confidence

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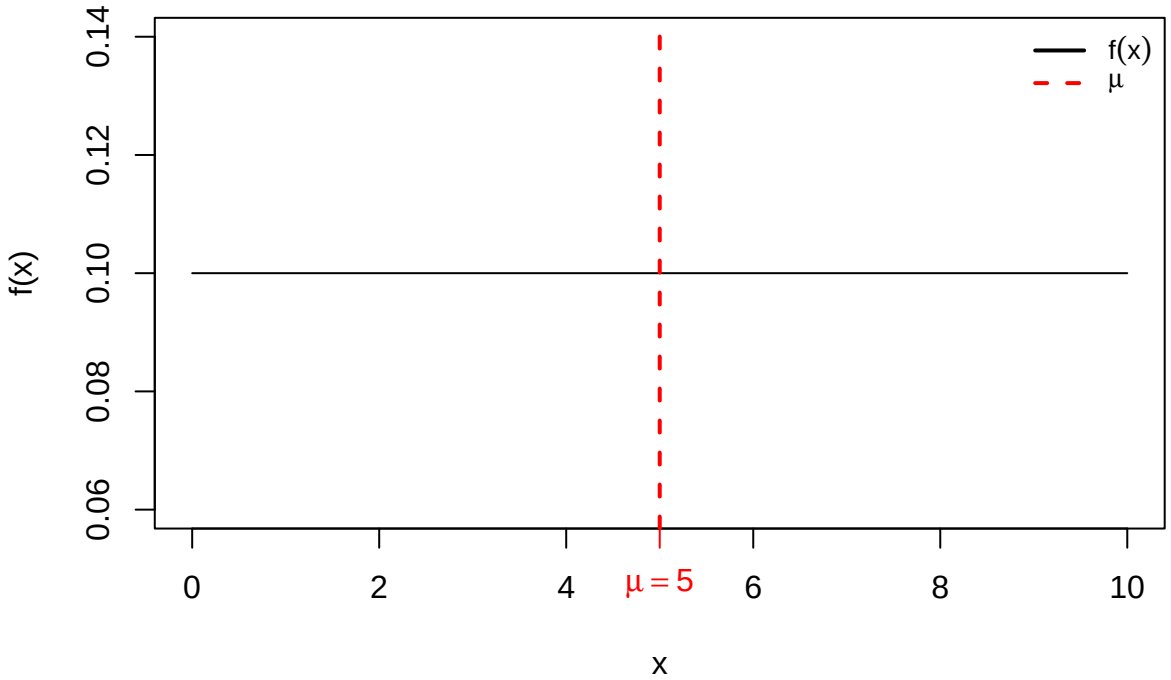
Experimento Monte Carlo de cobertura de intervalos de confianza para la media verdadera usando aproximación normal (TLC) y varianza teórica conocida. Se implementa el mismo flujo para distribuciones no normales: Uniforme, Weibull, Lognormal y Gamma.

Funciones generales

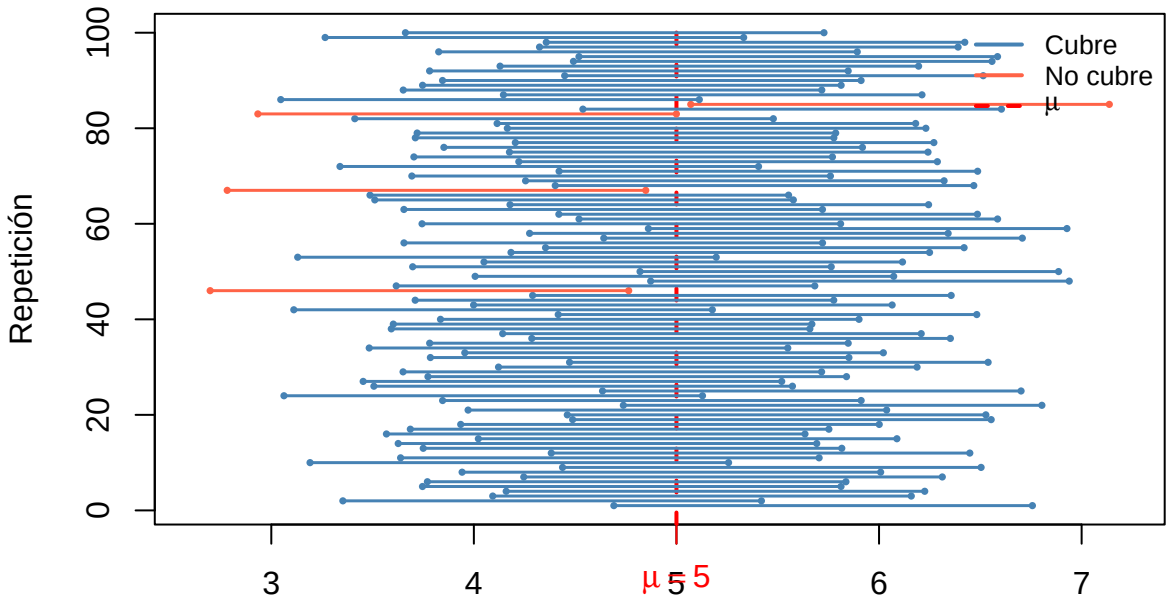
Parámetros base de la simulación

Uniforme(a, b)

$$f(x) = \frac{1}{b-a},$$

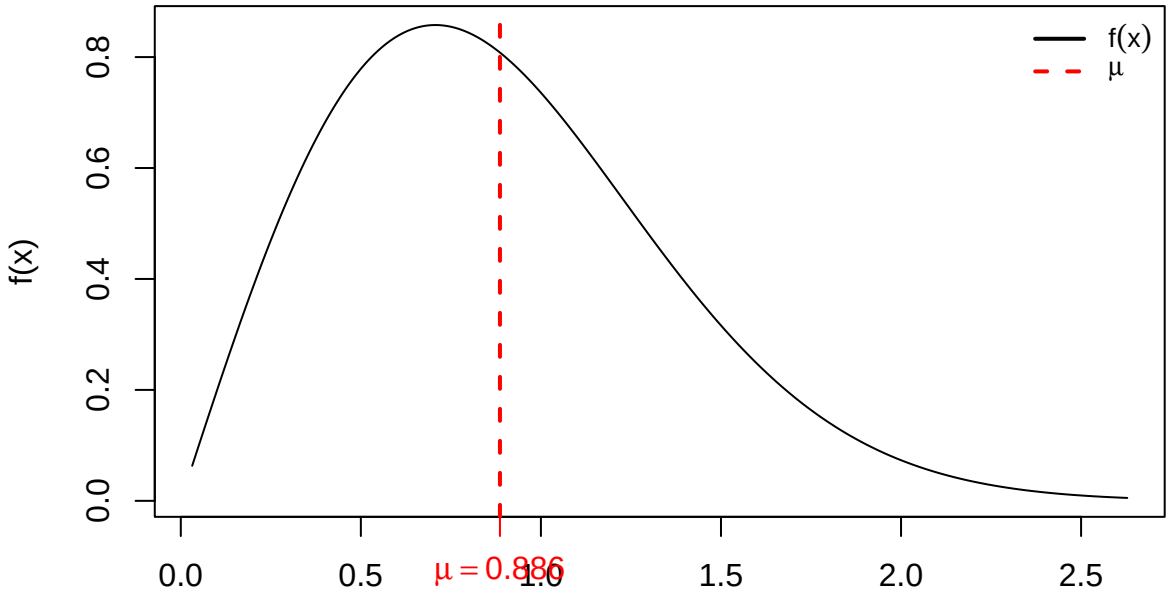


IC de la media − Uniforme (a = 0, b = 10)

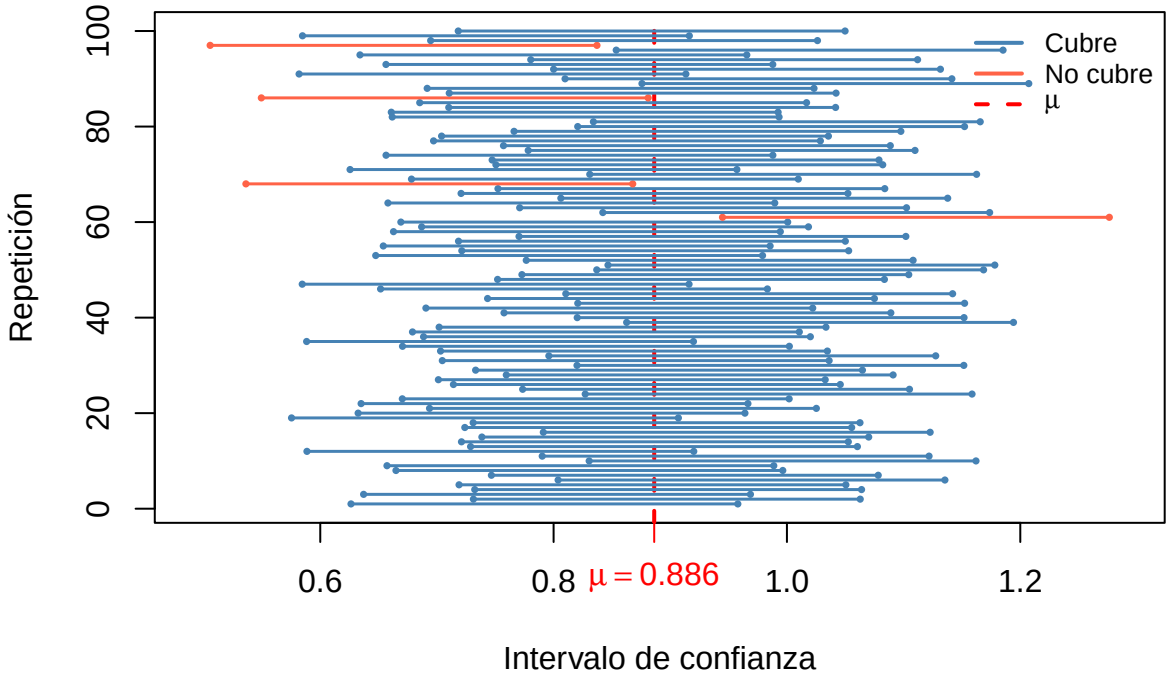


Weibull(k, lambda)

$$f(x) = \frac{k}{\lambda}\,(x/\lambda)^{k-1}\; e^{-(x/\lambda)^k}$$

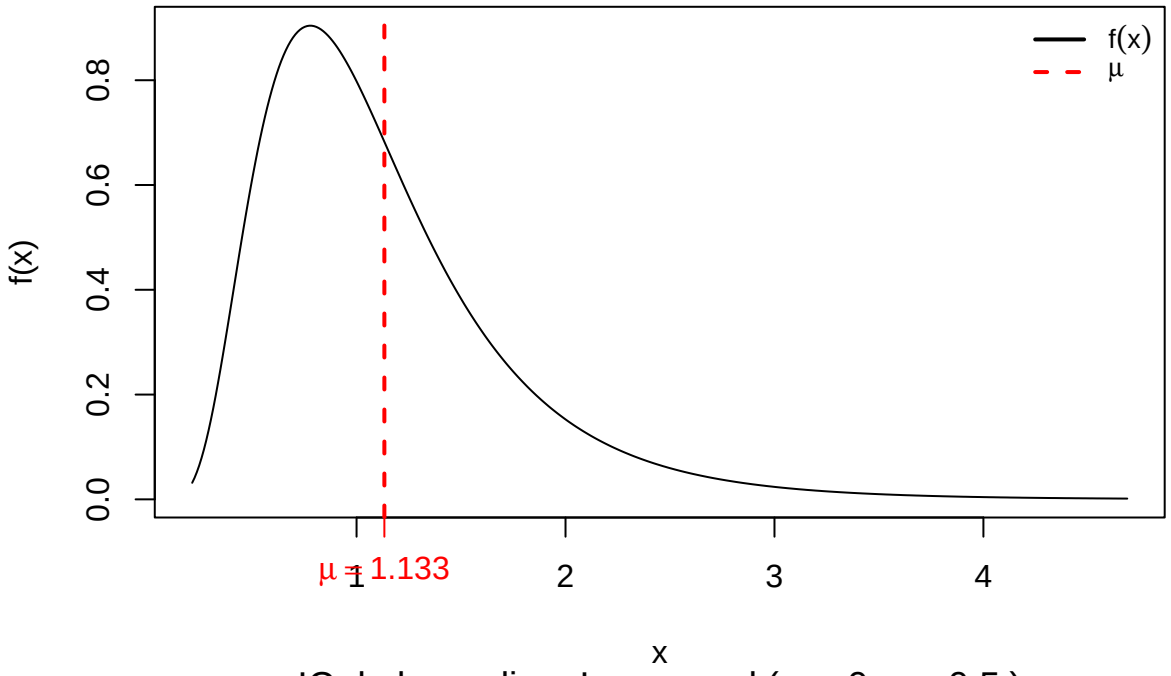


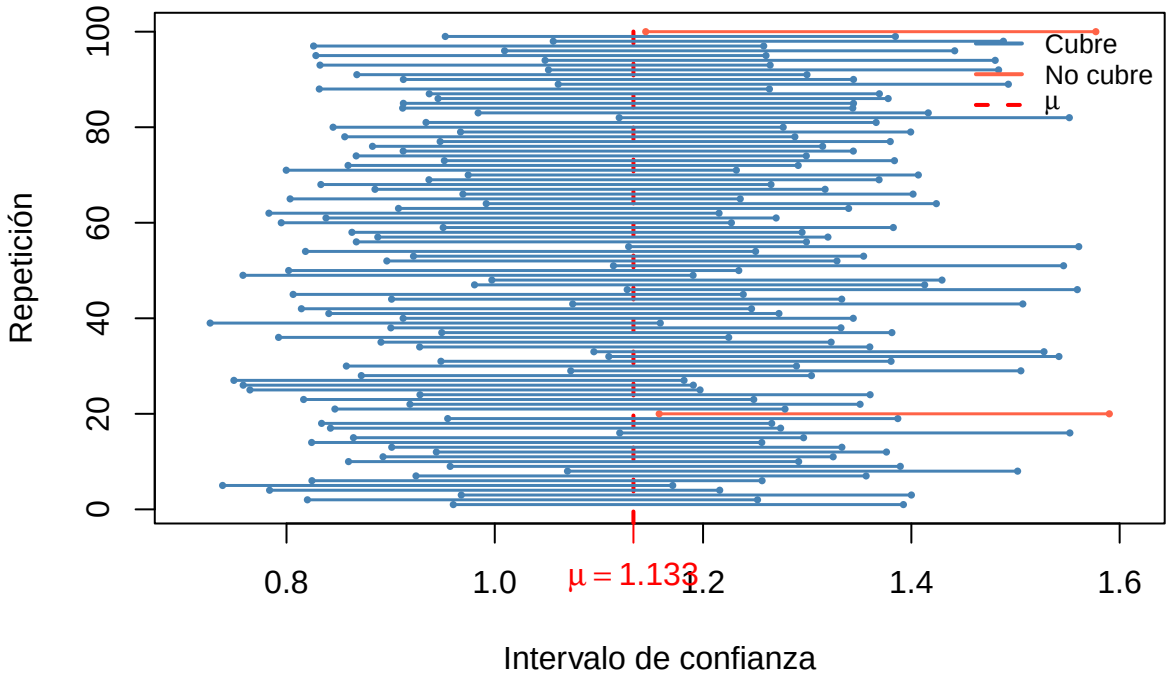
IC de la media − Weibull (k = 2, λ = 1)



Lognormal(mu, sigma)

$$f(x) = \frac{1}{x\,\sigma\sqrt{2\pi}}\; e^{-((\log(x)-\mu)^2)/(2\sigma^2)}$$





Gamma(shape, rate)

$$f(x) = \frac{\lambda^{\alpha}}{\Gamma(\alpha)}\ x^{\alpha-1}\ e^{-\lambda x}$$