

**ERRATUM TO: DISCONTINUOUS GROUPS IN POSITIVE
CHARACTERISTIC AND AUTOMORPHISMS OF MUMFORD
CURVES [MATH. ANN. 320 (2001), NO. 1, 55–85].**

The following corrections only affect use of methods from the paper in later work, not the paper itself.

Correction 1. The statement of Remark (6.12) for $p = 2$ is not correct if $g = 4$. The following should be added: *if $g = 4$ or $g = 9$, then $F(g) = 12(g - 1)$, so if $\mu = \frac{1}{12}$ in such a case, then the corresponding N attains the bound. Inspection of the cases in §5 and §6 of the paper reveal that this only happens for case (A1) with $t_1 = 0, t_2 = 2, n = 3$, and then $p = 2$ and $N \cong E_2 *_{E_1} D_3$.*

Correction 1 implies that the following should be added to the statement of the main theorem in [2]: *However, if $p = 2$ and $g = 4$, there is one more one-parameter family of curves that attains the maximal number $F(g) = 36$ automorphisms, namely a family of $D_3 \times D_3$ -covers of \mathbf{P}^1 (Indeed, the group N of the correction admits only one surjective homomorphism onto a group of order 36, namely $N \rightarrow D_3 \times D_3$, with free kernel Γ of rank four).*

Correction 1 also has the following effect on [1]. *In the main theorem, the statement “ $p > 3$ ” should be left out.* Indeed, in the proof of proposition 1.2 of that source, the second sentence should be completed as follows: *except if $p = 2$ and $N \cong D_3 *_{\mathbf{Z}/2} D_2$, which gives rise to the branch type (4, 3), and the statement of that proposition should be corrected accordingly.* However, the equation in proposition A is not valid in characteristic two.

Correction 2. *In Proposition 2, the statement that $p \neq 2, 5$ should be left out.* The reason is that $A_5 \cong PSL(2, 4) \cong PSL(2, 5)$ does occur in the list of theorem (2.9) in those characteristics.

This has the following effect on [1]. *In the main theorem, the condition “ $p \neq 5$ ” should be left out in case (b).*

Andreas Schweizer has pointed out that certain Drinfeld modular curves give counterexamples to the original statements in [2] and [1]: over $\mathbf{F}_2(T)$, the Drinfeld modular curves $X(T(T + 1))$, $X(T^2 + T + 1)$ and $X(T^2)$ have respective genera 4, 6 and 5 and automorphism groups $D_3 \times D_3$, A_5 and a group of order 48. They are now covered by the corrections.

REFERENCES

- [1] G. Cornelissen, F. Kato, A. Kontogeorgis, Discontinuous groups in positive characteristic and automorphisms of Mumford curves, Math. Ann. 320 (2001), no. 1, 55–85.
- [2] G. Cornelissen, F. Kato, Mumford curves with maximal automorphism group, Proc. Amer. Math. Soc. 132 (2004) 1937-1941