

# Understanding Queen Endgames



Karsten Müller and Yakov Konovol

Foreword by Vladimir Kramnik

# **Understanding Queen Endgames**

**Karsten Müller**

and

**Yakov Konoval**

**Foreword by Vladimir Kramnik**



**2020**

**Russell Enterprises,  
Inc. Milford, CT USA**

Understanding Queen Endgames  
by Karsten Müller and Yakov Konoval

ISBN: 978-1-949859-31-7 (print)  
ISBN: 978-1-949859-32-4 (eBook)

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Published by:  
Russell Enterprises, Inc.  
P.O. Box 3131  
Milford, CT 06460 USA

<http://www.russell-enterprises.com>  
[info@russell-enterprises.com](mailto:info@russell-enterprises.com)

Cover by Janel Lowrance

Printed in the United States of America



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# Introduction

Knowing the abilities and limitations of the queen is very valuable for mastering the secrets of the royal game, and this can be studied best in the endgame. There are already many books dealing with this topic. Why have we added another one to the collection?

Computer technology is advancing and advances endgame theory. Yakov Konoval and Marc Bourzutschky have created 7-piece tablebases and so the definitive verdict on all such positions and optimal lines are known with certainty. Now the 7-piece Lomonosov Tablebases are available online, allowing anyone to evaluate a given position.

However, Marc and Yakov have developed additional software which is able to generate significant additional information, such as long wins, zugzwangs, typical positions and so on. Thanks to this software, there are many new discoveries in this book.

This book follows a dual philosophy as in our three previous works *Understanding Rook Endgames*, *Understanding Minor Piece Endgames* and *Understanding Rook vs. Minor Piece Endgames*. We deal with the 7-piece endings in great detail. They are often so complex that pre-tablebase analysis almost always contains errors. Many new discoveries are revealed here.

We have also added the important 5- and 6-piece endings a club player should know. But to really understand the fight of a queen against a queen or minor pieces with rooks, these theoretical positions are of course not enough. So we have added subchapters on the principles of each material configuration. Finally, we would like to thank Vladimir Kramnik for his foreword, Guy Haworth for providing examples and analysis, German grandmaster Luis Engel for checking the exercises from a human point of view and Vladimir Makhnychev and Victor Zakharov for giving access to Lomonosov Tablebases.

Karsten Müller and Yakov Konoval  
November 2020

# Foreword

Before reading this book, I was convinced that there were no new chess subjects left which had not already been covered by one author or another. But this titanic work seems to be the first one analyzing in depth the endgames queen vs. queen and queen vs. other pieces.

Such positions are very difficult to work on, if only for purely mathematical reasons – the queen is the most mobile piece in chess, and the amount of possible options is incomparably higher than in any other type of endgames. Of course, nowadays we have tablebases, but they can only give a clear answer for positions with no more than seven pieces on the board, including both kings. This work contains many more examples on these topics and, most importantly, it provides “human” explanations which will help you make sense and navigate such positions when they appear on the board in a practical game.

There are many examples from my own games in the book and (to my surprise) most of them were successful. (I have really never studied this subject because of the absence of such books, at least in my youth.) I did find a few surprising discoveries which were new to me and changed my previous assessments of some positions.

For instance, in the first game of my 2004 world championship match with Leko (position 06.17, page 145) we both thought that the exchange of the h-pawns (instead of 44. ♖f4? g5 45. ♖f6 h6! – the move Peter missed) would lead to a relatively simple draw. However, I was very surprised to learn that in fact Black still has serious winning chances. Or that two rooks and a pawn often do not win against a queen, and even if there is a win, this endgame is very difficult to manage in practical play. And there are others...

If there were this many revelations for an experienced player, I can guarantee that, with careful study of this material, you will greatly expand your chess knowledge.

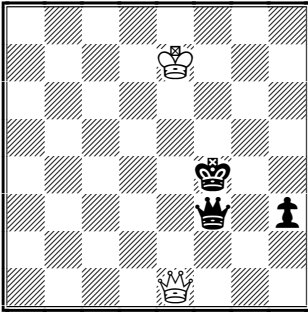
## *Understanding Queen Endgames*

All in all, this fantastic book is already on my (very short) “must study” list for chessplayers of different levels, including the top ten! I want to thank the authors for the courage which is required just to start working on such a complex topic, as well as for the very high quality of their work, which will endure for decades to come and will be very useful for many future generations of chessplayers.

Vladimir Kramnik  
14th World Chess Champion  
November 2020



**E02.05 Guimaraes – Vasconcellos**  
Fortaleza 1951

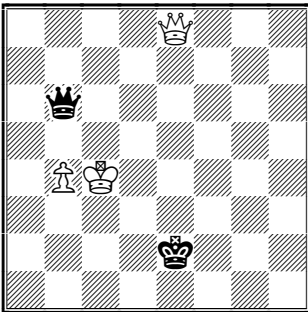


*White to move and draw*

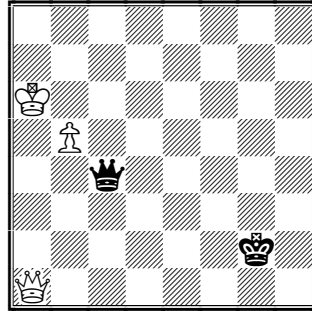
**(A2) Knight Pawn**

With a knight pawn, play is similar to a rook pawn, but the winning chances are better as the pawn provides better shelter. There is still a drawing zone in the farthest corner:

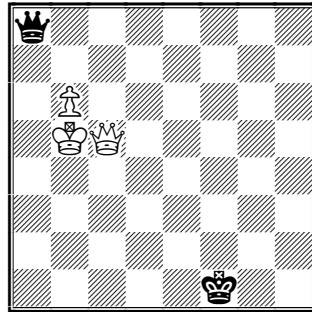
**02.09 Negi – Postny**  
Helsingor 2009



**63...♔f1!**? The king heads for the main drawing zone h1, g1, h2 and g2, in the southeast corner. After 63...♔d2? 64.b5 ♖c7+ 65.♔d5 ♖b7+ 66.♖c6 ♖f7+ 67.♔d6 ♖f4+ 68.♔d7 ♖f7+ 69.♖c8 ♖f8+ 70.♔b7 ♖e7+ 71.♖c7 ♖e4+ 72.♔a6 ♖a4+ 73.♖a5 ♖c4 74.♖a1+ ♔g2

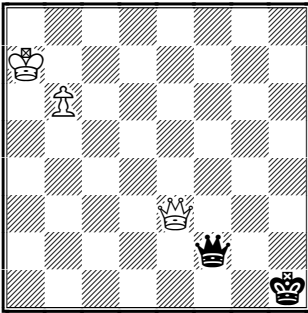


Postny's king has reached the drawing zone. 75.♖b2+ ♔h1 76.♖h8+ ♔g1 77.♖g7+ ♔h1 78.♖b7+ ♔h2 79.♖c6 ♖a2+ 80.♔b7 ♔g1 81.♖c1+ ♔f2 The king leaves the drawing zone for a moment, but it is no problem as it can come back. 82.♖c5+ ♔f1 83.b6 ♖g2+ 84.♔a6 ♖a8+ 85.♔b5



**85...♖e8+!** The king can't enter the drawing zone at this time. So the check is the only drawing move. 85...♖f3? is met by 86.♖c1+ ♔f2 87.♖g5+- and the king is cut off from the drawing zone. 86.♔a5 ♖e1+ 87.♔a6 ♖a1+ 88.♖a5 ♖f6! 89.♖b5+ ♔g1 90.♖c5+ ♔h1 91.♔a7 ♖a1+ 92.♔b7 ♖g7+ 93.♖c7 ♖f8 94.♖d7 ♖f2 95.♖d5+ ♔g1 96.♖g5+ ♔h1 97.♖c6 ♖c2+ 98.♔d6 ♖h2+ 99.♖e5 ♖h6+ 100.♖c5 ♖c1+ 101.♔d5 ♖d2+ 102.♖d4 ♖g5+

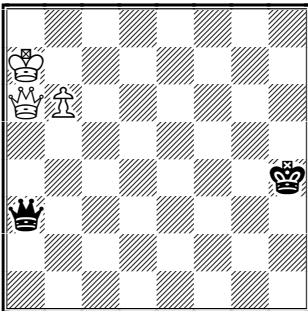
103.♔c4 ♕c1+ 104.♔c3 ♕f1+  
 105.♕b4 ♕b1+ 106.♕b3 ♕e1+  
 107.♕b5 ♕e5+ 108.♕a6 ♕a1+  
 109.♕b7 ♕g7+ 110.♕c6 ♕f6+  
 111.♕c5 ♕e7+ 112.♕d4 ♕f6+  
 113.♕d3 ♕f5+ 114.♕c3 ♕e5+  
 115.♕b4 ♕e1+ 116.♕c3 ♕b1+  
 117.♕a5 ♕a2+ 118.♕b5 ♕d5+  
 119.♕c5 ♕d3+ 120.♕c6 ♕g6+  
 121.♕b7 ♕f7+ 122.♕a6 ♕a2+  
 123.♕a5 ♕e2+ 124.♕a7 ♕f2  
 125.♕d5+ ♕g1 126.♕b7 ♕f8  
 127.♕d4+ ♕h1 128.♕e4+ ♕g1  
 129.♕e3+ ♕h1 130.♕a7 ♕f2!?



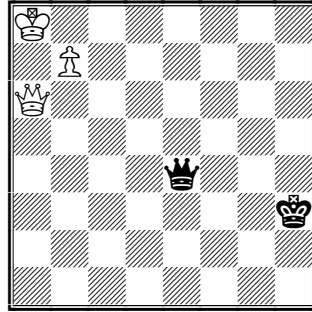
A nice stalemate joke. 131.♕e4+ ♕g1 132.♕b7 ♕f7+ 133.♕c6 and after his fantastic defensive performance Postny probably claimed a draw as per the 50-move rule. ½-½

This can be quite deep and the squares near the drawing zone also play a role:

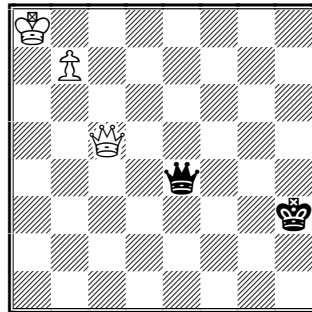
**02.10 Oddone – Espinoza**  
 Asuncion 2009



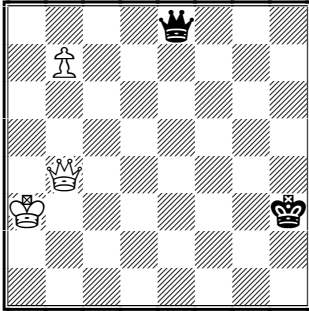
77...♕e7+? 77...♕e3! is called for, e.g., 78.♕a8 ♕h3 79.b7 ♕e4 80.♕a7 ♕d4+ 81.♕b6 ♕a1+ 82.♕a6 ♕d4+ 83.♕a8 ♕e4



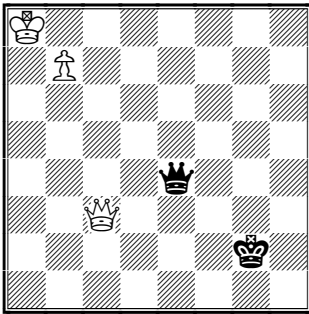
and it is drawn despite the fact that Black's king is on h3. 77...♕c5? is refuted by 78.♕d3!+- **78.b7 ♕e3+ 79.♕a8 ♕e4 80.♕b5?** 80.♕a3+- cuts the king off and wins. **80...♕f3?** The king should immediately have started its journey to the southeast corner with 80...♕g3. **81.♕b4+ ♕h3 82.♕c5?! ♕e4**



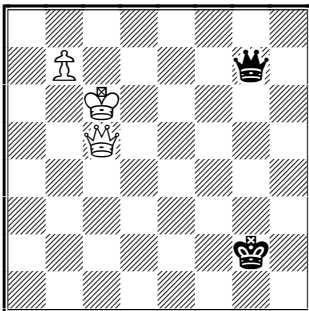
**83.♕c3+?** 83.♕a7 Planning to head for the same rank as Black's king wins, e.g., 83...♕a4+ 84.♕b6 ♕b3+ 85.♕a6 ♕a4+ 86.♕a5 ♕c4+ 87.♕b5 ♕e6+ 88.♕a5 ♕a2+ 89.♕b6 ♕f2+ 90.♕c5 ♕b2+ 91.♕a6 ♕e2+ 92.♕a5 ♕a2+ 93.♕b5 ♕e2+ 94.♕c4 ♕b2+ 95.♕b4 ♕e5+ 96.♕a4 ♕e8+ 97.♕a3



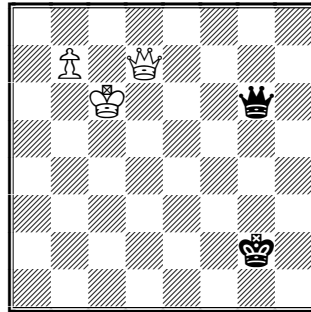
The king has arrived, and Black's checks can be met by a queen exchange and so White wins, e.g., 97...♖b8 98.♗b3 ♕h2 99.♗b2 ♖e5+ 100.♗b1 ♖f5+ 101.♗a1 ♖f1+ 102.♗b1+-  
**83...♗g2**



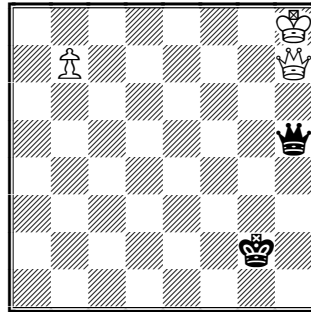
Black has reached the drawing zone. **84.♗a7 ♖e7 85.♗b6 ♗d8+ 86.♗c7 ♗d4+ 87.♗c5 ♗b2+ 88.♗c7 ♗g7+ 89.♗c6**



**89...♗g6+?** As Black's king is on a light square, it was better to operate on dark squares: 89...♖f6+ 90.♗d6 ♖c3+ 91.♗d7 ♖g7+ 92.♖e7 ♗d4+ 93.♗e8 ♖h8+ 94.♖f8 ♖e5+= **90.♗d6 ♖e8+?! 91.♗d7?! 91.♗b6 ♖e3+ 92.♗c7 ♖a7 93.♗c8** wins much quicker. **91...♗g6+**

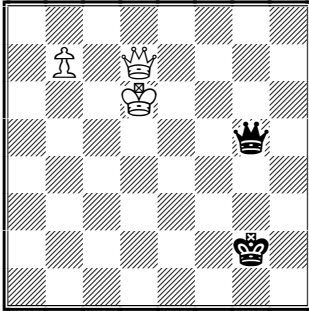


**92.♗d5?** White misses the chance to centralize the queen, which usually is called for: 92.♗d6! ♖c2+ 93.♗d7 ♖h7+ 94.♖e7 ♗d3+ 95.♗e8 ♖g6+ 96.♗f8 ♖f5+ 97.♗g8 ♗d5+ 98.♖h8 ♖h5+ 99.♖h7+-

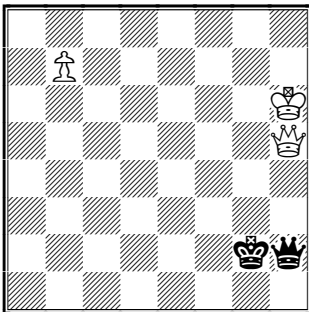


One typical winning setup has been reached.

**92...♗d3+ 93.♗e6 ♖g6+ 94.♗e5 ♖g5+ 95.♗e4 ♖g6+! 96.♗e5 ♖g5+ 97.♗d6**



**97... ♖f6+?** This allows White to improve the queen's position. After 97... ♖f4+ 98. ♖c6 ♖a4+ 99. ♖c7 ♖a5+ 100. ♖c8 ♖c5+, it is drawn. **98. ♖e6! ♖d8+?! 98... ♖f4+** is more tenacious. White then uses the technique of bringing the king to the same file as Black's: 99. ♖d7 ♖d4+ 100. ♖e8 ♖h8+ 101. ♖e7 ♖h4+ 102. ♖f8 ♖b4+ 103. ♖e7 ♖f4+ 104. ♖f7 ♖d6+ 105. ♖g7 ♖e5+ 106. ♖h6 ♖h2+ 107. ♖h5+-

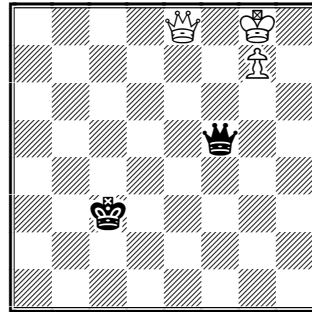


White wins as Black has no good check, e.g., 107... ♖b8 108. ♖g4+ ♖h2 109. ♖e4 ♖f8+ 110. ♖g6 ♖d6+ 111. ♖g5 ♖d8+ 112. ♖g4 ♖d1+ 113. ♖f4 ♖d2+ 114. ♖e5 ♖g5+ 115. ♖d6 ♖d8+ 116. ♖c6 ♖f6+ 117. ♖d5 ♖d8+ 118. ♖c4 ♖c7+ 119. ♖b3 ♖b6+ 120. ♖c2 ♖c5+ 121. ♖b2 ♖b5+ 122. ♖c1 ♖g5+ 123. ♖d1 ♖d8+ 124. ♖e2 ♖b8 125. ♖h7+ ♖g3 126. ♖g7+ ♖f4 127. ♖f2 ♖a7+ 128. ♖g2 ♖a2+ 129. ♖h3 ♖e6+

130. ♖h2 ♖e2+ 131. ♖g2 ♖h5+ 132. ♖g1+- **99. ♖c6 ♖h8 100. ♖a2+ ♖f1 101. ♖b1+ ♖g2 102. ♖b8 ♖c3+ 103. ♖b7 103. ♖b5** is easier. **103... ♖f3+ 104. ♖a6 ♖a3+ 105. ♖b5 1-0**

Here is a drawing example with the pawn on the seventh rank:

**02.11 Visakh – Karthikeyan**  
Ahmedabad 2020



**62... ♖b2!?** **63. ♖e2+ ♖a1 64. ♖e1+ ♖b2 65. ♖h4 ♖a1 66. ♖h8 ♖e5 67. ♖g4 ♖h2+ 68. ♖g8 ♖b8+ 69. ♖h7 ♖h2+ 70. ♖g6 ♖d6+ 71. ♖h5 ♖h2+ 72. ♖h4 ♖e2+! 73. ♖h6 ♖e6+ 74. ♖h7 ♖f5+!** Here the pins do not work: 74... ♖f7? 75. ♖h8+-; 74... ♖d7? 75. ♖h8+- **75. ♖h8 ♖e5!** This diagonal pin does defend. **76. ♖h1+ ♖b2 77. ♖f3 ♖a1 78. ♖h7 ♖h2+ 79. ♖g6 ♖g1+ 80. ♖f7 ♖a7+ 81. ♖g8 ♖b8+ 82. ♖f8 ♖b3+ 83. ♖f7 ♖b8+ 84. ♖h7 ♖h2+ 85. ♖g6 ♖g2+ 86. ♖f6 ♖f2+ 87. ♖e7 ♖a7+ 88. ♖f8 ♖b8+ 89. ♖e8 ♖f4+ 90. ♖g8 ♖c4+ 91. ♖f7 ♖b3 92. ♖f8 ♖b8+ 93. ♖e8 ♖f4+ ½-½**

When the king can't reach the drawing zone, the game is usually lost. Previously it had been recommended to keep the king on a5 and a4, but this loses: