(Updated: 2012/05/06)

Corrections to the book

"Measure-Valued Branching Markov Processes" by Li (Springer, 2011)

1. (page 45; line 1) Replace "$+(\eta_i, \lambda)$" by "$-(\eta_i, \lambda)$".
2. (page 61; line 4) Replace "$:= 2c \cdot \infty$" by "$:= b + 2c \cdot \infty$".
3. (page 68; Theorem 3.22) It is unnecessary to assume "$b > 0$" in the theorem. In fact, a more general theorem can be established here and the current one can be derived as a corollary; see the note "Continuous-state branching processes".
4. (page 98; line -5) Replace "$\alpha(\xi_r)\mathrm{d}r$" by "$\alpha(\xi_r)K(\mathrm{d}r)$".
5. (page 107; line -12) Replace "countable" by "rational".
6. (page 124; line 15) Replace "countable" by "rational".
7. (page 195; line 4) Replace "countable" by "rational".
8. (page 241; line 5) Replace "(10.11)" by "$\lim_{n\to\infty} \sup_{0\le s\le t} \|Y_{k_n}(s) - Y_s\| = 0$".
9. (page 245; line -7) Replace "$\langle X_{t\wedge\sigma_n}, 1\rangle$" by "$\sup_{0\le s\le t}\langle X_s, 1\rangle$".
10. (page 306; Proof of Proposition A.7) The equality $\{\mu_n^a(\varepsilon) \ge k\} = \{\tau_n^\varepsilon(k) \le a\}$ is not true. In general, we only have $\{\mu_n^a(\varepsilon) \ge k\} \supset \{\tau_n^\varepsilon(k) \le a\}$. One possible correction is to replace "Let $\tau_n^\epsilon(0) = 0$ and ... we get" by "For any integer $k \ge 0$ we have

    $$\begin{aligned} \{\mu_n^a(\varepsilon) \ge k\} \;=\; \{\omega \in \Omega :\ & \text{there are } 0 = t_0 < t_1 < \cdots < t_k \in T_n^a \\ & \text{so that } d(\xi_{t_{i-1}}(\omega), \xi_{t_i}(\omega)) \ge \varepsilon \text{ for } 1 \le i \le k\}, \end{aligned} \tag{0.1}$$

    where $T_n^a = T_n \cap [0, a]$. By the separability of (E, d) we have

    $$\mathscr{B}^0(E \times E) = \mathscr{B}^0(E) \times \mathscr{B}^0(E).$$

    Then $\{d(\xi_s, \xi_t) \ge \varepsilon\} \in \mathscr{F}_t$ for $t \ge s \ge 0$. Using (0.1) one can show each $\mu_n^a(\varepsilon)$ is a random variable. Similarly, each $m_n^a(\varepsilon)$ is a random variable. It follows that $\mu^a(\varepsilon) = \lim_{n\to\infty} \mu_n^a(\varepsilon)$ and $m^a(\varepsilon) = \lim_{n\to\infty} m_n^a(\varepsilon)$ are also random variables. Since $(\xi_t)_{t\ge0}$ is a realization of $(X_t)_{t\ge0}$, the random variables $\mu^a(\varepsilon)$ and $m^a(\varepsilon)$ are identically distributed. Since $(\xi_t)_{t\ge0}$ is a càdlàg process, we get"
11. (page 318; line -16) Replace "countable" by "rational".