

Typos and Corrections for “A Guide to the Classification Theorem for Compact Surfaces”

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1. Page 30, before Definition 3.3, $\max_{i \in I} \{x_i\}$ should be $\max_{i \in I} \{|x_i|\}$.
2. Page 32, in Proposition 3.3, change “for all by finitely many” to “for all but finitely many.”
3. Page 33, line -4, change (C1) to (C2).
4. Page 34, line 6, change $h^{-1}|_{s_g}(F)$ to $h^{-1}|_{s_g}$ and h to h^{-1} .
5. Page 56, in Proposition 5.2, second line, H should be G .
6. Page 67, line 2, $H_0(K_5) = 0$ should be $H_0(K_5) = \mathbb{Z}$.
7. Page 162, the paragraph following the statement of Theorem E.1 is misleading. It states that the Jordan–Schönflies theorem can be proved using tools from algebraic topology but this is only true of the Jordan’s curve theorem. The proof of the Jordan–Schönflies theorem uses topological techniques. The proof given by Bredon mentioned in our text (Theorem 19.11 in Bredon) is an adaptation of a proof due to Morton Brown: A proof of the generalized Schönflies theorem, *Bulletin of the AMS*, Volume 66, Number 2 (1960), pages 74-76. An earlier elementary proof of the Jordan–Schönflies theorem was given by Stewart Cairns: An elementary proof of the the Jordan–Schönflies theorem, *Proceedings of the AMS*, Vol. 2, No. 6 (1951), pages 860-867.

As pointed out by Edwin Moise, most proofs of the triangulation theorem for surfaces make use of the Jordan–Schönflies theorem. This method may be simpler but is in a way misleading. Indeed, in dimension 3, the Jordan–Schönflies theorem fails, but the triangulation theorem still holds. Thus one should not get the impression that the triangulation theorem for surfaces depends on the Jordan–Schönflies theorem. A proof of the triangulation theorem for surfaces not dependent on the Jordan–Schönflies theorem is given in Moise (Chapter 8) *Geometric topology in dimension 2 and 3*. Springer–Verlag, GTM No. 47, 1977. The Jordan–Schönflies theorem is also proved in Moise; see Chapters 9 and 10.