The study of allergies in creatures living together without being relatives can help us understand the impact of environmental influences. We tested the association of allergies in humans and their pets. A nested unmatched case-control study was performed in a random sample of 4261 inhabitants, aged 25-74 years, of the City of Augsburg, Germany and two adjacent counties. Using standardised computer-assisted face-to-face interviews, we determined and compared the prevalence of doctor-diagnosed atopic diseases (hay fever, asthma, atopic dermatitis) in the study subjects and veterinarian-diagnosed allergies in their pets. Pets were kept in 48.0% of the households (cats 26.1%, dogs 20.1%, rodents 9.7%) and a veterinarian had diagnosed an allergy in 3.9% (cats 3.3%, dogs 4.7%, rodents 1.2%). Atopic diseases were diagnosed in 20.2% of the study subjects (asthma 6.1%, hay fever 13.7%, atopic dermatitis 5.1%). After adjustment for age, sex, parental predisposition and social status a significant association between hay fever in the study subjects and allergies in their pets was observed [odds ratio (OR) 1.74, 95% confidence interval (CI) 1.01-2.97]. This association was more pronounced when investigating dogs only (OR 2.76, 95% CI 1.32-5.77) where in addition an association with the overall prevalence of atopic diseases in the study subjects reached significance (OR 2.31, 95% CI 1.16-4.58). We conclude that there is indication for a concomitant occurrence of allergies in
humans and their pets. Shared environmental factors are the most likely explanation.