Erratum to "Unique range sets in positive characteristic"

(Acta Arith. 103 (2002), 169–189)

by

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Ta Thi Hoai An was kind enough to point out to us an error in [1]. Theorem 3.1 is false as stated. The condition (A2) must be replaced by the stronger assumption: (A2) $(n, m) = 1$. Thus, we need n and m relatively prime in either version of the theorem. Our mistake is on page 187. From the formula,

$$g^{n-m} = a\,\frac{h^m - 1}{h^n - 1},$$

we conclude that if h is constant, then g must also be constant. Of course, the other possibility is that h is simultaneously an n and mth root of unity. But, if n and m are relatively prime, then there are no non-trivial nth roots of unity which are also mth roots of unity, and our proof is correct in that case.

Fortunately, our main application of Theorem 3.1, namely showing there exist unique range sets of all finite cardinalities ≥ 4 in all characteristics, remains valid. That is because in all of our applications of Theorem 3.1, *e.g.*, Corollary 3.2, it was always the case that $(n, m) = 1$.

References

[1] A. Boutabaa, W. Cherry and A. Escassut, *Unique range sets in positive characteristic*, Acta Arith. 103 (2002), 169–189.

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