0	0.01073	5	iii	1217.5+2915	173	0.59	...	...	061	...
WBL 386.......	1209.8+1329	3	3	0.00691	3	ii	...	...	...	...	...	...	...
WBL 387.......	1209.8+1538	3	0	0.02379	3	...	...	...	...	...	...	...	...
WBL 388.......	1212.6+1348	3	0	0.00106	3	ii	...	...	...	...	...	...	...
WBL 389.......	1213.0+2416	3	0	0.02259	3	...	1212.0+2409	53	0.28	...	...	...	AWM 2
WBL 390.......	1214.0+2411	3	0	0.02319	3	...	1212.0+2409	53	0.52	...	...	...	...
WBL 391.......	1215.1+0657	3	0	0.00495	2	...	...	...	...	...	...	...	...
WBL 392.......	1216.8+0613	12	3+3+2+0	0.00704	10	ii	...	...	...	...	...	...	...
WBL 393.......	1217.1+0803	6	0	0.01183	6	iii	...	...	...	...	...	...	...
WBL 394.......	1217.2+2839	5	4+0	0.02671	5	ii	1217.5+2915	173	0.21	...	...	...	...
WBL 395.......	1217.2+2905	4	4	0.02536	4	...	1217.5+2915	173	0.06	...	...	...	...
WBL 396.......	1217.2−0030	3	2+0	...	...	...	1215.9−0036MD	31	0.66	...	...	...	...
WBL 397.......	1217.5+0540	9	4+2+0	0.00827	7	ii	...	...	...	...	...	...	...
WBL 398.......	1217.6+0853	3	3	0.02461	3	ii	...	...	...	...	...	...	...
WBL 399.......	1217.6+2933	3	2+0	0.00261	3	...	1217.5+2915	173	0.11	...	...	...	...
WBL 400.......	1218.5+4010	3	3	...	...	...	...	...	...	...	...	...	...
WBL 401.......	1220.4+1606	3	0	0.00430	3	...	...	...	...	...	...	...	...
WBL 402.......	1220.9+0621	3	3	0.02361	3	ii	...	...	...	...	...	...	...
WBL 403.......	1221.2+0719	5	0	0.00355	5	...	...	...	...	...	...	...	...
WBL 404.......	1221.3+0936	9	8+0	0.02364	8	ii	...	...	...	...	...	...	...
WBL 405.......	1221.4+0139	3	0	...	...	...	...	...	...	...	...	...	...
WBL 406.......	1221.9+0736	3	0	0.00362	3	...	...	...	...	...	...	...	...
WBL 407.......	1223.0−0237	3	3	0.02518	1	...	...	...	...	...	...	...	...
WBL 408.......	1223.9+0914	9	3+0	0.02183	9	iii	1224.1+0914	13	0.18	...	105	...	...
WBL 409.......	1225.3+1234	3	3	0.00311	3	...	...	...	...	...	...	...	...
WBL 410.......	1227.2+0816	6	3+0	0.00412	6	ii	...	...	...	...	...	...	...
WBL 411.......	1229.7+1207	3	0	0.00307	3	ii	...	...	...	...	...	...	...
WBL 412.......	1229.8+6637	3	3	0.04768	3	ii	1204.8+6520	149	1.14	...	...	...	...
WBL 413.......	1230.7+0807	3	2+0	0.02103	3	ii	...	...	...	...	...	...	...
WBL 414.......	1233.3+6415	3	3	...	...	...	...	...	...	...	108	...	...
WBL 415.......	1233.5+2712	5	4+0	0.02538	5	...	1217.5+2915	173	1.42	...	109	...	...
WBL 416.......	1235.7+0143	3	0	0.01162	2	i	...	...	...	...	...	...	...
WBL 417.......	1236.5+0038	3	0	0.02316	1	...	...	...	...	...	110	...	...
WBL 418.......	1236.8+2805	3	2+0	0.02367	3	...	...	...	...	...	...	...	...
WBL 419.......	1239.1+2619	3	3	0.01608	3	...	...	...	...	...	111	...	...
WBL 420.......	1240.6+0353	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 421.......	1241.1+1150	3	2+0	0.00472	2	...	...	...	...	...	...	...	...
WBL 422.......	1242.0+4100	3	2+0	0.01686	3	...	1243.2+4143	59	0.76	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 423	1251.4+0946	3	0	...	...	...	...	...	...	...	...	...	...
WBL 424	1251.9+2720	4	3+0	0.02455	4	ii	1257.1+2806	160	0.52	1656	...	...	...
WBL 425	1252.5+5906	4	2+2	0.00850	2	...	...	...	...	...	...	...	...
WBL 426	1257.2+2810	148	100+4+3+3+ 2+2+2+2+0	0.02312	147	iii	1257.1+2806	160	0.03	1656	113	...	...
WBL 427	1259.3+0518	3	3	...	...	...	...	...	...	...	...	...	...
WBL 428	1301.4+0810	10	6+0	0.02010	5	iii	...	...	...	...	...	...	...
WBL 429	1302.2+0404	4	3+0	...	...	...	...	...	...	...	...	...	...
WBL 430	1303.7+5354	7	6+0	0.03349	2	i	1313.0+5410	153	0.55	...	...	...	WP 22
WBL 431	1305.8+3418	3	0	0.03361	3	...	1308.2+3531	80	0.99	...	...	...	...
WBL 432	1306.3−0031	3	3	0.01610	2	...	...	...	...	...	...	...	...
WBL 433	1306.8+6231	6	2+2+0	0.02756	4	ii	1302.2+6243	79	0.43	...	...	...	...
WBL 434	1308.6+2954	3	2+0	0.02309	3	...	...	...	...	...	...	...	...
WBL 435	1311.2+0712	6	6	0.02167	2	...	1311.0+0706MD	14	0.45	...	...	...	...
WBL 436	1312.4+0318	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 437	1313.7+1342	3	0	...	...	...	...	...	...	...	...	...	...
WBL 438	1314.9+2054	4	4	0.02259	4	...	...	...	...	...	...	...	...
WBL 439	1315.7+0443	3	2+0	0.02076	1	...	...	...	...	...	...	...	...
WBL 440	1316.6+3104	3	2+0	0.03164	3	ii	1319.6+3135	91	0.55	...	...	...	...
WBL 441	1317.8+3111	3	0	0.02410	3	...	1319.6+3135	91	0.37	...	...	...	...
WBL 442	1318.9+3138	9	0	0.02052	9	ii	1319.6+3135	91	0.10	...	...	...	...
WBL 443	1319.0+1231	3	0	0.03823	1	...	...	...	...	...	...	...	...
WBL 444	1321.8+1416	6	3+0	0.02306	4	...	1321.4+1358	45	0.42	...	117	...	...
WBL 445	1322.7+3639	3	3	0.01822	3	...	...	...	...	...	118	...	...
WBL 446	1325.9+3215	4	0	0.03126	4	iii	1319.6+3135	91	0.99	...	119	...	...
WBL 447	1327.0+1159	11	9+0	0.02317	9	ii	1327.3+1145	59	0.26	...	...	...	MKW 11
WBL 448	1328.1+3135	3	0	0.02042	3	iii	...	...	...	...	...	...	...
WBL 449	1330.1+1824	4	3+0	0.02299	1	...	...	...	...	...	...	...	...
WBL 450	1330.2+0732	8	7+0	0.02317	6	...	...	...	...	...	...	...	...
WBL 451	1331.1+3320	3	3	0.02468	2	...	1331.5+3432MD	80	0.89	...	...	...	...
WBL 452	1331.4+0333	3	3	...	...	...	...	...	...	...	...	...	...
WBL 453	1331.5+1330	4	0	0.04332	2	...	1330.7+1347	47	0.43	...	...	...	...
WBL 454	1331.7+1807	3	3	0.02692	1	...	...	...	...	...	...	...	...
WBL 455	1332.0+0901	3	3	...	...	...	...	...	...	...	...	...	...
WBL 456	1333.4+1337	3	3	0.04264	2	...	1330.7+1347	47	0.85	...	121	...	...
WBL 457	1333.8+3342	3	3	0.02498	2	...	1331.5+3432MD	80	0.71	...	...	...	WP 26
WBL 458	1334.7+0644	4	3+0	...	...	...	...	...	...	...	...	...	...
WBL 459	1336.0+2802	3	0	0.03522	3	ii	1336.4+2812MD	32	0.35	...	...	...	...
WBL 460	1336.0+0047	3	3	0.02270	3	...	...	...	...	...	...	...	...
WBL 461[c]	1336.9+3137	3	0	0.01559	2	...	1339.9+3030	62	1.24	...	...	...	...
WBL 462	1338.9+0518	3	0	...	...	...	...	...	...	...	...	...	...
WBL 463	1339.1+2328	4	3+0	0.02713	1	...	1338.4+2420	52	1.00	...	...	...	...
WBL 464	1340.4+3006	5	2+0	0.04109	5	ii	1339.9+3030	62	0.39	1781	...	...	...
WBL 465	1341.3+0408	3	2+0	0.02285	1	...	...	...	...	...	...	...	...
WBL 466	1342.0+3011	3	2+0	0.03895	3	...	1339.9+3030	62	0.52	1781	...	...	...
WBL 467	1343.5+2220	3	3	0.02725	1	...	1343.3+2245	34	0.73	...	...	...	...
WBL 468	1345.2+0339	3	0	...	...	...	...	...	...	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 469......	1349.5−0156	3	3	0.01501	2	...	...	...	...	...	...	...	...
WBL 470......	1349.6+1420	7	2+0	0.02339	4	...	1358.7+1521	136	1.06	...	...	...	...
WBL 471......	1349.7+0215	5	2+0	0.03311	2	...	1348.7+0249	41	0.91	...	...	...	...
WBL 472......	1350.0+0234	6	4+2	0.02052	4	iii	1348.7+0249	41	0.60	...	...	...	...
WBL 473......	1350.1+2149	3	3	0.02518	1	...	1350.9+2142	47	0.29	...	...	...	...
WBL 474......	1351.4+3741	4	0	0.01646	2	i	1352.9+3856	124	0.63	...	...	...	...
WBL 475......	1351.4+4033	5	5	0.00806	5	...	1352.9+3856	124	0.79	...	...	068	...
WBL 476......	1351.9+3107	3	3	0.04210	3	...	1352.0+3107	30	0.06	...	...	...	...
WBL 477......	1353.1+2520	11	10+0	0.02929	3	...	1353.2+2508	71	0.17	...	...	069	WP 28
WBL 478......	1354.1+2846	4	4	0.03543	3	...	1357.1+2836	73	0.56	...	...	...	WP 29
WBL 479......	1354.7+1215	3	3	0.02053	3	...	...	...	...	...	...	...	...
WBL 480......	1355.5+1742	5	2+0	0.02201	1	...	1358.7+1521	136	1.09	...	...	...	...
WBL 481......	1356.0+0728	4	0	0.01915	2	i	...	...	...	...	...	...	...
WBL 482......	1357.0+2817	4	3+0	0.06830	4	iii	1357.1+2836	73	0.26	1831	...	...	...
WBL 483......	1358.0−0238	3	3	0.02531	3	ii	...	...	...	...	...	...	MKW 05
WBL 484......	1359.5−0108	3	3	0.02476	2	...	...	...	...	...	...	...	...
WBL 485......	1400.2+3244	3	0	0.01452	1	...	1357.6+3244	41	0.78	...	...	...	...
WBL 486......	1400.3+0934	26	10+3+3+3+0	0.02038	23	...	1400.4+0949	67	0.22	...	130	...	MKW 12, WP 30
WBL 487......	1401.4+1558	3	0	0.02298	1	...	1358.7+1521	136	0.40	...	...	...	...
WBL 488......	1402.0+1632	3	2+0	0.01410	1	...	1358.7+1521	136	0.63	...	...	...	...
WBL 489......	1402.9+3100	3	2+0	0.02516	3	...	...	...	...	...	...	...	...
WBL 490......	1404.8+1520	3	0	0.04024	2	...	1358.7+1521	136	0.65	...	...	...	...
WBL 491......	1405.5+5516	3	3	0.00563	2	...	1406.4+5513	46	0.18	...	132	...	...
WBL 492......	1406.1+0911	3	0	0.02412	2	...	...	...	...	...	...	...	...
WBL 493......	1407.6+1750	7	6+0	0.01750	4	...	1358.7+1521	136	1.45	...	133	...	...
WBL 494......	1409.9+1605	3	3	0.01751	2	...	1358.7+1521	136	1.23	...	...	...	...
WBL 495......	1411.4+0201	3	2+0	0.05457	3	ii	1413.8+0207MD	38	0.95	...	...	...	...
WBL 496......	1412.0+0324	3	0	0.02629	3	...	...	...	...	...	...	...	...
WBL 497......	1412.6+0506	4	4	0.03260	3	iii	...	...	...	...	...	...	...
WBL 498......	1414.7+0157	3	0	0.02467	3	ii	1413.8+0207MD	38	0.43	...	...	...	MKW 06
WBL 499......	1415.5+0748	4	0	0.02516	2	...	1416.0+0752	45	0.17	...	136	...	...
WBL 500......	1415.9+2636	3	0	0.01494	3	ii	1424.0+2613	102	1.09	...	...	...	...
WBL 501......	1417.8+0410	3	0	0.00557	3	...	...	...	...	...	...	...	...
WBL 502......	1420.4+0624	3	3	...	...	...	...	...	...	...	...	...	...
WBL 503......	1420.9+4035	4	3+0	0.01848	3	...	1420.7+4025	35	0.30	...	...	...	...
WBL 504......	1422.1+2653	3	2+0	0.03727	3	...	1424.0+2613	102	0.46	...	...	...	...
WBL 505......	1422.8+2803	4	0	0.03751	4	...	1426.8+2947	138	0.84	...	...	...	...
WBL 506......	1424.3+1659	9	6+0	0.05196	6	ii	1422.0+1732	65	0.72	...	...	...	...
WBL 507......	1424.9+0502	4	3+0	0.02742	3	...	...	...	...	...	...	...	...
WBL 508......	1426.0+1136	4	4	0.02640	4	...	1426.4+1132	47	0.15	...	...	...	...
WBL 509......	1426.1+2606	7	5+0	0.01434	7	...	1424.0+2613	102	0.28	...	...	...	AWM 3
WBL 510......	1427.2+0327	3	3	0.00605	3	...	1429.9+0336	25	1.64	...	...	...	...
WBL 511......	1428.6+4058	3	0	0.03390	1	...	...	...	...	...	...	...	...
WBL 512......	1429.5+0626	3	0	0.00787	3	...	...	...	...	...	...	...	...
WBL 513......	1429.6+7907	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 514......	1431.3+0400	10	5+0	0.03008	10	ii	1429.9+0336	25	1.28	...	...	...	MKW 07
WBL 515......	1432.8+4812	3	3	...	...	...	...	...	...	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 516......	1433.6+4856	3	2+0	0.00742	3	ii	...	...	...	...	...	...	...
WBL 517......	1436.6+4652	3	3	0.00746	1	...	...	...	...	...	...	...	...
WBL 518......	1438.3+0337	11	7+2+0	0.02681	10	ii	1438.4+0405	63	0.45	...	...	...	MKW 08
WBL 519......	1439.4+0937	3	2+0	...	...	...	1436.0+0926	92	0.55	...	...	...	...
WBL 520......	1439.7+0331	3	0	0.02548	3	...	1438.4+0405	63	0.62	...	...	...	...
WBL 521......	1440.2+0857	4	3+0	0.03375	1	...	1436.0+0926	92	0.74	...	...	...	...
WBL 522......	1441.2+1125	3	3	0.03648	1	...	...	...	...	...	...	...	...
WBL 523......	1442.0+1545	3	3	...	...	...	...	...	...	...	...	...	...
WBL 524......	1444.5+1147	6	6	0.02945	5	...	1445.4+1125	39	0.66	...	...	...	...
WBL 525......	1444.5+1354	5	2+0	0.03757	2	i	1445.2+1356	31	0.33	...	...	...	...
WBL 526......	1445.1+0950	4	2+0	0.02836	2	...	...	...	...	...	...	...	...
WBL 527......	1446.1+3158	4	4	0.04122	4	iii	...	...	...	...	...	...	...
WBL 528......	1447.3+1655	6	2+0	0.03680	2	...	1448.7+1651	62	0.33	1983	...	...	...
WBL 529......	1450.3+0807	3	2+0	0.03548	1	...	...	...	...	...	...	...	...
WBL 530......	1450.5+0330	6	2+0	0.00526	2	...	...	...	...	...	148	...	...
WBL 531......	1450.6+1656	6	5+0	0.04428	6	...	1448.7+1651	62	0.45	1983	...	...	...
WBL 532......	1451.4+0345	3	0	0.00548	3	...	...	...	...	...	148	...	...
WBL 533......	1451.6+1018	3	3	0.02874	2	...	...	...	...	...	...	...	...
WBL 534......	1451.7+0459	3	3	0.03099	2	i	...	...	...	...	...	...	...
WBL 535......	1452.6+1816	3	0	0.02031	2	...	1451.6+1855	48	0.87	1991	...	...	...
WBL 536......	1454.2+0932	3	2+0	0.02862	3	...	1454.3+0915	39	0.43	...	...	...	...
WBL 537......	1456.9+4839	4	4	0.03700	2	...	1456.2+4901	70	0.33	...	...	...	...
WBL 538......	1502.2+2839	7	6+0	0.05768	7	...	1502.0+2841	33	0.10	2022	...	...	...
WBL 539......	1502.6+0602	3	3	0.03163	1	...	1510.0+0315	176	1.14	...	...	...	...
WBL 540......	1502.7+1631	6	3+2+0	...	...	...	1504.6+1639	38	0.77	...	...	...	...
WBL 541......	1503.4+0600	3	2+0	...	...	...	1510.0+0315	176	1.09	...	...	...	...
WBL 542......	1503.6+0353	3	3	0.03597	2	...	...	...	...	...	...	...	...
WBL 543......	1504.5+1303	3	3	0.02204	2	...	...	...	...	...	...	...	...
WBL 544......	1504.9+2040	3	0	...	...	...	1459.8+2043	76	0.95	...	...	...	...
WBL 545......	1504.9+0705	3	2+0	0.03065	1	...	...	...	...	...	...	...	...
WBL 546......	1505.1+1627	3	0	...	...	...	1504.6+1639	38	0.35	...	...	...	...
WBL 547......	1505.5+0126	3	3	0.03522	2	...	1510.0+0315	176	0.73	...	...	...	...
WBL 548......	1506.1+1923	3	3	0.02048	1	...	1459.8+2043	76	1.59	...	...	...	WP 32
WBL 549......	1507.3+5239	6	2+0	0.01040	3	...	1457.5+5415	112	1.16	...	...	...	...
WBL 550......	1509.0+0151	6	2+0	0.00673	1	...	1510.0+0315	176	0.49	...	...	...	...
WBL 551......	1509.0+0443	4	3+0	...	...	...	1510.0+0315	176	0.51	...	...	...	...
WBL 552......	1509.9+0210	3	2+0	...	...	...	1510.0+0315	176	0.37	...	...	...	...
WBL 553......	1510.0+0140	3	3	...	...	...	1510.0+0315	176	0.54	...	...	...	...
WBL 554......	1510.8+0436	7	4+2+0	0.03627	5	...	1510.0+0315	176	0.46	...	...	...	...
WBL 555......	1511.3+0215	3	3	...	...	...	1510.0+0315	176	0.36	...	...	...	...
WBL 556......	1512.0+7520	3	3	...	...	...	...	...	...	...	...	...	...
WBL 557......	1514.4+0024	3	2+0	0.06230	2	i	1510.0+0315	176	1.04	...	...	...	...
WBL 558......	1514.4+0713	8	5+0	0.03455	8	...	...	...	...	2052	...	...	...
WBL 559......	1515.4+0723	3	3	0.03498	3	...	...	...	...	2052	...	...	...
WBL 560......	1515.5+6929	3	3	0.02250	1	...	...	...	...	...	...	...	...
WBL 561......	1515.9+1308	3	2+0	0.02792	2	...	...	...	...	...	...	...	...
WBL 562......	1517.9+0341	3	2+0	0.03674	2	...	1510.0+0315	176	0.69	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 563......	1518.3+2554	3	3	...	...	...	1519.4+2610	80	0.28	...	...	...	...
WBL 564......	1519.2+0752	4	3+0	0.04541	4	...	1518.8+0747MD	32	0.23	2063	...	...	MKW 03s
WBL 565......	1520.5−0113	4	3+0	0.02764	1	...	...	...	...	...	...	...	...
WBL 566......	1520.7+0847	28	21+2+0	0.03616	25	ii	1521.2+0851	50	0.16	2063	...	...	...
WBL 567......	1522.9+0459	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 568......	1526.3+0737	4	3+0	...	...	...	...	...	...	...	...	...	...
WBL 569......	1526.4+4306	3	3	0.01868	1	...	1534.0+4222	121	0.78	...	...	...	...
WBL 570......	1527.1+0514	3	2+0	0.03756	3	...	...	...	...	...	...	...	...
WBL 571......	1527.1+0341	3	0	0.03876	2	...	...	...	...	...	...	...	...
WBL 572......	1528.0+4253	3	2+0	0.01875	1	...	1534.0+4222	121	0.60	...	...	...	...
WBL 573......	1529.1+0734	7	4+0	0.03415	5	...	...	...	...	...	...	076	...
WBL 574......	1530.0+0454	4	3+0	0.03875	4	...	1530.9+0454	37	0.38	...	...	...	MKW 09
WBL 575......	1530.4+0040	3	2+0	0.03940	1	...	1528.4+0049MD	97	0.33	...	...	...	...
WBL 576......	1533.6+2528	5	3+0	0.03462	1	...	1534.4+2553	34	0.81	...	...	...	...
WBL 577......	1534.6+4340	5	5	0.01885	4	...	1534.0+4222	121	0.64	...	155	...	...
WBL 578......	1536.0+2625	3	2+0	...	...	...	1534.4+2553	34	1.15	...	...	...	...
WBL 579......	1537.3+1414	6	3+0	0.01512	2	i	...	...	...	...	...	...	...
WBL 580......	1537.4+2158	5	3+0	0.04151	5	...	1536.5+2147	70	0.24	...	...	...	...
WBL 581......	1538.8+2828	3	0	0.03201	3	...	1539.1+2820	53	0.16	...	...	...	...
WBL 582......	1539.8+0800	3	0	...	...	...	1540.3+0803MD	25	0.31	...	...	...	...
WBL 583......	1540.4+2355	5	2+2+0	0.02292	1	...	...	...	...	...	...	...	...
WBL 584......	1541.7+2838	3	2+0	0.03278	3	...	1539.1+2820	53	0.73	...	...	...	...
WBL 585......	1542.0+4359	3	2+0	0.03730	2	...	1534.0+4222	121	1.08	...	...	...	...
WBL 586......	1543.7+0234	3	2+0	0.01298	2	...	...	...	...	...	...	...	...
WBL 587......	1543.9+3022	3	0	0.03158	3	...	...	...	...	...	...	...	...
WBL 588......	1548.1+4210	4	4	...	...	...	...	...	...	...	...	...	...
WBL 589......	1548.2+6936	3	3	0.03769	1	...	...	...	...	...	...	...	...
WBL 590......	1548.2+6819	3	2+0	0.02907	3	...	1546.0+6722	72	0.81	...	...	078	...
WBL 591......	1549.1+1202	3	0	...	...	...	1550.4+1243	46	0.99	...	...	...	...
WBL 592......	1549.6+7123	3	3	0.02555	1	...	...	...	...	...	...	...	...
WBL 593......	1551.9+1844	4	0	0.04705	3	ii	1600.4+1925	189	0.67	...	...	...	WP 33
WBL 594......	1552.5+1107	3	0	0.04010	1	...	1552.7+1112	54	0.10	...	...	...	...
WBL 595......	1555.0+4201	3	2+0	0.03555	2	...	1555.1+4146	56	0.27	...	...	...	...
WBL 596......	1555.4+4817	5	3+0	0.01962	4	ii	1610.3+4955	149	1.18	...	160	...	...
WBL 597......	1555.5+1626	4	4	0.03546	4	ii	1600.4+1925	189	1.02	...	...	...	...
WBL 598......	1556.6+6404	3	0	0.03045	2	...	...	...	...	...	...	...	...
WBL 599......	1556.6+1505	3	3	0.03781	3	...	1600.4+1925	189	1.41	...	...	...	...
WBL 600......	1558.9+1539	3	2+0	0.03582	2	...	1600.4+1925	189	1.20	2147	...	...	...
WBL 601......	1559.4+1629	8	4+0	0.03548	8	iii	1600.4+1925	189	0.93	2147	...	...	...
WBL 602......	1559.9+1604	3	3	0.03430	3	ii	1600.4+1925	189	1.06	2147	...	...	...
WBL 603......	1601.3+1629	4	4	0.03740	4	...	1600.4+1925	189	0.93	2147	...	...	...
WBL 604......	1601.5+1722	3	0	0.03449	3	...	1600.4+1925	189	0.65	2151	...	...	...
WBL 605......	1602.2+1219	3	3	...	...	...	...	...	...	...	...	...	...
WBL 606......	1602.4+1641	5	4+0	0.03182	3	...	1600.4+1925	189	0.88	2147	...	...	...
WBL 607......	1603.2+1802	35	24+0	0.03648	35	...	1600.4+1925	189	0.49	2151	...	...	...
WBL 608......	1604.8+5530	3	0	0.03136	1	...	1613.8+5632	110	0.88	...	...	...	...
WBL 609......	1605.3+1359	5	3+0	0.04179	2	i	1604.1+1407MD	21	0.90	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 610......	1610.3+5235	3	3	0.02965	1	...	1610.3+4955	149	1.07	...	...	...	...
WBL 611......	1611.1+3100	3	3	0.05049	3	...	1608.5+3044	178	0.21	2162	...	...	WP 34
WBL 612......	1616.0+3511	10	4+2+0	0.03006	10	...	1615.8+3505	59	0.10	...	...	...	...
WBL 613......	1621.3+0952	3	3	...	...	...	...	...	...	...	...	...	...
WBL 614......	1624.6+0315	3	2+0	0.02680	1	...	...	...	...	...	...	...	...
WBL 615......	1626.5+3257	3	3	0.03527	3	...	1626.6+3326	44	0.66	...	...	082	...
WBL 616......	1627.0+3939	3	3	0.02887	3	...	1625.5+4006	91	0.35	2199	...	...	...
WBL 617......	1627.0+4119	5	4+0	0.03162	5	...	1625.5+4006	91	0.82	2197	...	...	...
WBL 618......	1628.7+4050	9	5+0	0.02973	8	...	1625.5+4006	91	0.62	2197	...	...	...
WBL 619......	1629.1+3955	7	5+0	0.02930	7	...	1625.5+4006	91	0.47	2199	...	...	...
WBL 620......	1631.8+5030	3	3	0.04803	1	...	1629.7+5027	31	0.66	...	...	...	...
WBL 621......	1636.1+3610	3	3	0.03239	3	...	...	...	...	...	...	...	...
WBL 622......	1640.6+5756	4	4	0.01990	1	...	1638.4+6038	171	0.96	...	...	...	...
WBL 623......	1646.6+3558	3	3	0.03148	3	...	...	...	...	...	...	...	...
WBL 624......	1650.3+2323	3	2+0	...	...	...	1649.9+2343	64	0.33	...	...	...	...
WBL 625......	1655.7+2756	3	2+0	0.03369	3	...	1701.4+2830	91	0.91	...	...	...	AWM 5, WP 35
WBL 626......	1656.0+4048	3	3	...	...	...	1707.6+4045	167	0.79	...	...	...	...
WBL 627......	1656.1+8142	3	0	0.03790	3	...	1609.0+8212	98	1.06	2247	...	...	...
WBL 628......	1658.1+6834	3	0	...	...	...	1655.8+6844	113	0.14	...	...	...	...
WBL 629......	1658.6+2306	3	2+0	0.00960	2	...	...	...	...	...	...	...	...
WBL 630......	1703.3+4155	4	0	...	...	...	1707.6+4045	167	0.51	...	...	...	...
WBL 631......	1705.2+4308	3	3	0.02840	1	...	1707.6+4045	167	0.87	...	...	...	...
WBL 632......	1706.8+7842	3	3	0.05732	3	...	1653.9+7856	70	0.57	2256	...	...	...
WBL 633......	1711.4+4254	3	3	...	...	...	1707.6+4045	167	0.82	...	...	...	...
WBL 634......	1712.6+0828	4	4	...	...	...	...	...	...	...	...	...	...
WBL 635......	1712.9+4344	3	0	0.02743	1	...	1707.6+4045	167	1.13	...	...	...	...
WBL 636......	1714.5+5727	6	6	0.02904	3	...	1730.4+5829	145	0.97	...	...	...	...
WBL 637......	1715.0+0744	4	4	0.02241	1	...	1712.6+0616	48	2.17	...	...	...	...
WBL 638......	1720.1+3046	3	3	...	...	...	1722.8+3120	56	0.87	...	...	...	...
WBL 639......	1721.3+2342	3	3	...	...	...	1720.5+2345MD	38	0.28	...	...	...	...
WBL 640......	1726.5+5834	4	3+0	0.02631	2	...	1730.4+5829	145	0.21	...	...	...	...
WBL 641......	1727.2+6005	5	3+2	0.01090	3	...	1730.4+5829	145	0.68	...	...	...	...
WBL 642......	1729.5+0632	4	4	...	...	...	...	...	...	...	...	...	...
WBL 643......	1731.7+4349	4	0	...	...	...	1728.5+4353	62	0.55	...	...	...	...
WBL 644......	1736.3+6806	7	2+0	0.02580	5	...	1745.6+6703	89	0.92	...	...	...	...
WBL 645......	1743.5+6736	5	3+0	...	...	...	1745.6+6703	89	0.39	...	...	...	...
WBL 646......	1746.5+3404	3	3	0.02218	1	...	...	...	...	...	...	...	...
WBL 647......	1746.5+1759	3	0	...	...	...	...	...	...	...	...	...	...
WBL 648......	1750.6+2951	3	2+0	0.02059	2	i	1756.5+2904	113	0.80	...	...	...	...
WBL 649......	1752.5+1822	3	3	0.01043	1	...	1752.6+1842	34	0.61	...	...	...	...
WBL 650......	1755.3+6238	5	5	0.02665	4	...	1754.9+6230	47	0.17	...	...	...	...
WBL 651......	1800.9+2919	3	3	...	...	...	1756.5+2904	113	0.53	...	...	...	...
WBL 652......	1810.0+2129	7	6+0	...	...	...	1812.3+2237	104	0.73	...	...	...	...
WBL 653......	1810.5+2529	6	5+0	0.01531	1	...	1808.9+2531	71	0.31	...	...	...	...
WBL 654......	1811.7+6121	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 655......	1819.0+3807	3	3	...	...	...	...	...	...	...	...	...	...
WBL 656......	1829.0+3419	3	0	...	...	...	1826.4+3410	61	0.56	...	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 657.......	1832.3+3205	3	2+0	0.01835	1	...	1831.2+3154	37	0.49	...	...	...	...
WBL 658.......	1834.5+1947	3	0	0.01581	1	...	...	...	...	...	...	...	...
WBL 659.......	1838.3+4001	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 660.......	1849.6+2626	3	0	0.01383	2	...	...	...	...	...	...	...	...
WBL 661.......	1919.6+4355	4	3+0	0.04799	3	ii	1916.8+4855	412	0.73	2319	...	...	...
WBL 662.......	2009.5+0538	3	3	0.01752	2	...	...	...	...	...	...	...	...
WBL 663.......	2030.5+0944	3	0	0.01525	3	...	...	...	...	...	...	...	...
WBL 664.......	2035.7+1031	3	2+0	...	...	...	...	...	...	...	...	...	...
WBL 665.......	2037.0+0153	3	0	0.01308	2	...	...	...	...	...	...	...	...
WBL 666.......	2044.8+0010	7	4+0	0.01303	7	...	...	...	...	...	...	...	...
WBL 667.......	2052.1−0013	3	0	...	...	...	...	...	...	...	...	...	...
WBL 668.......	2057.8+0921	3	2+0	0.03112	1	...	...	...	...	...	...	...	...
WBL 669.......	2108.7−0213	3	0	0.03145	2	...	...	...	...	...	...	...	...
WBL 670.......	2109.3+1111	5	0	...	...	...	2110.2+1238	104	0.84	...	...	...	...
WBL 671.......	2134.6+0013	3	3	...	...	...	...	...	...	...	...	...	...
WBL 672.......	2149.4+0249	3	3	...	...	...	2149.6+0319	55	0.55	...	...	...	...
WBL 673.......	2150.8+1519	4	4	0.02974	1	...	...	...	...	...	...	...	...
WBL 674.......	2151.9+1451	3	2+0	0.02453	1	...	...	...	...	...	...	...	...
WBL 675.......	2155.9+0811	3	0	...	...	...	...	...	...	...	...	...	...
WBL 676.......	2159.1−0219	4	2+0	0.02660	2	...	...	...	...	...	...	...	...
WBL 677.......	2201.0+1224	3	3	0.02643	2	...	...	...	...	...	...	...	...
WBL 678.......	2212.1+1334	7	2+0	0.02357	3	...	2212.0+1326	44	0.17	...	...	...	...
WBL 679.......	2213.2+3703	4	4	0.01975	4	...	2210.0+3745	87	0.65	...	...	...	...
WBL 680.......	2221.6+3209	3	2+0	0.02200	2	...	...	...	...	...	...	...	...
WBL 681.......	2222.0+3553	3	3	0.01858	3	...	2231.2+3732	178	0.83	...	...	...	...
WBL 682.......	2230.6+3857	4	4	0.01623	3	...	2231.2+3732	178	0.48	...	...	...	...
WBL 683[d]......	2233.8+3342	4	4	0.02175	4	ii	2231.2+3732	178	1.30	...	...	092	...
WBL 684.......	2234.8+3410	4	4	0.02150	4	ii	2231.2+3732	178	1.16	...	...	...	...
WBL 685.......	2236.3+3511	6	3+0	0.02704	5	...	2231.2+3732	178	0.86	...	...	...	...
WBL 686.......	2241.7+0945	3	3	0.02405	1	...	...	...	...	...	...	...	...
WBL 687.......	2246.4+2719	3	3	0.03203	3	...	...	...	...	...	...	...	...
WBL 688.......	2247.5+1120	6	5+0	0.02545	6	...	2247.3+1107	68	0.20	...	...	...	...
WBL 689.......	2250.1+0052	4	3+0	0.02564	2	i	...	...	...	...	...	...	...
WBL 690.......	2251.2+3124	3	2+0	0.01716	2	i	2252.6+3135	63	0.33	...	...	...	WP 38
WBL 691.......	2252.0+1958	4	0	0.02834	4	iii	2256.5+1933	102	0.67	...	...	...	...
WBL 692.......	2255.5+2552	5	3+0	0.02439	3	...	2256.8+2445	91	0.76	...	...	...	...
WBL 693.......	2257.2+3850	3	3	0.01731	1	...	...	...	...	...	...	...	...
WBL 694.......	2257.3+1741	3	2+0	0.03154	1	...	...	...	...	...	...	...	...
WBL 695.......	2259.4+1543	4	4	0.00696	4	...	...	...	...	...	163	...	...
WBL 696.......	2300.8+1942	3	3	0.04007	2	...	2256.5+1933	102	0.60	...	...	...	...
WBL 697.......	2303.5+0743	3	2+0	...	...	...	2259.6+0746	83	0.69	...	...	...	...
WBL 698.......	2307.9+0717	4	3+0	0.04188	4	ii	2307.6+0713	34	0.17	...	...	...	...
WBL 699.......	2311.9+3117	3	0	0.02085	1	...	...	...	...	...	...	...	...
WBL 700.......	2312.8+1843	4	0	0.01648	4	...	2318.0+1910	107	0.73	...	...	093	WP 39
WBL 701.......	2313.2+2449	3	2+0	0.02703	2	...	...	...	...	...	...	...	...
WBL 702.......	2313.9+1535	4	4	0.01465	3	ii	...	...	...	...	...	...	...
WBL 703.......	2314.6+1810	4	0	0.04388	2	...	2318.0+1910	107	0.72	2572	...	...	...

TABLE 2—*Continued*

Name (1)	Coordinates (B1950.0) (2)	N_{gal} (3)	σ_{46} Fate (4)	z (5)	N_z (6)	Note (7)	Zwicky Cluster (8)	R_Z (arcmin) (9)	f_Z (10)	Abell (11)	CfA (12)	HCG (13)	Yerkes (14)
WBL 704......	2315.1+2845	3	3	0.02382	1	...	2315.5+2854	69	0.14	...	...	...	...
WBL 705......	2315.3+0909	3	3	0.04206	2	...	2320.0+0845	189	0.39	...	...	...	...
WBL 706......	2315.6+1001	3	3	0.03620	1	...	2320.0+0845	189	0.53	...	...	...	WP 40
WBL 707......	2316.1+1826	3	3	0.03779	2	...	2318.0+1910	107	0.48	2572	...	...	...
WBL 708......	2317.8+0806	3	2+0	0.01364	2	...	2320.0+0845	189	0.27	...	166	...	...
WBL 709......	2317.8+1558	3	2+0	0.02393	3	...	...	...	...	...	...	...	...
WBL 710......	2318.1+0755	6	3+2+0	0.01285	6	...	2320.0+0845	189	0.30	...	166	...	...
WBL 711......	2319.1+0109	3	0	0.02941	1	...	2316.5+0046	58	0.79	...	...	...	...
WBL 712......	2319.1+0838	3	0	0.01076	3	...	2320.0+0845	189	0.08	...	166	...	...
WBL 713......	2319.2+2649	3	3	0.01963	3	...	...	...	...	...	167	...	...
WBL 714......	2319.4+0901	3	3	0.03940	2	...	2320.0+0845	189	0.10	...	...	...	...
WBL 715......	2320.9+2018	3	3	0.03800	1	...	2318.0+1910	107	0.74	...	...	...	...
WBL 716......	2325.4+0831	3	2+0	0.02890	2	...	2320.0+0845	189	0.43	...	...	096	...
WBL 717......	2326.2+1702	3	3	0.02322	3	...	...	...	...	...	...	...	...
WBL 718......	2332.6+0439	3	0	...	...	...	...	...	...	...	...	...	...
WBL 719......	2334.0+2051	3	3	0.05893	3	...	2332.8+2027	40	0.75	2626	...	...	...
WBL 720......	2335.3+0746	3	0	0.02062	1	...	...	...	...	...	...	...	...
WBL 721......	2336.2+2644	18	9+2+0	0.03117	18	iii	2335.5+2449	181	0.64	2634	...	...	...
WBL 722......	2339.0+7757	3	3	...	...	...	...	...	...	...	...	...	...
WBL 723......	2340.6+2705	4	0	0.02655	4	...	2335.5+2449	181	0.84	...	...	...	...
WBL 724......	2348.4+2655	9	8+0	0.02666	9	...	2335.5+2449	181	1.19	2666	...	...	...
WBL 725......	2348.7+0826	3	0	0.04102	3	...	2347.5+0707	89	0.90	...	...	...	...
WBL 726......	2348.7+1951	4	3+0	0.01394	4	ii	...	...	...	...	...	...	...
WBL 727......	2351.0+0738	4	3+0	0.01782	4	...	2347.5+0707	89	0.69	...	174	...	...
WBL 728......	2352.8+3001	5	2+0	0.02727	5	iii	...	...	...	...	...	...	...
WBL 729......	2357.0+4638	3	0	0.01675	1	...	2352.1+4718	96	0.67	...	...	...	...
WBL 730......	2357.6+3229	4	3+0	0.03284	4	...	...	...	...	...	...	...	...
WBL 731......	2358.1+2808	3	3	0.02865	3	...	...	...	...	...	...	099	...
WBL 732......	2358.5+3419	4	2+0	0.02958	2	i	...	...	...	...	...	...	...

[a] Also falls within contours of near Zwicky cluster 0756.1+5616, with $R_Z = 942'$ and $f_Z = 1.43$.

[b] This cluster is not real by our criteria, because of the the second galaxy listed in Table 3 having the wrong declination in our electronic version of the CGCG. The true declination of this galaxy is +38°37′.

[c] This cluster is not real by our criteria, because of the second galaxy listed in Table 3 having the wrong declination in our electronic version of the CGCG. The true declination of this galaxy is +31°28′.

[d] Stefan's Quintet. The single galaxy in our electronic version of the CGCG at coordinates $22^h33^m42^s$, +33°43′ is actually two galaxies, with magnitudes 14.9 and 14.4. This discrepancy with the printed CGCG has no material effect on the WBL catalog.

TABLE 3

Poor-Cluster Galaxies

Name (1)	R.A. (B1950.0) (2)	Decl. (B1950) (3)	m_{pg} (4)	N_{21} (5)	N_{46} (6)	σ_{46} Fate (7)	z (8)	Other Names (9)
WBL 214-001......	09 15 06	+20 41	15.6	0	0	...	0.03031	...
WBL 214-002......	09 15 24	+20 35	15.7	3	1	A	0.03185	...
WBL 214-003......	09 15 30	+20 28	15.5	0	0	...	0.02788	...
WBL 214-004......	09 15 36	+20 37	15.7	1	1	A	0.03193	...
WBL 215-001......	09 16 18	+06 06	14.9	1	1	A	...	...
WBL 215-002......	09 16 30	+06 06	15.5	2	1	A	...	...
WBL 215-003......	09 16 54	+06 06	15.7	1	0	...	...	...
WBL 216-001......	09 15 18	+33 46	15.6	0	0	...	0.02401	...
WBL 216-002......	09 15 18	+34 04	15.6	1	1	A	0.02220	...
WBL 216-003......	09 15 30	+34 04	15.6	1	1	A	0.02414	...
WBL 216-004......	09 16 12	+34 04	15.6	10	1	B	0.02341	NGC 2827, IC 2460
WBL 216-005......	09 16 12	+34 13	15.7	0	0	...	0.02366	NGC 2823, UGC 04935
WBL 216-006......	09 16 18	+33 57	15.3	12	0	C	0.02659	NGC 2825
WBL 216-007......	09 16 24	+33 50	14.6	0	0	...	0.02473	NGC 2826, UGC 04939
WBL 216-008......	09 16 30	+34 05	15.7	10	1	B	0.02166	NGC 2828
WBL 216-009......	09 16 42	+33 57	15.4	8	3	C	0.02037	NGC 2830, UGC 04941
WBL 216-010......	09 16 48	+33 58	13.3	8	2	C	0.02096	NGC 2832, UGC 04942
WBL 216-011......	09 16 54	+34 08	15.6	1	0	...	0.02475	NGC 2833
WBL 216-012......	09 17 00	+33 55	15.6	8	2	C	0.02351	NGC 2834
WBL 216-013......	09 17 36	+33 52	15.3	0	0	...	0.02743	NGC 2839
WBL 217-001......	09 17 18	+01 09	15.4	2	1	A	0.01778	...
WBL 217-002......	09 17 24	+01 08	15.5	2	1	A	0.01724	...
WBL 217-003......	09 17 30	+01 15	14.1	0	0	...	0.01718	UGC 04956
WBL 218-001......	09 17 06	+64 28	14.0	2	2	A	0.00544	NGC 2814
WBL 218-002......	09 17 30	+64 27	15.1	2	2	A	0.00512	NGC 2820, IC 2458
WBL 218-003......	09 17 48	+64 29	13.1	2	2	A	0.00525	NGC 2820, UGC 04961
WBL 219-001......	09 20 30	+22 32	15.2	4	2	A	0.00049	UGC 04991
WBL 219-002......	09 20 30	+22 40	15.7	0	0	A	...	IC 2465
WBL 219-003......	09 20 36	+22 33	15.1	4	2	A	0.03437	UGC 04991
WBL 219-004......	09 20 48	+22 34	15.7	4	4	A	...	...
WBL 219-005......	09 21 12	+22 33	15.5	1	0	A	0.03141	...

Note.—Table 3 is presented in its entirety in the electronic edition of the Astronomical Journal. A portion is shown here for guidance regarding its form and content. Units of right ascension are hours, minutes, and seconds, and units of declination are degrees and arcminutes.

Column (2).—Coordinates. The right ascension and declination, equinox B1950.0, for the centroid of the poor cluster are listed. The centroid is determined from a luminosity-weighted mean of all member galaxies listed in the CGCG. Luminosities were computed as $L = 10^{-0.4m_{pg}}$ and used as the weight in computing the mean right ascension and declination for each cluster, i.e., $\langle \text{R.A.} \rangle = \sum_i (\text{R.A.})_i L_i / \sum_i L_i$

Column (3).—Richness. The number of CGCG galaxies in each poor cluster.

Column (4).—Clustering at σ_{46}. An indication of the fate of each individual galaxy at the higher density enhancement (σ_{46}). A single zero in this column indicates that a group at σ_{21} fractured into single galaxies at σ_{46} (i.e., the galaxy apertures did not overlap). Combinations of other numbers indicate how many galaxies were in each subcluster at σ_{46}, with "0" indicating one or more isolated galaxies. For example, a cluster with 11 members and an 8+0 in this column becomes a group of eight members with three isolated galaxies at σ_{46}. A cluster of 11 members and an entry of 4 + 3 + 2 + 0 breaks up into three subclusters of four, three, and two members, with two isolated galaxies at σ_{46}.

Columns (5)–(7).—Poor-cluster redshift. Column (5) lists a redshift for the cluster, when available, computed as an average of redshifts from the literature obtained through the NASA Extragalactic Database (NED).[4] Column (6) (N_z) indicates the number of galaxy redshifts available from NED. Column (7) ("Note") gives notes on the determination of the cluster redshift. If there is no note in column (7), the number of galaxy redshifts listed in column (6) were used to compute the cluster redshift in column (5). If the note is (i), there were only two redshifts available and their values differed by more than 1500 km s^{-1}. In this case, the two galaxies may be close only in projection. The redshift given in this case is the average of the two galaxy redshifts. A note of (ii) indicates that, of the three or more redshifts available, one was more than 1500 km s^{-1} from the mean. After removing this discrepant redshift, a new mean was calculated, with all remaining redshifts within 1500 km s^{-1}

[4] The NASA/IPAC Extragalactic Database is operated by the Jet Propulsion Laboratory, California Institute of Technology, under contract with the National Aeronautics and Space Administration.

TABLE 4

Old Poor-Cluster Designations Used in the Literature

Old Name	New Name	Old Name	New Name	Old Name	New Name	Old Name	New Name
AWM 1	WBL 213	WP 33	WBL 593	N56-296	WBL 298	N79-238	WBL 419
AWM 2	WBL 389	WP 34	WBL 611	N56-297	WBL 299	N79-266	WBL 375
AWM 3	WBL 509	WP 35	WBL 625	N56-306	WBL 336	N79-268	WBL 395
AWM 4	[a,b]	WP 36	[c]	N56-308	WBL 346	N79-270	WBL 438
AWM 5	WBL 625	WP 37	[c]	N56-329	WBL 522	N79-276	WBL 478
AWM 6	[b]	WP 38	WBL 690	N56-332	WBL 533	N79-278	WBL 343
AWM 7	WBL 088	WP 39	WBL 700	N56-336	WBL 539	N79-280	WBL 356
MKW 01	WBL 248	WP 40	WBL 706	N56-338	WBL 542	N79-281	WBL 381
MKW 02	WBL 276	WP 41	[b]	N56-339	WBL 543	N79-282	WBL 385
MKW 03	WBL 360	WP 42	[c]	N56-343	WBL 548	N79-283	WBL 394
MKW 04	WBL 372	K103	WBL 312	N56-355	WBL 287	N79-284	WBL 415
MKW 05	WBL 483	K131	WBL 472	N56-359	WBL 341	N79-286	WBL 475
MKW 06	WBL 498	K140	WBL 499	N56-361	WBL 497	N79-290	WBL 354
MKW 07	WBL 514	K179	WBL 226	N56-365	WBL 537	N79-292	WBL 404
MKW 08	WBL 518	K30	WBL 288	N56-366	WBL 588	N79-293	WBL 408
MKW 09	WBL 574	K315	WBL 438	N56-367	WBL 271	N79-295	WBL 428
MKW 10	WBL 350	K36	WBL 323	N56-368	WBL 279	N79-296	WBL 447
MKW 11	WBL 447	N34-169	WBL 210	N56-369	WBL 288	N79-297	WBL 477
MKW 12	WBL 486	N34-170	WBL 234	N56-371	WBL 355	N79-298a	WBL 368
MKW 01s	WBL 217	N34-171	WBL 622	N56-373	WBL 576	N79-298b	WBL 368
MKW 02s	WBL 272	N34-172	WBL 248	N56-374	WBL 577	N79-299a	WBL 374
MKW 03s	WBL 564	N34-173	WBL 650	N56-381	WBL 524	N79-299b	WBL 374
MKW 04s	WBL 378	N34-175	WBL 636	N56-385	WBL 540	S34-087	WBL 008
WP 01	WBL 007	N45-273	WBL 205	N56-387	WBL 270	S34-088	WBL 017
WP 02	[c]	N45-280	WBL 222	N56-388	WBL 280	S34-090	WBL 020
WP 03	[c]	N45-281	WBL 223	N56-391	WBL 312	S34-091	WBL 026
WP 04	WBL 042	N45-285	WBL 230	N56-392	WBL 360	S34-093	WBL 062
WP 05	[c]	N45-300	WBL 257	N56-393	WBL 258	S34-103	WBL 713
WP 06	WBL 061	N45-302	WBL 269	N56-394	WBL 514	S34-106	WBL 731
WP 07	[c]	N45-309	WBL 550	N56-395	WBL 518	S34-110	WBL 009
WP 08	[c]	N45-342	WBL 206	N56-396	WBL 324	S34-111	WBL 025
WP 09	[c]	N45-346	WBL 231	N67-238	WBL 419	S34-112	WBL 724
WP 10	WBL 133	N45-348	WBL 234	N67-244	WBL 303	S34-113	WBL 038
WP 11	[c]	N45-351	WBL 245	N67-245	WBL 304	S34-115	WBL 007
WP 12	WBL 248	N45-353	WBL 256	N67-300	WBL 358	S49-122	WBL 015
WP 13	WBL 280	N45-356	WBL 551	N67-309	WBL 508	S49-123	WBL 017
WP 14	WBL 288	N45-358	WBL 565	N67-310	WBL 527	S49-125	WBL 044
WP 15	[c]	N45-360	WBL 574	N67-311	WBL 326	S49-126	WBL 050
WP 16	WBL 350	N45-361	WBL 588	N67-312	WBL 350	S49-127	WBL 075
WP 17	WBL 360	N45-363	WBL 597	N67-317	WBL 435	S49-128	WBL 083
WP 18	[b]	N45-365	WBL 622	N67-318	WBL 472	S49-130	WBL 686
WP 19	WBL 368	N45-366	WBL 219	N67-320	WBL 318	S49-132	WBL 698
WP 20	WBL 374	N45-367	WBL 243	N67-321	WBL 325	S49-134	WBL 706
WP 21	WBL 374	N45-368	WBL 248	N67-322	WBL 334	S49-137	WBL 717
WP 22	WBL 430	N45-371	WBL 322	N67-323	WBL 430	S49-138	WBL 726
WP 23	[c]	N45-376	WBL 210	N67-325	WBL 493	S49-139	WBL 727
WP 24	[c]	N45-377	WBL 232	N67-326	WBL 509	S49-140	WBL 061
WP 25	[b]	N45-379	WBL 579	N67-328	WBL 311	S49-141	WBL 063
WP 26	WBL 457	N45-381	WBL 554	N67-329	WBL 450	S49-142	WBL 099
WP 27	[b]	N45-382	WBL 573	N67-330	WBL 397	S49-143	WBL 695
WP 28	WBL 477	N45-383	WBL 619	N67-333	WBL 428	S49-144	WBL 702
WP 29	WBL 478	N45-384	WBL 224	N67-335	WBL 372	S49-145	WBL 066
WP 30	WBL 486	N45-388	WBL 213	N67-336	WBL 486	S49-146	WBL 688
WP 31	[b]	N45-389	WBL 612	N79-207	WBL 335	S49-147	WBL 009
WP 32	WBL 548	N45-391	WBL 566	N79-220	WBL 373		

[a] Cluster galaxies were too faint to be included in the WBL catalog.
[b] Cluster is too diffuse to meet the galaxy density criterion of the WBL catalog.
[c] Cluster is south of $-3°$ declination and therefore not included in the WBL catalog.

from this new mean. A note of (iii) indicates that, of the three or more redshifts available, at least two discrepant redshifts were present. The redshift listed in column (7) is then the mean redshift calculated after removing only the most discrepant velocity. A value of 1500 km s^{-1} was chosen for the cutoff velocity because a "typical" poor cluster has a velocity dispersion, σ_v, of ≈ 500 km s^{-1} (Ledlow et al. 1996; Beers et al. 1995). This criteria is thus analogous to the standard 3 σ clipping often used in the literature.

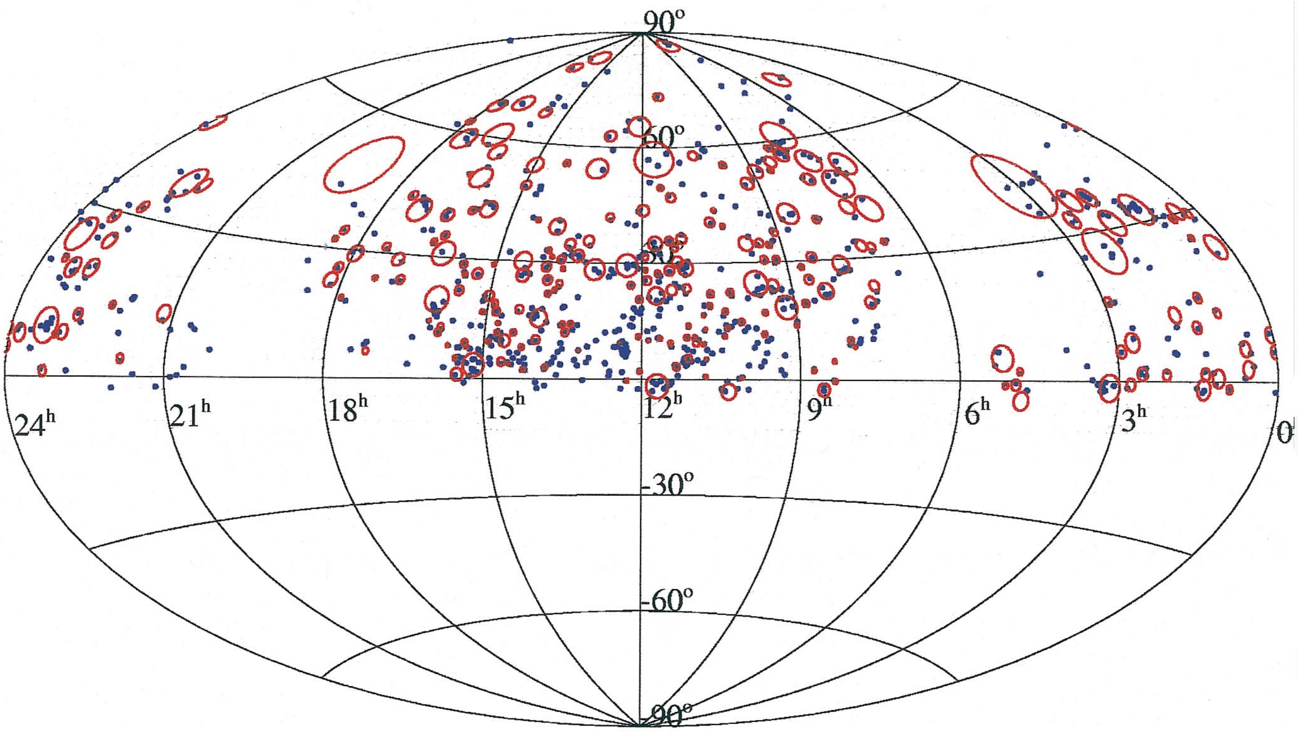

FIG. 1.—Location on the sky of all 732 WBL clusters (*blue dots*), and all Zwicky clusters (*red circles*) that contain a poor cluster. The size of the circle corresponds to the Zwicky radius from the CGCG (Table 2, col. [9]). The empty regions at positive declination are due to obscuration by the Galactic plane.

Columns (*8*)–(*10*).—Zwicky cluster cross-correlation. Column (8) lists the Zwicky cluster containing the given WBL cluster within its contours. Column (9) (R_Z) gives the radius of the Zwicky cluster in arcminutes, and column (10) (f_Z) lists the distance separating the center of the Zwicky and WBL clusters, in units of the Zwicky cluster radius. The radius is that given in the CGCG and is meant to indicate the area on the sky contained within the hand-drawn contours. Zwicky clusters are rarely spherical, so all correlations were verified by eye. Zwicky clusters are also separated into estimated distance classes, with near clusters meant to be in the redshift range $0.0 < z \leq 0.05$ and medium-distant clusters in the range $0.05 < z \leq 0.1$ (CGCG). We included any near or medium-distant Zwicky cluster that contained a WBL cluster within its contours. Near clusters were chosen over medium-distant clusters in the very few cases where a poor cluster fell within the boundaries of two Zwicky clusters of different distance classes. The letters "MD" attached to a Zwicky cluster name (col. [8]) indicate a medium-distant cluster.

Column (*11*).—Abell cluster cross-correlation. Any WBL cluster located within one corrected Abell radius (Abell et al. 1989) of a distance class 3 or nearer Abell cluster was considered associated with the Abell cluster. In addition, NED was used to search for WBL cluster members that were also members of Abell clusters.

Column (*12*).—CfA group cross-correlation. Associated CfA groups were identified as groups whose coordinates were within 30′ of the WBL centroid.

Column (*13*).—HCG cross-correlation. Associated Hickson compact groups were identified from information on individual galaxies obtained through NED.

Column (*14*).—Yerkes cluster cross-correlation. The identification of WBL clusters associated with the Yerkes clusters was determined visually as a part of the development of the WBL catalog.

3.2. *Poor-Cluster Galaxies: Table 3*

This table presents basic data on each Zwicky galaxy included as a poor-cluster member. The following information is provided:

Column (*1*).—Identification. The WBL cluster to which the galaxy belongs.

Columns (*2*)–(*3*).—Coordinates. The right ascension and declination of the member galaxy from the CGCG in B1950.0 coordinates.

Column (*4*).—Magnitude. The apparent photographic magnitude, m_{pg}, of the galaxy from the CGCG.

Columns (*5*)–(*6*).—Nearest neighbors. A measure of the number of nearest neighbors to the galaxy at σ_{21} (N_{21}, col. [5]) and σ_{46} (N_{46}, col. [6]). This refers to the number of neighbor galaxies falling within the aperture defining the σ_{21} or σ_{46} threshold. For a galaxy with no nearest neighbor, the aperture radius is $0^\circ.084$ at σ_{21} and $0^\circ.057$ at σ_{46}. The radius scales as $(n + 1)^{1/2}$, where n is the number of nearest neighbors. For an individual galaxy, the higher the number, the more centrally located it is within the poor cluster. Multiple poor-cluster members with high numbers of neighbors indicate a compact cluster. Galaxies with a nearest neighbor number of zero were merged into a cluster because a nearby galaxy possessed many neighbors. The resulting large aperture $[\propto(n + 1)^{1/2}]$ may have overlapped an isolated galaxy in some cases.

Column (*7*).—Clustering at σ_{46}. An indication of the fate of each individual galaxy at the higher density enhancement. A blank field indicates that the galaxy became isolated (no neighbors and no overlapping apertures) and therefore was not considered a member of a cluster at σ_{46}. Galaxies with the same letters are part of the same poor cluster at σ_{46}. WBL designations for these subgroups should include this letter and indicate that it is a σ_{46} cluster.

Column (*8*).—Galaxy redshift. The redshift of the galaxy reported in NED. Several Zwicky galaxies are actually multiple galaxies and therefore have multiple identifications in NED. In these instances, the average of all redshifts available for the Zwicky galaxy is presented.

Column (*9*).—Galaxy catalog cross-correlations. Cross identifications for the galaxies from the NGC (Dreyer & Sinnott 1988), UGC (Nilson 1973), and IC (Dreyer & Sinnott 1988) catalogs obtained from NED. For entries that are actually multiple galaxies, all relevant identifications are presented.

3.3. *Previous Nomenclature: Table 4*

This table cross-references the names of the poor clusters presented here with previous names used in the literature. We also present a direct comparison of the WBL clusters with the Yerkes (AWM, MKW, and WP) poor clusters. We list every Yerkes poor cluster along with any corresponding WBL cluster. If there is no WBL poor cluster associated with a Yerkes cluster, we list a note detailing the reason it was not included (see notes at the end of the table).

4. DISCUSSION

Our catalog of poor clusters contains galaxy associations that span several orders of magnitude in the cluster mass function—from very poor systems of only three Zwicky galaxies, up to and including the nearby Abell clusters. Because the number of cluster galaxies listed in Tables 2 and 3 is the number of galaxies brighter than $m_{\rm pg} = 15.7$, it is not necessarily the total membership; fainter galaxies may also be part of these clusters. Further observations are needed to characterize each WBL cluster fully in terms of membership, galaxy morphology, velocity dispersion, etc. From an analysis of a number of the MKW and AWM clusters, Bahcall (1980) showed that these poor clusters are just lower richness extrapolations of Abell clusters in terms of galaxy richness, galaxy density, and spiral fraction (see also Bhavsar 1981). Other subsamples of the WBL catalog indicate similar results in terms of velocity dispersion (Ledlow et al. 1996; Beers et al. 1995), radio source population (Burns et al. 1987; Doe et al. 1995), and X-ray properties (Burns et al. 1996; Doe et al. 1995; Price et al. 1991).

The WBL catalog covers the entire sky above $-3°$ declination, or approximately 52% of the sky. The locations of all clusters are shown as dots in Figure 1. Also plotted in Figure 1 are circles representing the Zwicky clusters (near and medium-distant classes) containing one or more WBL clusters. Figure 1 illustrates the interrelatedness of the Zwicky and WBL clusters; most (469 of 732) WBL clusters are high-density galaxy concentrations within the lower density Zwicky cluster contours. Figure 2 shows the locations of WBL poor clusters within the Zwicky clusters. Although the number density of WBL clusters peaks at small radii within the Zwicky contours, most WBL clusters ($\approx$65%) are located beyond $\frac{1}{2}$ of a Zwicky radius. This indicates subclustering of galaxies within many Zwicky clusters. Subclustering is also displayed in Figure 3, which is a histogram of the number of WBL poor clusters contained within each Zwicky contour. Of the 245 Zwicky clusters that contain WBL poor clusters, 97 ($\approx$40%) contain multiple poor clusters.

Some (263) WBL clusters are found outside Zwicky clusters, as more isolated galaxy associations. In fact, there appear to be entire regions of the sky where WBL poor

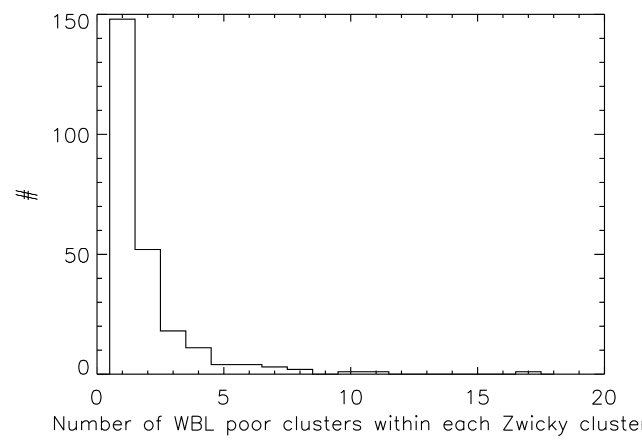

FIG. 3.—Number of WBL clusters within Zwicky clusters. Approximately 40% of Zwicky clusters that possess WBL clusters contain multiple poor clusters.

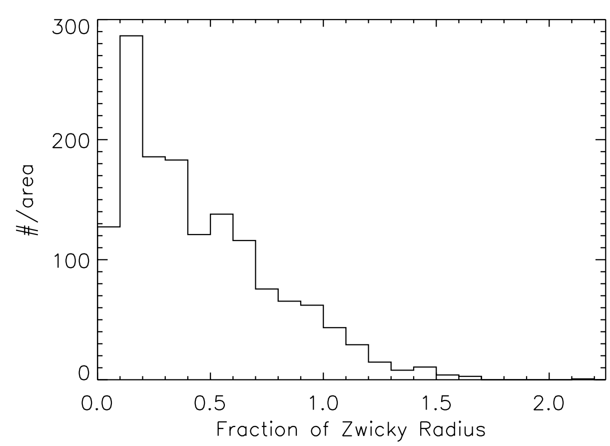

FIG. 2.—Surface number density of all WBL clusters within Zwicky clusters, as a function of the Zwicky radius. WBL poor clusters tend to avoid the centers of Zwicky clusters.

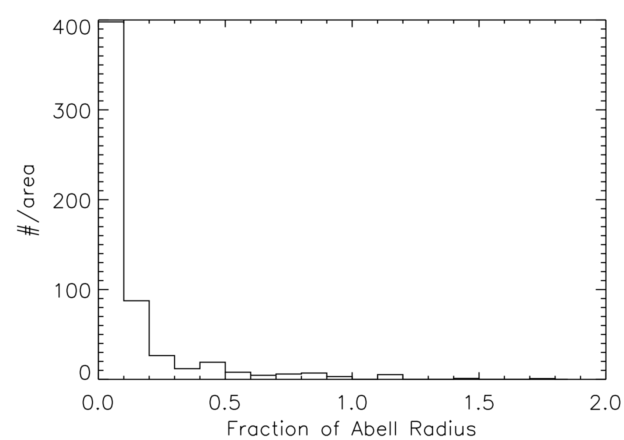

FIG. 4.—Surface number density of all WBL clusters within Abell clusters, as a function of the Abell radius. Most WBL poor clusters are located near the centers of Abell clusters.

clusters are found but which are devoid of Zwicky clusters (e.g., near 11^h R.A., $+10°$ decl.; see Fig. 1). In addition, many (274/504 ≈ 54%) of the near Zwicky clusters do not contain WBL clusters. These are generally very loose galaxy associations and are not detected at σ_{21}. Using a lower σ_g (such as $10^{1/3}$), one would detect many more of these Zwicky clusters. Also, the volume limit of the near Zwicky clusters extends beyond the limiting redshift ($z = 0.03$) to which the WBL catalog is complete (see below).

Since the TG algorithm has no upper limit on its richness criterion, the nearby Abell clusters with $\delta > -3°$ are also found in our catalog. This was expected and desired, since we wished not only to create a uniform sample of poor clusters but to explore their relation to the rich clusters as well. All distance class (DC) 0 and 1 clusters (a total of 19), and three of the five DC 2 clusters, are detected by the algorithm. The two missing DC 2 Abell clusters have galaxy densities just below the σ_{21} detection threshold. We also detect nearly half of the DC 3 Abell clusters with $m_{10} <$ 15.3. Of the 93 Abell clusters with DC ≤ 3 and $\delta > -3°$, 45 (≈48%) contain WBL clusters. A distribution of the number density of WBL clusters within Abell clusters is shown in Figure 4, which clearly shows that, unlike the Zwicky clusters, the WBL catalog finds the cores of Abell clusters. This is expected, since Abell clusters are generally more compact than most Zwicky clusters. However, there is still evidence of possible subclustering, as a significant fraction (35%) of the Abell clusters coincident with our catalog contain multiple WBL clusters (Fig. 5).

As expected, the WBL catalog also has significant overlap with other group catalogs, such as the HCG and CfA groups, but because of the differing selection algorithms there is no direct correlation. Although the cross identifications are not listed in Table 2, the WBL catalog also detects a number of TG groups, since the same algorithm was used to find both sets of poor clusters. TG searched to much lower galaxy densities ($10^{2/3}$), and used a brighter magnitude cutoff ($m_{pg} < 14$), therefore focusing on very nearby, looser galaxy associations in the north Galactic cap ($b > 40°$, $\delta > 0°$).

The completeness of the entire WBL catalog is difficult to determine. Certainly, the portions of the catalog at very low Galactic latitudes ($|b| < 30°$) are incomplete as a consequence of obscuration by the Galactic plane. Also, since there is no redshift information for a large number of the galaxies in our catalog, a discussion of completeness, and the frequency of projection effects, can only be approximate (see Burns et al. 1996 for a discussion of projection effects in a subsample of the catalog). For poor clusters without well-determined mean redshifts, we estimated redshifts based on the magnitude of the brightest cluster member (m_1). We have used poor clusters from Table 2, with no redshift notes (col. [8]), and thus reasonably well determined redshifts, to calibrate the m_1-z relation for the remaining poor clusters. Included in this calibration are poor clusters with greater than seven reported redshifts, containing a (iii) in column (8), which are certainly physical systems along with a few outlying galaxies. This relation, using 394 poor clusters, is shown in Figure 6. From the redshifts in Table 2 combined with the estimated redshifts for all other clusters, we have determined the volume density of the WBL catalog for $|b| > 30°$. In Figure 7 we show the volume density in redshift bins of $\Delta z = 0.005$. Based on this analysis, this sample is nearly volume limited over the redshift range

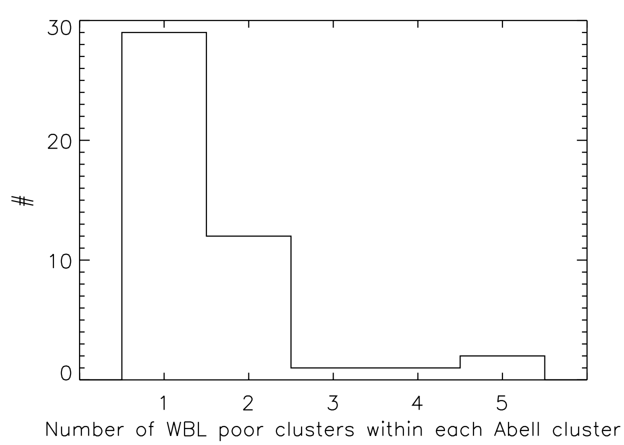

FIG. 5.—Number of WBL clusters within Abell clusters. Approximately 35% of Abell clusters that possess WBL clusters contain multiple poor clusters.

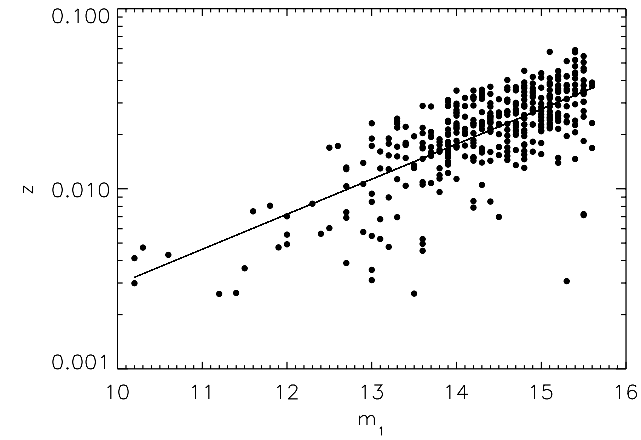

FIG. 6.—Relation used to estimate redshifts, z, from the apparent magnitude of the brightest cluster member, m_1.

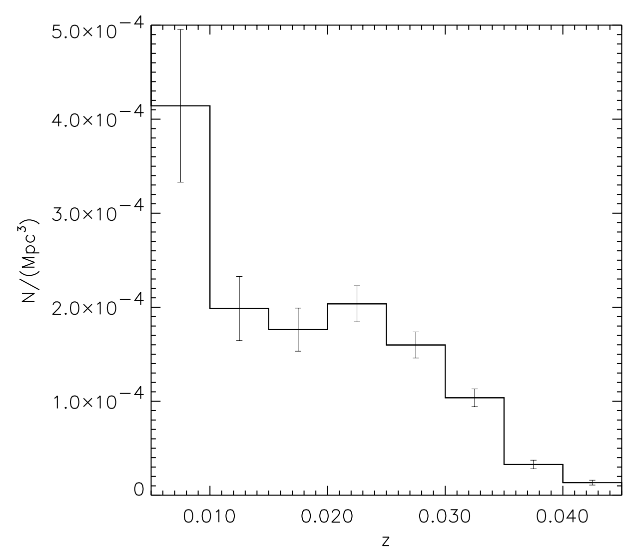

FIG. 7.—Volume density of WBL poor clusters in the Galactic latitude range $|b| > 30°$. We judge this poor-cluster sample to be volume limited in the redshift range $0.01 < z < 0.03$. Error bars represent Poisson errors in each bin.

$0.01 < z < 0.03$. A similar result was found for a smaller sample of WBL clusters in Ledlow et al. (1996). We are employing the volume-limited portion of the WBL catalog ($|b| > 30°$, $0.01 < z < 0.03$) for an extensive X-ray, optical, and radio study of poor clusters.

5. CONCLUSIONS

We present a catalog of 732 optically selected poor clusters of galaxies. These WBL poor clusters were identified as galaxy surface density enhancements in the CGCG, which cataloged galaxies brighter than photographic magnitude 15.7, and declination greater than $-3°$. The WBL catalog covers a wide range of cluster richness, from very poor systems containing only a few galaxies, through the Yerkes poor clusters, and including many nearby Zwicky and Abell clusters. Previous analyses of the WBL clusters show a number of them contain an X-ray–bright intracluster medium (Burns et al. 1996; Price et al. 1991) and interesting extragalactic radio morphologies (Burns et al. 1987; Doe et al. 1995) similar to rich clusters. WBL clusters with $|b| > 30°$ are nearly volume limited in the redshift range $0.01 < z < 0.03$ (Fig. 7), producing a subsample of ≈ 300 systems that is ideal for studying the properties of poor clusters. Taken in its entirety, the WBL catalog covers over 3 orders of magnitude in the cluster mass function (Burns et al. 1996) and provides an excellent sample with which to study the formation and evolution of a wide range of galaxy associations.

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