## WOLFGANG OLBRICH



## ULTRA



TRAINING PLANS \| MENTAL TRAINING NUTRITION ADVICE

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## THE AUTHOR



Wolfgang Olbrich, born 1968, is a passionate ultra distance runner and has completed more than 70 ultra distance races since the Biel 100k in 2001, as well as successfully finishing over 50 marathons. These races have ranged from 50k races, various multi-day races, to the Spartathlon (raced over 153 miles with a maximal time limit of 36 hours).

The author is a high-performance running coach, and looks after diverse ultramarathon running groups ranging from beginners to junior international level. He plans and leads the German Ultramarathon Foundation (DUV) Performance Development training camps, to which up to 30 elite ultramarathon specialists are invited. He is also responsible for all sports and high performance-related issues concerning the German Ultramarathon Foundation Championships in a voluntary capacity.

## Ultramarathon Training

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## Wolfgang Olbrich Ultramarathon Training



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And special thanks go to those whose technical contributions have enhanced and completed this book. I deliberately chose specialists who are active ultrarunners themselves, and I was lucky enough to gain the services of Dr. Hinze, one of Germany's top ultrarunners (3rd ranked German over 100 km in 2009) and President of the German Ultramarathon Foundation.


Dr. Stefan Hinze, born 1963, is President of the German Ultramarathon Foundation, a medical specialist in internal medicine and gastroenterology, and principal consultant at the Medical Clinic V of the Westpfalz Klinikum GmbH. Dr. Hinze has been an active, elite level runner since 1990. In 2009, he was ranked third in the German 100 km ranking list and, in the same year, he finished in 10th place overall in the Spartathlon nonstop 152-mile race. His "weak point"
is also his area of medical specialization, thus giving validity to his writings on the subject of "Disorders of the Gastrointestinal Tract in Endurance Running."

Holder of a PhD Natural Sciences, Olaf Hülsmann is a member of team of experts of the German Ultramarathon Foundation and German Athletics Association and visiting lecturer at the University of Munich on the subject of Sports Nutrition. While he was studying Nutritional Science and Sport, he participated in climbing and kayaking as well as the odd marathon, but he only took up ultrarunning, especially off-road, three years ago. Even before earning his degree in 2001, he was advising athletes. Since then he has dabbled in different sports such as marathon running, triathlon, weight training and ice hockey, and later also advanced training for coaches, physicians and pharmacists. After successfully finishing a 100-mile race in 2011, his next running goal is a 24 -hour-race.


Dr. Dietmar Göbel, medical specialist in orthopedics and trauma surgery, was an elite youth gymnast and has been running regularly for over 7 years, averaging around 2,500 miles per year. He favors natural trail running and has a marathon best time of 2:55:52 and a 100 km best time of $8: 40: 28$. In 2010 and 2011, he successfully completed the Spartathlon Athens to Sparta nonstop race over 153 miles. He has been a sports physician since 1993 and has also studied neural therapy, chirotherapy, acupuncture and physiotherapy (www.drgoebel-germany.de).


## AUTHOR



Wolfgang Olbrich was born in 1968 and is himself a passionate ultra distance runner. As of December 2011, he has completed more than 75 ultra distance races since running the Biel 100 km in 2001, as well as successfully finishing more than 50 marathons. These races have ranged from 50 km races, various multi-day races, to the Spartathlon (153 miles with a maximal time limit of 36 hours).

The author is a German Athletics Federation licensed highperformance running coach and looks after diverse ultramarathon running groups ranging from beginners to junior international level. He plans and leads German Ultramarathon Foundation (DUV) Performance Development training camps, to which up to 30 elite ultramarathon specialists are invited. He is also responsible for all sports and highperformance-related issues concerning the German Ultramarathon Foundation Championships in a voluntary capacity. In 2011, he was twice appointed team manager of the German Ultramarathon team at World Championships (World Ultratrail Championships in Ireland and World 100 km Championships in the Netherlands). One of his protégés, Peter Seifert, set a new German record over 50 km in March

2011 (2h52:26) and also won the German Championships over the same distance.

Furthermore, the author is also team manager of the German Ultramarathon Foundation Running team and is responsible for all training issues and organizing the various ultrarunning events (including a five-day multi-stage race, 300 km and $6.500 \mathrm{HM}+$, a 48-hour track race and the 73mile nonstop Kölnpfad trail race around the city of Cologne, Germany). He is also Sports and Race Team Manager of the Nordrhein Athletics Association, Kreis Köln (LVN-Kreis Köln) and administrator of running groups and walking at the Nordrhein Athletics Association.

## INTRODUCTION

This book is intended to smooth the way for interested long distance runners to ultramarathon training. After the success of the first edition, published in Germany in April 2011, the third edition is already due for publication later this year, and I am proud and happy that the English version of this book is now available worldwide.

My intention is to provide information about the sport of ultramarathon running and make it accessible to all. This book has deliberately been written in colloquial language, avoiding the unnecessary use of technical terms and jargon. I hope that this book may inspire readers who have never run an ultramarathon to give one a try. Entry-level races of 50 km and 6 hours are perfectly suited for this, as they give an idea of the atmosphere of an ultramarathon, which is also very strongly influenced by the participating runners, who are quite different from the "typical" marathon runner and are often very friendly.

The book contains a number of training plans and tips for beginners to more ambitious runners. I have deliberately restricted the performance level and not included training advice for elite level runners, as in my opinion it is meaningless to give universal training advice at this level. Instead, a serious discussion between coach and athlete is essential to arrive at an effective training plan. Direct collaboration with an experienced coach is definitely recommended. Unfortunately, ultramarathon coaches are few and far between. You can find the contact details of qualified ultramarathon coaches on the websites of your country's ultramarathon or track and field athletics association. Neither will you find very detailed explanations
about the training advice and training forms, as I have assumed that athletes who are interested in ultrarunning already have a few years' experience of running training and have some knowledge of basic training theory. However, some ideas and explanations were necessary for the sake of coherence.

I hope you enjoy the book!
Wolfgang Olbrich

## 1 WHAT IS AN <br> ULTRAMARATHON?

There are many interpretations, but there is no fixed distance. The most commonly used definition is:
"An ultramarathon is any race that exceeds the length of a marathon (26.2 miles)"

This statement is not universally accepted though, as the marathon distance itself has only been officially ratified since 1921 by the IAAF at 42.195 km ( 26 miles 385 yards). Prior to this, differing distances were run, e.g., 40 km ( 24.85 miles) at the 1896 Olympic Games and 42.75 km ( 26.56 miles) at the 1920 Olympics.

It is often said that only races longer than 50 km can be considered true ultramarathons. Others say, for example, that a challenging mountain marathon, such as the Jungfrau or Zermatt Marathon, should also be classified as an ultramarathon due to its difficulty.

Others still say that only a race without rest breaks can be called an ultramarathon.

I personally judge my own races by the course length. So, if, for example, during a 6 -hour race I cover more than the famous 26 miles 385 yards, I consider this to be an ultramarathon, irrespective of how many rest breaks I have had, as these breaks were in accordance with the race rules. It is like everything, there must be a constant value and the

## only constant and realistically measurable value is the course length.

I therefore agree with the above definition.


## 2 THE HISTORY OF THE ULTRAMARATHON

The history of ultramarathon running is not so easy to pin down either.

The first "Marathon" was run by Pheidippides in the year 490 BC , who, according to the writings of the historian Herodotus, had to run from Athens to Sparta in two days to seek help in the war against the Persians. Five hundred years later, Plutarch and Lucian of Samosata, with reference to this and to Heraclides Ponticus, formed the legend, according to which after the victory of the Athenians over the Persians on the Plain of Marathon, this same Pheidippides had run from there into the city, where he reportedly said: "We have won!" upon which he then collapsed to the ground and died.

So if we accept the description of Herodotus, the birth of the ultramarathon predates that of the marathon itself. In this case, if we accept the definition of the ultramarathon from
the previous chapter, the definition of the marathon should be derived from that of the ultramarathon! But we don't want to be that petty.

So, legend has it that Pheidippides ran from Athens to Sparta in less than two days, then back to the Plain of Marathon and from there to announce the victory of the Athenians over the numerically much stronger Persians then again back to Athens. All things considered, we are therefore talking about a running performance of about 311 miles, assuming that the distance from Athens to Sparta is 153 miles and that from Marathon to Athens, 25 miles.

For more than 25 years (and officially since 1983), an ultramarathon race has been held on the route from Athens to Sparta, which follows the historic route pretty closely. The race is the Spartathlon, of which more details are given later in this book, in the chapter "Selected Races."

There are many reasons for running long distances. In the past, in hunter gatherer times, it was necessary for survival. Long distances had to be covered daily in the search for food or to escape from being eaten by animals.

In armies all over the world, it used to be common practice to use messengers or couriers, who had to run long distances in order to pass on important news or to ask other states for help.

At this point, I would like to try to give a little more historical background of the ultramarathon than can be found in such sources as Wikipedia.

Ultramarathon running can definitely be traced back to the historical military messengers. As well as the "errand" of

Pheidippides, several similar messengers can be found in history, especially Greek history, of course, where we read about a certain Euchidas, who in the year 479 BC wanted to run from his home village to Delphi, covering a distance of about 113 miles in the process.

Philonides, a messenger of Alexander the Great, is said to have run from Sicyon to Elis in under a day in the year 325 $B C$.

Something resembling the first 24 -hour races did not appear until the 16th or 17th centuries, although they were not in a competitive form as we know them today. Instead, they were exhibition runners, or professional runners, who wanted to use their running talents to gain fame and fortune. In June 1754, for example, John Cook from England was between $£ 50$ that he could run 100 miles in 24 -hours. However, after 12 hours and 60 miles, he was forced to give up.

A real race between two people in the context of a 24 -hour race took place in October 1806 in London, when Abraham Wood and Robert Barclay raced against each other. Wood had to run 20 miles more in order to win the race and a prize money of 600 guineas. During the event, Barclay had been supplied by another person with an opiumcontaining drink, after which he fell hopelessly behind. Wood went on to win and to complete a distance of about 154 miles in 24hours.

Subsequently, more and more running events, or rather exhibition running events, were organized, all of which were money-making ventures and usually with only one participant. The term "gentlemen walkers and runners" was coined at the time to describe these athletes.

The first woman to feature in reports was Mary McMullen in July 1765, who is said to have run from Blencogo to Newcastle (about 72 miles) in a day.

### 2.1 SIX-DAY RACE

Following the era of the exhibition runner and pedestrianism, there was a renaissance of the 6-day race from September 4th - 9th 1980 in Woodside, CA. The winner, incidentally, was Don Choi, with a distance of 400 miles.

One month later, another 6-day race was held in Pennsauken, NJ, which featured the first-ever official performance by a female runner. Sabins Snow took second place overall with 345 miles, behind the above-mentioned Don Choi (397 miles).

In 1982, four 6-day races were held around the world, including two in Europe, in La Rochelle (France) and Nottingham (England). The best results were achieved in Nottingham, where Tom O'Reilly completed an outstanding 576.45 miles, in front of the second overall finisher and best woman, Margaret Goodwin, with an equally world class 514 miles.

In 1984, the Greek Yiannis Kouros was first to break the $1,000 \mathrm{~km}$ ( 621.37 miles) barrier in New York, with 1,023.54 km ( 636 miles). He is still holder of the world's best 6 -day race performance with a distance of $1,038.83 \mathrm{~km}$ ( 645 miles) set in Colac, Australia on November 22, 2005.

The women's best 6 -day race performance is 550 miles, set by New Zealander Sandra Barwick in Campbelltown, New Zealand in 1990.

In 2010, there were a total of eight 6-day races held worldwide, which were often combined with other races in order to finance the now very expensive chip measuring technology. As well as longer races in which 6 -day races can be included (e.g., 10 days, $1000 \mathrm{~km}, 1,000$ miles or even 3,100 miles), the shorter distances of $6,12,24,48$ and 72 hours are commonly included in the 6-day races. These performances are usually also recognized as split performances and included as such in the respective ranking lists of the IAU and the respective national ranking lists of the country/ies.

### 2.2 24-HOUR RACE

The first recorded performance over 24 -hours was attributed to Edward Weston who covered 112 miles in a time of 23 h 44 mins. Billy Howens covered more than 200 km in 24hours between February 22, and 23, 1878 in London, England.

In 1958, Wally Hayward broke the 250 km barrier, achieving 256.4 km.

Since 1997, Yiannis Kouros of Greece has held the absolute world's best 24 -hour performance with 189 miles, set on May 4-5, 1997 in Adelaide, Australia.

The absolute world's best women's 24-hour race performance is credited to Mami Kudo of Japan, who ran 158.09 miles December 12 - 13 in Taipei.

In 1979 Germany, Fritz Marquardt who in was the first individual runner to complete what was intended since 1970 to be a 24 -hour team relay race. He went to the start saying that he was a "one-man relay."

From then on, individual runners were also allowed to enter relay races and in Germany also, a 24 -hour race scene developed. In the neighboring Netherlands, a 24 -hour race used to be held in Apeldoorn for individual runners from 1984 until 2007.

Development at the US Championships has been patchy and unfortunately the results list is not available for every single year (see Table 1). However, it is hoped that the development will be positive here. Since such famous trail runners as Jurek and Karnazes have made very successful attempts over this distance, it could definitely be of interest to other runners.


Table 1: Comparison of the development of participant numbers at German and American
24-hour race Championships.

| Year | Participants GER | Men | Wemen | Participants USA | Men | Women |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2011 | 137 | 104 | 33 | 93 | 67 | 26 |
| 2010 | 134 | 101 | 33 | 146 | 101 | 45 |
| 2009 | 115 | 91 | 24 | 107 | 83 | 24 |
| 2008 | 95 | 77 | 18 | 51 | 35 | 16 |
| 2007 | 119 | 90 | 29 | 83 | 59 | 24 |
| 2006 | 108 | 89 | 19 | 79 | 55 | 24 |
| 2005 | 114 | 95 | 19 | 78 | 59 | 19 |
| 2004 | 84 | 67 | 17 | Missing |  |  |
| 2003 | 75 | 59 | 16 | Missing |  |  |
| 2002 | 101 | 86 | 15 | 161 | 129 | 32 |
| 2001 | 64 | 49 | 15 | 148 | 119 | 29 |
| 2000 | 109 | 89 | 20 | 161 | 125 | 36 |
| 1999 | 74 | 59 | 15 |  |  |  |
| 1998 | 71 | 57 | 14 |  |  |  |
| 1997 | 67 | 62 | 5 |  |  |  |
| 1996 | 72 | 61 | 11 |  |  |  |
| 1995 | 58 | 48 | 10 |  |  |  |
| 1994 | 56 | 46 | 10 |  |  |  |
| 1993 | 59 | 48 | 11 |  |  |  |
| 1992 | 53 | 43 | 10 |  |  |  |
| 1991 | 60 | 59 | 11 |  |  |  |
| 1990 | 53 | 45 | 8 |  |  |  |
| 1989 | 57 | 50 | 7 |  |  |  |

The US record over 24 -hours is held by Scott Jurek with 165.7 miles, set in Brive (France) in 2010. The US women's record holder is Connie Garder, who ran 145.26 miles in Grapevine, Texas, in 2007.

On the international scene, 24 -hour race championships have been held since 1992, under the aegis of the International Association of Ultrarunners (IAU). It had been staged until 2010 as the World and European Challenge, but since 2011 it is officially called a World Championship. This was officially ratified by the IAAF and the WMA, which can be seen as the official recognition of the distance.

Table 2: World Championships/World Challenge - events

| Year | Event | Men | Women | Overall | Kilometer <br> Men | Kilometer <br> women |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1990 | Milton Keynes/Great <br> Britain | 41 | 12 | 53 | $267,543 \mathrm{~km}$ | $237,861 \mathrm{~km}$ |
| 2001 | Verona/laly | 35 | 19 | 54 | $275,828 \mathrm{~km}$ | $235,029 \mathrm{~km}$ |
| 2003 | Uden/The Netherlands | 95 | 44 | 139 | $270,087 \mathrm{~km}$ | $237,052 \mathrm{~km}$ |
| 2004 | Bmo/Czech Republic | 93 | 48 | 141 | $269,085 \mathrm{~km}$ | $237,154 \mathrm{~km}$ |
| 2005 | Wörschach/Austria | 119 | 57 | 176 | $268,065 \mathrm{~km}$ | $242,228 \mathrm{~km}$ |
| 2006 | Taipei/Taiwan | 75 | 33 | 108 | $272,936 \mathrm{~km}$ | $237,144 \mathrm{~km}$ |
| 2007 | Drummondville/ | 90 | 53 | 143 | $263,562 \mathrm{~km}$ | $236,848 \mathrm{~km}$ |
| 2008 | Seoul/South Korea | 103 | 55 | 161 | $273,766 \mathrm{~km}$ | $239,685 \mathrm{~km}$ |
| 2009 | Bergamo/Italy | 119 | 62 | 181 | $257,046 \mathrm{~km}$ | $243,644 \mathrm{~km}$ |
| 2010 | Brive/France | 151 | 78 | 229 | $273,708 \mathrm{~km}$ | $239,797 \mathrm{~km}$ |

## Table 3: World Champions

| Year | Men's World Champions | Women's World Champions |
| :---: | :---: | :---: |
| 1990 | Donald Ritchie/GBR | Eleanor Adams-Robinson/GBR |
| 2001 | Yiannis Kouros/GRE | Edith Berces/HUN |
| 2003 | Paul Beckers/BEL | Irina Reutovich/RUS |
| 2004 | Ryoichi Sekiya/JPN | Sumie Inagaki/JPN |
| 2005 | Anatoli Krugklikov/RUS | Lyudmila Kalinina/RUS |
| 2006 | Ryoichi Sekiya/JPN | Sumie Inagaki/JPN |
| 2007 | Ryoichi Sekiya/JPN | Lyudmila Kalinina/RUS |
| 2008 | Ryoichi Sekiya/JPN | Anne-Cecile Fontaine/FR |
| 2009 | Henrik OIsson/SWE | Anne-Cecile Fontaine/FR |
| 2010 | Inoue Shingo/JPN | Anne-Cecile Fontaine/FR |

All statistics were obtained from the statistics database of the German Athletics Association at: http://statistik.d-uv.org/overview_champions.php


Table 4: European Championships/European Challenge-Events

| Year | Event | Men | Women | Overall | Kilometer <br> Men | Kilometer <br> Women |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1992 | Apeldoon/ Netherlands | 46 | 11 | 57 | $250,698 \mathrm{~km}$ | $231,008 \mathrm{~km}$ |
| 1993 | Basel/Switzerland | 103 | 23 | 126 | $259,265 \mathrm{~km}$ | $243,657 \mathrm{~km}$ |
| 1994 | Szeged/Hungary | 46 | 14 | 60 | $261,122 \mathrm{~km}$ | $231,482 \mathrm{~km}$ |
| 1996 | Coucon/France |  |  |  | $259,922 \mathrm{~km}$ | $231,049 \mathrm{~km}$ |
| 1997 | Basel/Switzerland | 65 | 19 | 84 | $249,039 \mathrm{~km}$ | $236,284 \mathrm{~km}$ |
| 1998 | Marquette/France | 104 | 18 | 122 | $267,626 \mathrm{~km}$ | $226,457 \mathrm{~km}$ |
| 1999 | Verona/taly | 34 | 9 | 43 | $262,324 \mathrm{~km}$ | $223,763 \mathrm{~km}$ |
| 2000 | Uden/Netherlands | 97 | 28 | 125 | $259,273 \mathrm{~km}$ | $225,418 \mathrm{~km}$ |
| 2001 | Apeldoorn/Netherlands | 113 | 23 | 136 | $260,559 \mathrm{~km}$ | $226,634 \mathrm{~km}$ |
| 2002 | Gravigny/France | 53 | 22 | 75 | $267,294 \mathrm{~km}$ | $232,284 \mathrm{~km}$ |
| 2003 | Uden/Netherlands | 83 | 35 | 118 | $270,087 \mathrm{~km}$ | $237,052 \mathrm{~km}$ |
| 2004 | Brno/Czech Republic | 80 | 40 | 120 | $259,064 \mathrm{~km}$ | $235,012 \mathrm{~km}$ |
| 2005 | Wörschach/Austria | 89 | 46 | 135 | $268,065 \mathrm{~km}$ | $242,228 \mathrm{~km}$ |
| 2006 | Verona/taly | 22 | 11 | 33 | $254,774 \mathrm{~km}$ | $229,452 \mathrm{~km}$ |
| 2007 | Madrid/Spain | 39 | 14 | 53 | $257,358 \mathrm{~km}$ | $233,307 \mathrm{~km}$ |
| 2009 | Bergamo/Italy | 97 | 50 | 147 | $257,042 \mathrm{~km}$ | $243,644 \mathrm{~km}$ |
| 2010 | Brive/France | 125 | 58 | 183 | $263,841 \mathrm{~km}$ | $239,797 \mathrm{~km}$ |

## Table 5: European Champions

| Year | Men | Women |
| :---: | :---: | :---: |
| 1992 | Helmut Schiecke/GER | Sigrid Lomsky/GER |
| 1993 | Helmut Dreyer/GER | Sigrid Lomsky/GER |
| 1994 | Janos Bogar/HUN | Sigrid Lomsky/GER |
| 1996 | Ferenc Györi/HUN | Marie Bertrand/FR |
| 1997 | Vladimir Tivikov/RUS | Irina Reutovich/RUS |
| 1998 | Lucien Taelman/BEL | Marie Mayeras-Bertrand/FR |
| 1999 | Yiannis Kouros/GRE | Irina Reutovich/RUS |
| 2000 | Lubomir Hrmo/SVK | Irina Reutovich/RUS |


| 2001 | Paul Beckers/BEL | Irina Reutovich/RUS |
| :---: | :---: | :---: |
| 2002 | Jens Lukas/GER | Edith Berces/HUN |
| 2003 | Paul Beckers/BEL | Irina Reutovich/RUS |
| 2004 | Lubomir Hrmo/SVK | Galina Eremina/RUS |
| 2005 | Anatoli Kruglikov/RUS | Lyudmila Kalinina/RUS |
| 2006 | Vladimir Bychkov/RUS | Irina Koval/RUS |
| 2007 | Anatoli Kruglikov/RUS | Lyudmila Kalinina/RUS |
| 2009 | Olsson, Henrik/SWE | Anne-Cecile Fontaine/FR |
| 2010 | Ivan Cudin/ITA | Anne-Cecile Fontaine/FR |

All statistics were obtained from the statistics database of the German Athletics Association at: http://statistik.d-uv.org/overview_champions.php. The results list from the year 1996 is incomplete.


### 2.3100 KM

The origins of ultrarunning in Europe can definitely be traced to the 100 km , and the Biel 100 km (Switzerland) in particular is the oldest 100 km race. It first took place on November 13, 1959. Although back in 1892 in Geneva

