

## DE NOVO REPORTING OF B CHROMOSOMES WITH THEIR ENIGMATIC RESPONSES IN *ECLIPTA ALBA* (L.) HASSK

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*It is a matter of great serendipity that while studying cytogenetics of Eclipta alba (L.) Hassk. we reported B chromosome. It is the maiden study regarding the reporting of B chromosomes in this plant species as per our knowledge. During the meiotic study of Eclipta alba (L.) Hassk maximum three B chromosomes were reported in Bhringraj. The study deals with the effect of B chromosomes on A chromosome chiasma frequency, chiasma distribution, and pollen fertility in Eclipta alba (L.) Hassk. The results suggest that B chromosome enhances the chiasma frequency, and also increases variations in carrier and non-carrier pollen mother cells (PMCs). Moderate reduction in fertility of carrier plants, in contrast to non-carriers could also be recorded. With regard to earlier investigations, the possible mechanism of action of B-chromosomes has been discussed. Aside from their intrinsic enigmatic properties, B-chromosomes might be a useful experiment tool to study the wider issues of genome organization and evolution in plants.*

**Key words:** B chromosomes, Chiasma, carrier and non-carrier plants, fertility, meiosis.

### НОВЕ ПОВІДОМЛЕННЯ ПРО В ХРОМОСОМИ ТА ЇХНІ ДИВНІ РЕАКЦІЇ В *ECLIPTA ALBA* (L.) HASSK

Під час дослідження цитогенетики *Eclipta alba* (L.) Hassk. нами було виявлено В хромосоми, що стало важливим непрогнозованим відкриттям. Наскільки нам відомо, це перше дослідження, що повідомляє про В хромосоми у цьому виді рослин. Протягом дослідження мейозу в *Eclipta alba* (L.) Hassk повідомляли про максимум три В хромосоми екліпти (Bhringraj). У ході дослідження вивчали вплив В хромосом на частоту утворення хіазм А хромосоми, поширення хіазм та родючість пилку *Eclipta alba* (L.) Hassk. Результати демонструють, що В хромосома підвищує частотність хіазм та збільшує кількість варіацій материнських клітин пилку (PMCs), які є або не є носіями. Також було відмічено невелике зниження родючості рослин-носіїв на відміну від

рослин, що не були носіями. Можливий механізм дії В-хромосом обговорювали з урахуванням попередніх досліджень. Окрім розгляду загадкових властивостей В хромосом, вони можуть також бути корисним експериментальним інструментом для вивчення ширших питань організації геному та еволюції рослин.

**Ключові слова:** В хромосоми, хіазма, рослини-носії та не носії, родючість, мейоз.

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