

**Table 4.1** General galaxy classification schemes

System	Principal criteria	Symbols	Examples
Hubble–Sandage <sup>1</sup>	barrishness; openness of arms/disk-bulge ratio; degree of resolution of arms into stars	E, S0, S, SB, Irr a, b, c	M87=E1 M31=Sb M101=Sc LMC=Irr I
De Vaucouleurs <sup>2</sup>	barrishness; openness of arms/disk-bulge ratio; rings or s shapes	E, S0, S, SA, SB, I a, b, c, d, m (r), (s)	M87=E1P M31=SA(s)b M101=SA B(rs)cd LMC=SB(s)c
Yerkes <sup>3</sup>	central condensation of light; barrishness/smoothness	k, g, f, a E, R, D, S, B, I	M87=kE1 M31=kS5 M101=fS1 LMC=afl2
DDO <sup>4</sup>	young-star richness of disk; barrishness; central condensation of light; quality and length of arms	E, S0, A, S, Ir B a, b, c I, II..., V	M87=E1 M31=Sb I-II M101=Sc I LMC=Ir III-IV

NOTES: <sup>1</sup>Sandage (1961–1995), <sup>2</sup>de Vaucouleurs (1959b), <sup>3</sup>Morgan (1958–1970), <sup>4</sup>van den Bergh (1960–1976)