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CORRIGENDUM AND ADDENDUM TO "STRUCTURE MONOIDS OF SET-THEORETIC SOLUTIONS OF THE YANG–BAXTER EQUATION"

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Abstract: One of the results in our article which appeared in *Publ. Mat.* **65(2)** (2021), 499–528, is that the structure monoid $M(X,r)$ of a left non-degenerate solution (X,r) of the Yang–Baxter equation is a left semi-truss, in the sense of Brzeziński, with an additive structure monoid that is close to being a normal semigroup. Let η denote the least left cancellative congruence on the additive monoid $M(X,r)$. It is then shown that η is also a congruence on the multiplicative monoid $M(X,r)$ and that the left cancellative epimorphic image $\bar{M} = M(X,r)/\eta$ inherits a semi-truss structure and thus one obtains a natural left non-degenerate solution of the Yang–Baxter equation on $\bar{M}$. Moreover, it restricts to the original solution r for some interesting classes, in particular if (X,r) is irretractable. The proof contains a gap. In the first part of the paper we correct this mistake by introducing a new left cancellative congruence μ on the additive monoid $M(X,r)$ and show that it also yields a left cancellative congruence on the multiplicative monoid $M(X,r)$, and we obtain a semi-truss structure on $M(X,r)/\mu$ that also yields a natural left non-degenerate solution.

In the second part of the paper we start from the least left cancellative congruence ν on the multiplicative monoid $M(X,r)$ and show that it is also a congruence on the additive monoid $M(X,r)$ in the case where r is bijective. If, furthermore, r is left and right non-degenerate and bijective, then $\nu = \eta$, the least left cancellative congruence on the additive monoid $M(X,r)$, extending an earlier result of Jespers, Kubat, and Van Antwerpen to the infinite case.

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